

# **PEL-2000B Series**

Programmable D.C. Electronic Load

# **FEATURES**

- Sequence Function to do High Speed Load Simulations
- Flexible Configuration with Mainframes and Plug-in Modules
- Multiple Independent Load Inputs up to 8 Channels in a Mainframe
- Parallel Connection of Inputs for Higher Load Capacity
- Program Mode to Create Work Routines for Repetitive Tests
- OPP/OCP/OVP/OTP/RVP/UVP Protections
- External Channel Control/Monitoring via Analog Control Connector
- Multiple-Interface USB Device/Host, RS-232C/RS485, LAN and GPIB(optional)



The PEL-2004B and PEL-2002B are multiple channel, programmable DC electronic loads with a modularized structure. The PEL-2000B Series is designed to meet the continuing shift toward high speed operation in today's semiconductor market. As the power supply units, DC-DC converters, and batteries that drive semiconductor circuits need to follow this shift, power supply design, quality inspection and characteristic certification using high-speed performance loads have become necessary. The PEL-2000B Series includes two types of mainframes and 4 types of load modules to accommodate users' requirements in a flexible manner. Any load module combination can be used with a mainframe to tailor a test system based on the number of channels, and the maximum load power, voltage and current of each channel. Multiple loads can be connected in parallel to provide a higher-power load to test higher power supply outputs. This flexibility significantly reduces the investment needed for future projects that have differed power requirements.

PEL-2004B is a 4-slot mainframe with a master control unit to hold 4 load modules, while PEL-2002B is a 2-slot mainframe with master control unit to hold 2 load modules. When PEL-2004B is configured with 4 load modules rated at 350W each, the PEL-2000B series is able to sink up to 1.4kVA of power.

For higher load capacities, mainframes can be linked together in parallel with standard MIL 20-pin connectors. A maximum of 5 mainframes, including one master and 4 slaves can be chained together to create a total load capacity of 7kW for high current and high power applications. Using 4 dual channel load modules, PEL-2004B is able to test 8 power supply outputs simultaneously.

The Sequence function allows each channel to change its load sink according to a predefined sequence at a rate of up to  $100\mu$  s per step. Each sequence is able to run concurrently, under the control of one clock. This is one of the most powerful features of the PEL-2000B Series as it is able to realistically simulate a multi-output power supply load. Under Dynamic mode, the load current or load resistance pulses between two preset levels at a pre-defined speed up to  $25\mu$ s per step. This is often used as the standard test procedure to verify the response of a power supply to quick load changes. Most remarkably, multiple load channels can be connected in parallel to run Dynamic tests synchronously under a single clock. This Parallel Dynamic functionality gives the flexibility to perform dynamic tests for a high-power power supply without the need of another high-power load.

The PEL-2000B Series includes a number of protection modes: Over Current Protection (OCP), Over Voltage Protection (OVP), Over Power Protection (OPP), Reverse Voltage Protection (RVP), and Under Voltage Protection(UVP). The protection modes are useful to protect both the load modules and the DUT(s). A buzzer can be set for when a protection setting has been tripped. When a protection mode has been tripped, the load unit will display an alarm and stop sinking current/voltage. When a load unit is operating in CR or CV mode, the unit may need Over Current Protection to prevent excessive current being sunk. Over Current Protection stops the load from sinking more current than its recommended limit and prevents the load from burn-out damage. Over Voltage Protection is used to limit the amount of voltage sunk. If the OVP trips, the PEL-Series load will stop sinking voltage. Over Power Protection is used when the input power exceeds the specifications of the load. When OPP is tripped, the power will cease to be sunk. Reverse Voltage Protection prevents reverse voltage damage to the PEL-2000B Series up to the specified rating. When Reverse Voltage Protection has been tripped, an alarm tone will sound until the reverse voltage is removed. Under Voltage Protection will turn off the load when the voltage drops below a set limit.

The Go/NoGo function is available to monitor test results all the time. When a test result goes beyond a preset limit range, a "No Go" indication will be shown on the display and a "No Go" signal can be sent out through the D-SUB interface for external device control. This Go/NoGo function is available for CC mode, CV mode and CR mode. Under "Program" mode, 12 programs each containing 10 panel-setup memories, can be edited to create work routines for repetitive tests. After a program has been executed, the results of all test steps, along with the Go/NoGo judgments, will be shown on the screen. For external control and system configuration, the PEL-2000B Series has USB, RS-232C/RS-485 and LAN interfaces as standard and GPIB as an option. The LabView driver and Data Logging PC software are both supported for all the available interfaces. Each channel has an analog control/monitoring connector on the rear panel to externally turn a load on/off and to externally monitor load input current and voltage.

# PANEL INTRODUCTION

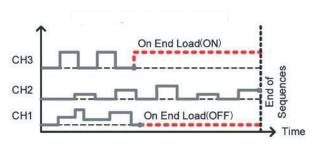


#### **Modularized Structure**

PEL-2004B is a 4-slot mainframe with a master control unit made to hold 4 load modules, and PEL-2002B is a 2-slot mainframe with a master control unit made to hold 2 load modules. The modularized structure of the PEL-2000B Series allows any combination of mainframe and load module (PEL-2020B, PEL-2030B, PEL-2040B, PEL-2041B) to be integrated into a custom-tailored system.

Multiple loads within the same mainframe can be connected in parallel to perform both static and dynamic tests. This flexibility makes the PEL-2000B Series a very cost-effective instrument for testing a broad range of power supply outputs.

# B. AUTOMATICALLY SEQUENCE FUNCTION



Sequence - On End Load

The Sequence function allows each channel to change its load sink according to a predefined sequence at a rate of up to 100  $\mu s$  per step. Each sequence is able to run concurrently, under the control of one clock. This is one of the most powerful features of the PEL-2000B Series as it is able to realistically simulate a multi-output power supply load. Under Dynamic mode, the load current or load resistance pulses between two preset levels at a pre-defined speed up to 25  $\mu s$  per step. This is often used as the standard test procedure to verify the response of a power supply to quick load changes.

# Program & Interface

The PEL-2000B Series supports a total of 12 different programs and 10 sequences to each program. With a total of up to 120 different configurations. For external control and system configuration, the PEL-2000B Series has USB, RS-232C/RS-485 and LAN interfaces as standard and GPIB as an option.The LabView driver and Data Logging PC software are supported for all the interfaces available. Each channel has an analog control/monitoring connector to externally turn a load on/off and to externally monitor load input current and voltage.

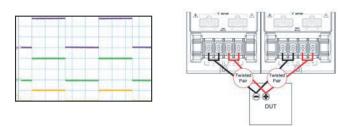
11		
	and the second s	
	14. 1.s.	
-		

# The figure above shows the current waveform of a simulation using the sequence function.

The picture above is an example of a sequence used as a load profile for a single output switching power supply. A load profile is programmed to simulate the current drawn of a power supply load. By using a current probe to acquire a current waveform, PEL-2000B is

able to evaluate the performance of a power supply based on the load sequence that is programmed. An oscilloscope is then used to display the result.

# PARALLEL DYNAMIC LOADING

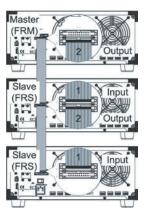


#### **Dynamic Test**

Wire Connection

All the load channels in a PEL-2000B mainframe can be connected in parallel to perform any combination of static or dynamic loading. Under Dynamic mode, the load current or load resistance pulses between two preset levels at a predefined speed of up to  $25\mu$ s per step. When the channels are connected in parallel, dynamic tests are synchronously clocked. The ability to perform parallel dynamic loading gives you the flexibility to perform dynamic tests to high-power power supplies without the need for a dedicated high power electronic load.

# D. FRAME LINK



The PEL-2000B Series allows multiple mainframes to be linked together with standard MIL 20-pin connectors to provide higher power load capacity. A maximum of 5 mainframes, including one master and 4 slaves, can be chained together to give a 7kW load capacity for high current and high power applications

# **OCP TEST AUTOMATION FUNCTION**

OCP is one of the basic protection functions for power supply products. Hence, a fully automatic test function of electronic load is designed for testing OCP function of the output terminal of power supply products.

### I. BENEFITS

Provide users with high resolution OCP measurement values to verify DUT's OCP activation point. Provide users with measurement results so as to help them determine whether DUT's actual OCP activation point meets the regulations.

DUT : Power Supply OCP Verification Specification : 3A (ideal)±0.1% Actual Measurement : DUT1 : 3.000A DUT2 : 2.999A DUT3 : 3.000A

Test the value of OCP by setting load current increment from start current to stop current. OCP's activation point can be accurately measured.

#### II. FEATURES OF PARAMETER SETTINGS (This mode can only be used under CC mode)

#### Parameters

Active Channel : Applies the setting to the load channel.

Range : High (CC Mode High) or Low (CC Mode Low)

Start Current(Start C) : Starting current value for the test.

End Current(End C) : The current value that will end the test. The value must be higher than the OCP value of the DUT you are testing. Step Current(Step C) : Sets the step resolution of the current.

Last Current (Last C) : Sets the final current value after OCP has been tripped. This is the steady-state current draw after the OCP has been tripped. Step Time(Step T) : Sets the execution time of each step. (50ms to 1600s)

Delay Time (Delay) : The OCP testing delay time. Sets the how long to delay starting the test after the Load On key has been pressed. (5ms ~ 160ms)

Trig Voltage(Trig V) : Sets the voltage trigger level needed see whether the power supply OCP has been triggered.



Schematic Diagram

Waveforms Corresponding to Parameters

Parameter Settings

Result: Final DUT Output Status Before Entering OCP

# **III. GENERAL MEASUREMENT & HIGH RESOLUTION MEASUREMENT**

# GENERAL MEASUREMENT (STEP\_C → 0.5A)

DUT: OCP specification 3A

Set test current from 0A to 4A and each current increment of 0.5A for 0.5 seconds. When DUT's voltage drops to 9V for over 0.5 seconds, it is determined as OCP status.

00	CP Func	tion Ch	
Range:	Low	Step_T	0.50
Start C:	0.000	Delay:	0.000
End C	4.000	Trig_V:	9.0000
Step_C:	0.500	Keep_T:	0.500
ast C:	0.000		

Parameter Settings



Actual Waveforms (ch1:Voltage of DUT;ch2:Current of DUT)



Result: Final DUT Output Status Before Entering OCP

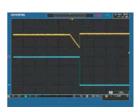
# HIGH RESOLUTION MEASUREMENT (STEP\_C → 0.001A)

#### DUT: OCP specification 3A

Set test current from 2.9A to 4A and each current increment of 0.001A for 0.5 seconds. When DUT's voltage drops to 9V for over 0.5 seconds, it is determined as OCP status.

17:17		OCP.	
00	P Func	tion Ch	an: 1
Range:	Low	Step_T:	0.50
Start C:	2.900	Delay:	0.000
End C:	4.000	Trig_V:	9.0000
Step_C:	0.001	Keep_T:	0.500
Last C:	0.000		

Parameter Settings



Actual Waveforms (ch1:Voltage of DUT;ch2:Current of DUT)

11/18/15 17 : 30	USB OCP
Run OCP Test	
CH: 1 11.0975 V 2.999 A	

Result: Final DUT Output Status Before Entering OCP

	SPECIFICATIONS PEL-2020B(100Wx		3(100Wx2)	x2) PEL-2030B(250W/30W)					2040B	PEL-2041B	
CHANNEL		L/R L/R		1.		Right	Right	one channel	one channel	one channel	one channel
RANGE		L/K	L/R HIGH	Left N/A		LOW	HIGH	LOW	HIGH	LOW	HIGH
POWER		100W	100W	30W		250W 250W			ow		0W
URRENT		0~2A	0~20A			0~4A	0~40A	0~7A	0~70A	0~1A	0~10A
/OLTAGE	DLTAGE 0~80V		0~;		-80V		0~80V		0~500V		
MIN.OPERATING VOLTAGE(dc)(Typ.)         0.4V at 2A         0.8V at 2OA           0.2V at 1A         0.4V at 1OA		0.8V at 20A	0.8V at 5A		0.4V at 4A	0.8V at 40A	0.4V at 7A	0.8V at 70A	1V at 1A	2V at 10A	
		0.4V a	at 2.5A	0.2V at 2A	0.4V at 20A	0.2V at 3.5A	0.4V at 35A	0.5V at 0.5A 1V at 5A			
STATIC MODE											
CONSTANT CUR	RENT MODE					-		-		-	
	Operating Range	0~2A	0~20A	0~5A		0~4A	0~40A	0~7A	0~70A	0~1A	0~10A
	Setting Range	0~2.04A	0~20.4A		5.1A	0~4.08A	0~40.8A	0~7.14A	0~71.4A	0~1.02A	0~10.2A
	Resolution	0.1mA	lmA	0.12	5mA	0.1mA	1mA	0.2mA	2mA	0.05mA	0.5mA
	Accuracy	±(0.1%set +	±(0.1%set + 0.2%F.S.)	±(0.1%set	+ 0.1%F.S)	±(0.1%set + 0.1%F.S <sup>*1</sup> )	±(0.1%set + 0.2%F.S)	±(0.1%set + 0.1%F.S <sup>*1</sup> )	±(0.1%set + 0.2%F.S)	±(0.1%set + 0.1%F.S <sup>*1</sup> )	±(0.1%set + 0.2%F.S)
CONSTANT RESI	STANCE MODE	0.1%F.S.*')	0.2%F.3.)			0.1%F.S )	0.276F.3)	0.1%F.S )	0.276F.3)	0.1%F.S )	0.270F.3)
ONSTANT RESI	STANCE MODE	0.0750300	Q(100W/16V)	0.30-1.240	2(30W/16V)	0.03750-150	Ω(250W/16V)	0.0250-1000	2(350W/16V)	1.250-540/	350W/125V)
	Operating Range	3.75Ω~15kΩ			(30W/80V)		Ω(250W/80V)	1.25Ω~5kΩ		-	(350W/500V)
		0.075Ω~3000		0.3Ω~1.2kg			Ω(250W/16V)	0.025Ω~100Ω(350W/16V) 1.25Ω~5kΩ(350W/80V)			(350W/125V)
	Setting Range	3.75Ω~15kΩ	( 1 )	15Ω~60kΩ			Ω(250W/80V)				50Q~200kQ(350W/500V)
	Resolution <sup>°1</sup> 0.333mS(100W/16V)           6.667µS(100W/80V)         6.667µS(100W/80V)		83.333µS	( , ,	0.666mS(	( , ,	1mS(350W/16V) 20μS(350W/80V)		20µS(35	0W/125V)	
			1.666µS(	, , , , , , , , , , , , , , , , , , ,		250W/80V)				0W/500V)	
	Accuracy <sup>*2</sup>		%set + 0.1S)	1 1	2%set + 0.1S)	150Ω : ±(0.2%set + 0.1S)			%set + 0.1S)	5kΩ : ±(0.2%set + 0.02S)	
	With≧2.5V at input	15kΩ: ±(0.19	%set + 0.01S)	60kΩ: ±(0.19	%set + 0.01S)	7.5kΩ: ±(0.1	%set + 0.01S)	5kΩ: ±(0.1%	śset + 0.01S)	200kΩ: ±(0.19	%set + 0.005S)
NOTE : *1 : S (sie	mens) is the unit of conductance,	equal to one reciprocal	ohm. *2 : Accuracy m	ust be calculated in co	nductivity units.						
CONSTANT VOLT	TAGE + CONSTANT CURREN										
	Operating Range	1~16V	1~80V	1~16V	1~80V	1~16V	1~80V	1~16V	1~80V	2.5~125V	2.5~500V
	Setting Range	0~16.32V	0~81.6V	0~16.32V	0~81.6V	0~16.32V	0~81.6V	0~16.32V	0~81.6V	0~127.5V	0~510V
	Resolution	0.4mV	2mV	0.4mV	2mV	0.4mV	2mV	0.4mV	2mV	2.5mV	10mV
	Accuracy	±(0.05%set		,	: + 0.1%F.S.)		: + 0.1%F.S.)		+ 0.1%F.S.)		: + 0.1%F.S.)
	Current Setting Range	0~20.4A	0~2.04A		5.1A	0~40.8A	0~4.08A	0~71.4A	0~7.14A	0~10.2A	0~1.02A
	Resolution	1mA	0.1mA	0.12	5mA	1mA	0.1mA	2mA	0.2mA	0.5mA	0.05mA
	Accuracy	±(0.1%set + 0.2%F.S.)	±(0.1%set + 0.1%F.S. <sup>*1</sup> )	±(0.1%set	+ 0.2%F.S.)	±(0.1%set + 0.2%F.S)	±(0.1%set + 0.1%F.S <sup>*1</sup> )	±(0.1%set + 0.2%F.S)	±(0.1%set + 0.1%F.S <sup>*1</sup> )	±(0.1%set + 0.2%F.S)	±(0.1%set + 0.1%F.S <sup>*1</sup> )
CONSTANT DOW	ER MODE + CONSTANT CU	,	0.1765.3.)			0.2701.3)	0.1%F.3 )	0.2701.3)	0.1205.3	0.2701.3)	0.1%F.S )
constraint of	Operating Range	1~10W	1~100W	1~3	30W	1~25W	1~250W	1~35W	1~350W	1~35W	1~350W
	Setting Range	0~10.2W	0~102W		0.6W	0~25.5W	0~255W	0~35.7W	0~357W	0~35.7W	0~357W
	Resolution	1mW	10mW	lr	nW	1mW	10mW	1mW	10mW	1mW	10mW
		±(0.5%set +	±(0.5%set +					±(0.5%set +	±(0.5%set +	±(0.5%set +	±(0.5%set +
	Accuracy	0.5%F.S <sup>*1</sup> )	0.5%F.S)	±(0.5%set	+ 0.5%F.S)	±(0.5%set -	+ 0.5%F.S <sup>*1</sup> )	0.5%F.S <sup>*1</sup> )	0.5%F.S)	0.2%F.S <sup>*1</sup> )	0.5%F.S)
	Current Setting Range	0~2.04A	0~20.4A	0~.	5.1A	0~4.08A	0~40.8A	0~7.14A	0~71.4A	0~1.02A	0~10.2A
	Resolution	0.1mA	1mA	0.12	5mA	0.1mA	1mA	0.2mA	2mA	0.05mA	0.5mA
	Accuracy	±(0.1%set +	±(0.1%set +	+ (0.1% cot	+ 0.2%F.S.)	±(0.1%set +	±(0.1%set +	±(0.1%set +	±(0.1%set +	±(0.1%set +	±(0.1%set +
	Accuracy	0.1%F.S. <sup>*1</sup> )	0.2%F.S.)	±(0.1703et	+ 0.2701 .5.)	0.1%F.S <sup>*1</sup> )	0.2%F.S)	0.1%F.S <sup>*1</sup> )	0.2%F.S)	0.1%F.S <sup>*1</sup> )	0.2%F.S)
NOTE · *1 · E S -	= Full scale of H Range										
DYNAMIC MODE											
	т1&т2		ms / Res : 1µs			Oms / Res : 1µs			ms / Res : 1µs		0ms / Res : 1µs
	T1&T2	10ms ~ 30s	/ Res : 1ms		10ms ~ 30	s / Res : 1ms		10ms ~ 30s	/ Res : 1ms	10ms ~ 30s	s / Res : 1ms
DYNAMIC MODE	T1&T2 Accuracy	10ms ~ 30s			10ms ~ 30	, .		10ms ~ 30s		10ms ~ 30s	/ 1
DYNAMIC MODE	T1&T2 Accuracy RENT MODE	10ms ~ 30s 1μs / 1ms	/ Res : 1ms ± 100ppm	0.8 ~ 20	10ms ~ 30 1µs / 1m	s / Res : 1ms s + 100ppm	64~1600mA/us	10ms ~ 30s 1μs / 1ms	: / Res : 1ms ± 100ppm	10ms ~ 30s 1μs / 1ms	s / Res : 1ms s ± 100ppm
	T1&T2 Accuracy RENT MODE Slew Rate	10ms ~ 30s 1µs / 1ms 0.32 ~ 80mA/µs	3.2 ~ 800mA/μs		10ms ~ 30 1μs / 1m 00mA/μs	s / Res : 1ms s + 100ppm 0.64 ~ 160mA/µs	6.4 ~ 1600mA/µs	10ms ~ 30s 1µs / 1ms 0.001 ~ 0.28A/µs	/ Res : 1ms ± 100ppm 0.01 ~ 2.8A/µs	10ms ~ 30s 1µs / 1ms 0.16 ~ 40mA/µs	s / Res : 1ms ± 100ppm 1.6 ~ 400mA/µ
DYNAMIC MODE	T1&T2 Accuracy RENT MODE Slew Rate Slew Rate Resolution	10ms ~ 30s 1µs / 1ms 0.32 ~ 80mA/µs 0.32mA/µs	/ Res : 1ms ± 100ppm 3.2 ~ 800mA/µs 3.2mA/µs	0.8m	10ms ~ 30 1μs / 1m 00mA/μs nA/μs	s / Res : 1ms s + 100ppm 0.64 ~ 160mA/µs 0.64mA/µs	6.4mA/µs	10ms ~ 30s 1μs / 1ms 0.001 ~ 0.28A/μs 0.001A/μs	/ Res : 1ms ± 100ppm 0.01 ~ 2.8A/µs 0.01A/µs	10ms ~ 30s 1μs / 1ms 0.16 ~ 40mA/μs 0.16mA/μs	s / Res : 1ms s ± 100ppm 1.6 ~ 400mA/µ 1.6mA/µs
DYNAMIC MODE	T1&T2 Accuracy RENT MODE Slew Rate	10ms ~ 30s 1µs / 1ms 0.32 ~ 80mA/µs	3.2 ~ 800mA/μs	0.8m	10ms ~ 30 1μs / 1m 00mA/μs	s / Res : 1ms s + 100ppm 0.64 ~ 160mA/µs		10ms ~ 30s 1µs / 1ms 0.001 ~ 0.28A/µs	/ Res : 1ms ± 100ppm 0.01 ~ 2.8A/µs	10ms ~ 30s 1µs / 1ms 0.16 ~ 40mA/µs	s / Res : 1ms s ± 100ppm 1.6 ~ 400mA/µ 1.6mA/µs
DYNAMIC MODE	T1&T2 Accuracy RENT MODE Slew Rate Slew Rate Resolution Slew Rate Accuracy of	10ms ~ 30s 1µs / 1ms 0.32 ~ 80mA/µs 0.32mA/µs	/ Res : 1ms ± 100ppm 3.2 ~ 800mA/µs 3.2mA/µs	0.8m ±(10%	10ms ~ 30 1μs / 1m 00mA/μs nA/μs	s / Res : 1ms s + 100ppm 0.64 ~ 160mA/µs 0.64mA/µs	6.4mA/µs	10ms ~ 30s 1μs / 1ms 0.001 ~ 0.28A/μs 0.001A/μs	/ Res : 1ms ± 100ppm 0.01 ~ 2.8A/µs 0.01A/µs	10ms ~ 30s 1μs / 1ms 0.16 ~ 40mA/μs 0.16mA/μs	s / Res : 1ms s ± 100ppm 1.6 ~ 400mA/µ 1.6mA/µs
DYNAMIC MODE	T1&T2 Accuracy RENT MODE Slew Rate Slew Rate Resolution Slew Rate Accuracy of Setting	10ms ~ 30s 1μs / 1ms 0.32 ~ 80mA/μs 0.32mA/μs ±(10% + 15μs)	/ Res : 1ms ± 100ppm 3.2 ~ 800mA/μs 3.2mA/μs ±(10% + 15μs)	0.8n ±(10% 0~:	10ms ~ 30 1µs / 1m 00mA/µs 1A/µs + 15µs) 5.1A (5mA	s / Res : 1ms s + 100ppm 0.64 ~ 160mA/µs 0.64mA/µs ±(10% + 15µs) 0~4.08A 0.1mA	6.4mA/μs ±(10% + 15μs)	10ms ~ 30s 1μs / 1ms 0.001 ~ 0.28A/μs 0.001A/μs ±(10% + 15μs)	/ Res : 1ms ± 100ppm 0.01 ~ 2.8A/µs 0.01A/µs ±(10% + 15µs)	10ms ~ 30s 1µs / 1ms 0.16 ~ 40mA/µs 0.16mA/µs ±(10% + 15µs)	5 / Res : 1ms ± 100ppm 1.6 ~ 400mA/µ 1.6mA/µs ±(10% + 15µs
DYNAMIC MODE	T1&T2 Accuracy RENT MODE Slew Rate Slew Rate Resolution Slew Rate Accuracy of Setting Current Setting Range Current Resolution Current Accuracy	10ms ~ 30s 1µs / 1ms 0.32 ~ 80mA/µs 0.32mA/µs ±(10% + 15µs) 0-2.04A 0.1mA	/ Res : 1ms ± 100ppm 3.2 ~ 800mA/µs 3.2mA/µs ±(10% + 15µs) 0~20.4A	0.8n ±(10% 0~:	10ms ~ 30 1µs / 1m 00mA/µs 1A/µs + 15µs) 5.1A (5mA	s / Res : 1ms s + 100ppm 0.64 ~ 160mA/µs 0.64mA/µs ±(10% + 15µs) 0~4.08A	6.4mA/μs ±(10% + 15μs) 0~40.8A	10ms ~ 30s 1µs / 1ms 0.001 ~ 0.28A/µs 0.001A/µs ±(10% + 15µs) 0~7.14A 0.2mA	/ Res : 1ms ± 100ppm 0.01 ~ 2.8A/µs 0.01A/µs ±(10% + 15µs) 0~71.4A	10ms ~ 30s 1µs / 1ms 0.16 ~ 40mA/µs 0.16mA/µs ±(10% + 15µs) 0~1.02A 0.05mA	5 / Res : 1ms ± 100ppm 1.6 ~ 400mA/µ 1.6mA/µs ±(10% + 15µs 0~10.2A
DYNAMIC MODE	T1&T2 Accuracy RENT MODE Slew Rate Slew Rate Resolution Slew Rate Accuracy of Setting Current Setting Range Current Resolution Current Accuracy STANCE MODE	10ms ~ 30s 1µs / 1ms 0.32 ~ 80mA/µs 0.32mA/µs ±(10% + 15µs) 0-2.04A 0.1mA ±0.45	/ Res : 1ms ± 100ppm 3.2 ~ 800mA/µs 3.2mA/µs ±(10% + 15µs) 0-20.4A 1mA % F.S.	0.8rr ±(10% 0~: 0.12	10ms ~ 30 1μs / 1m 10mA/μs + 15μs) 5.1A 5mA ±0.4	s / Res : 1ms s + 100ppm 0.64 ~ 160mA/µs 0.64mA/µs ±(10% + 15µs) 0-4.08A 0.1mA % F.S.	6.4mA/μs ±(10% + 15μs) 0~40.8A 1mA	10ms ~ 30s 1μs / 1ms 0.001 ~ 0.28A/μs 0.001A/μs ±(10% + 15μs) 0~7.14A 0.2mA ±0.45	<ul> <li>/ Res : 1ms</li> <li>± 100ppm</li> <li>0.01 ~ 2.8A/μs</li> <li>0.01A/μs</li> <li>±(10% + 15μs)</li> <li>0~71.4A</li> <li>2mA</li> <li>% F.S.</li> </ul>	10ms ~ 30s 1µs / 1ms 0.16 ~ 40mA/µs ±(10% + 15µs) 0~1.02A 0.05mA ±0.45	s / Res : 1ms ± 100ppm 1.6 ~ 400mA/µ ±(10% + 15µs 0~10.2A 0.5mA % F.S.
DYNAMIC MODE	T1&T2 Accuracy RENT MODE Slew Rate Slew Rate Resolution Slew Rate Accuracy of Setting Current Setting Range Current Resolution Current Accuracy STANCE MODE Slew Rate	10ms ~ 30s 1µs / 1ms 0.32 ~ 80mA/µs 0.32mA/µs ±(10% + 15µs) 0-2.04A 0.1mA ±0.45 3.2 ~ 80	/ Res : 1ms ± 100ppm 3.2 ~ 800mA/µs 3.2mA/µs ±(10% + 15µs) 0~20.4A 1mA % F.S. 00mA/µs	0.8rr ±(10% 0~-3 0.12 0.8~20	10ms ~ 30 1μs / 1m 10mA/μs 10A/μs + 15μs) 5.1A 5mA ±0.4 200mA/μs	s / Res : 1ms s + 100ppm 0.64 ~ 160mA/µs 0.64mA/µs ±(10% + 15µs) 0~4.08A 0.1mA % F.S. 6.4 ~ 16	6.4mA/µs ±(10% + 15µs) 0~40.8A 1mA	10ms ~ 30s 1μs / 1ms 0.001 ~ 0.28A/μs 0.001A/μs ±(10% + 15μs) 0~7.14A 0.2mA ±0.45	/ Res : 1ms ± 100ppm 0.01 ~ 2.8A/µs 0.01A/µs ±(10% + 15µs) 0~71.4A 2mA % F.S. 2.8A/µs	10ms ~ 30s 1µs / 1ms 0.16 ~ 40mA/µs 0.16mA/µs ±(10% + 15µs) 0~1.02A 0.05mA ±0.45	s / Res : 1ms ± 100ppm 1.6 ~ 400mA/µ 1.6mA/µs ±(10% + 15µs 0~10.2A 0.5mA % F.S. 20mA/µs
DYNAMIC MODE	T1&T2 Accuracy RENT MODE Slew Rate Slew Rate Resolution Slew Rate Accuracy of Setting Current Setting Range Current Resolution Current Accuracy STANCE MODE Slew Rate Slew Rate Resolution	10ms ~ 30s 1µs / 1ms 0.32 ~ 80mA/µs 0.32mA/µs ±(10% + 15µs) 0-2.04A 0.1mA ±0.45 3.2 ~ 80	/ Res : 1ms ± 100ppm 3.2 ~ 800mA/µs 3.2mA/µs ±(10% + 15µs) 0-20.4A 1mA % F.S.	0.8rr ±(10% 0~-3 0.12 0.8~20	10ms ~ 30 1μs / 1m 10mA/μs + 15μs) 5.1A 5mA ±0.4	s / Res : 1ms s + 100ppm 0.64 ~ 160mA/µs 0.64mA/µs ±(10% + 15µs) 0~4.08A 0.1mA % F.S. 6.4 ~ 16	6.4mA/μs ±(10% + 15μs) 0~40.8A 1mA	10ms ~ 30s 1μs / 1ms 0.001 ~ 0.28A/μs 0.001A/μs ±(10% + 15μs) 0~7.14A 0.2mA ±0.45	<ul> <li>/ Res : 1ms</li> <li>± 100ppm</li> <li>0.01 ~ 2.8A/μs</li> <li>0.01A/μs</li> <li>±(10% + 15μs)</li> <li>0~71.4A</li> <li>2mA</li> <li>% F.S.</li> </ul>	10ms ~ 30s 1µs / 1ms 0.16 ~ 40mA/µs 0.16mA/µs ±(10% + 15µs) 0~1.02A 0.05mA ±0.45	s / Res : 1ms ± 100ppm 1.6 ~ 400mA/µ ±(10% + 15µs 0~10.2A 0.5mA % F.S.
DYNAMIC MODE	T1&T2 Accuracy RENT MODE Slew Rate Slew Rate Resolution Slew Rate Accuracy of Setting Current Setting Range Current Resolution Current Accuracy STANCE MODE Slew Rate Slew Rate Slew Rate Resolution Slew Rate Accuracy of	10ms ~ 30s 1µs / 1ms 0.32 ~ 80mA/µs 0.32mA/µs ±(10% + 15µs) 0-2.04A 0.1mA ±0.45 3.2 ~ 80 3.2 ~ 80	/ Res : 1ms ± 100ppm 3.2 ~ 800mA/µs 3.2mA/µs ±(10% + 15µs) 0~20.4A 1mA % F.S. 00mA/µs	0.8rr ±(10% 0~-3 0.12 0.8~20	10ms ~ 30 1μs / 1m 1μs / 1m 10mA/μs 10mA/μs 5mA ±0.4 20mA/μs 10mA/μs	s / Res : 1ms s + 100ppm 0.64 ~ 160mA/µs 0.64mA/µs ±(10% + 15µs) 0~4.08A 0.1mA % F.S. 6.4 ~ 16	6.4mA/µs ±(10% + 15µs) 0~40.8A 1mA	10ms ~ 30s 1μs / 1ms 0.001 ~ 0.28A/μs 0.001A/μs ±(10% + 15μs) 0~7.14A 0.2mA ±0.45 0.01 ~ 0.01 ~	/ Res : 1ms ± 100ppm 0.01 ~ 2.8A/µs 0.01A/µs ±(10% + 15µs) 0~71.4A 2mA % F.S. 2.8A/µs	10ms ~ 30s 1µs / 1ms 0.16 ~ 40mA/µs 0.16mA/µs ±(10% + 15µs) 0~1.02A 0.05mA ±0.45 1.6 ~ 40	s / Res : 1ms ± 100ppm 1.6 ~ 400mA/µ ±(10% + 15µs 0~10.2A 0.5mA % F.S. 20mA/µs
DYNAMIC MODE	T1&T2 Accuracy RENT MODE Slew Rate Slew Rate Resolution Slew Rate Accuracy of Setting Current Setting Range Current Resolution Current Accuracy STANCE MODE Slew Rate Slew Rate Resolution	10ms ~ 30s 1µs / 1ms 0.32 ~ 80mA/µs 0.32mA/µs ±(10% + 15µs) 0-2.04A 0.1mA ±0.49 3.2 ~ 80 3.2r ±(10%	/ Res : 1ms ± 100ppm 3.2 ~ 800mA/µs 3.2mA/µs ±(10% + 15µs) 0~20.4A 1mA % F.S. 00mA/µs 1A/µs + 50µs)	0.8r ±(10% 0~- 0.12 0.8 ~ 20 0.8 ~ 20	10ms ~ 30 1μs / 1m 1μs / 1m 10mA/μs 1A/μs 5.1A 5.1A 5.1A ±0.4 00mA/μs 1A/μs ±(10%)	s / Res : 1ms s + 100ppm 0.64 ~ 160mA/µs 0.64mA/µs ±(10% + 15µs) 04.08A 0.1mA % F.S. 6.4 ~ 16 6.4 ~ 16 6.4 m s + 50µs)	6.4mA/µs ±(10% + 15µs) 0~40.8A 1mA 00mA/µs	$\begin{array}{c} 10 \text{ms} \sim 30 \text{s} \\ 1 \mu \text{s} \ / \ 1 \text{ms} \\ \hline 0.001 \sim 0.28 \text{A} / \mu \text{s} \\ 0.001 \text{A} / \mu \text{s} \\ \pm (10\% + 15 \mu \text{s}) \\ \hline 0.7.14 \text{A} \\ 0.2 \text{mA} \\ \pm 0.45 \\ \hline 0.01 \sim \\ \pm 0.01 \sim \\ \pm 0.01 \\ \hline 10\% \\ \pm (10\% \\ \hline \end{array}$	/ Res : 1ms ± 100ppm 0.01 ~ 2.8A/µs 0.01A/µs ±(10% + 15µs) 0-71.4A 2mA % F.S. 2.8A/µs A/µs A/µs + 50µs)	10ms ~ 30s 1µs / 1ms 0.16 ~ 40mA/µs 0.16mA/µs ±(10% + 15µs) 0~1.02A 0.05mA ±0.49 1.6 ~ 40 1.6r ±(10%	<ul> <li>j / Res : 1ms</li> <li>± 100ppm</li> <li>1.6 ~ 400mA/µ</li> <li>1.6mA/µs</li> <li>±(10% + 15µs)</li> <li>0~10.2A</li> <li>0.5mA</li> <li>0.5mA</li> <li>0.5mA</li> <li>xh/µs</li> <li>+ 50µs)</li> </ul>
DYNAMIC MODE	T1&T2 Accuracy RENT MODE Slew Rate Slew Rate Resolution Slew Rate Accuracy of Setting Current Setting Range Current Resolution Current Accuracy STANCE MODE Slew Rate Slew Rate Slew Rate Resolution Slew Rate Accuracy of	10ms ~ 30s 1µs / 1ms 0.32 ~ 80mA/µs 0.32mA/µs ±(10% + 15µs) 0-2.04A 0.1mA ±0.49 3.2 ~ 80 3.2 r ±(10% 0.075Ω~3000	/ Res : 1ms ± 100ppm 3.2 ~ 800mA/μs 3.2mA/μs ±(10% + 15μs) 0-20.4A 1mA % F.S. 00mA/μs HA/μs + 50μs) Ω(100W/16V)	0.8r ±(10% 0~- 0.12 0.8 ~ 20 0.8 ~ 20 0.8r 0.3Ω-1.2kd	10ms ~ 30 1μs / 1m 1μs / 1m 10mA/μs 1A/μs + 15μs) 5.1A ±0.4 5mA ±0.4 25mA ±0.4 25mA ±0.4 25mA ±0.4 25mA/μs ±0.4 25mA/μs	s / Res : 1ms s + 100ppm 0.64 ~ 160mA/μs 0.64mA/μs ±(10% + 15μs) 0-4.08A 0.1mA % F.S. 6.4 ~ 16 6.4m + 50μs) 0.0375Ω~150	6.4mA/μs ±(10% + 15μs) 0-40.8A 1mA 00mA/μs nA/μs	$\begin{array}{c} 10 \text{ms} \sim 30 \text{s} \\ 1 \mu \text{s} \ / \ 1 \text{ms} \\ 0.001 \sim 0.28 \text{A} / \mu \text{s} \\ 0.001 \text{A} / \mu \text{s} \\ \pm (10\% + 15 \mu \text{s}) \\ 0.7.14 \text{A} \\ 0.2 \text{mA} \\ \pm 0.45 \\ \hline 0.01 \sim \\ 0.01 \\ \pm (10\% \\ 0.025 \Omega \sim 1000 \\ \hline 0.025 \Omega \ 0.025 \ 0.025 \ 0.025 \ $	/ Res : 1ms ± 100ppm 0.01 ~ 2.8A/µs 0.01A/µs ±(10% + 15µs) 0-71.4A 2mA % F.S. 2.8A/µs A/µs A/µs A/µs 0.01 0.01 0.01 ~ 2.8A/µs 0.01 0.01 ~ 2.8A/µs 0.01 ~ 2.8A	10ms ~ 30s 1μs / 1ms 0.16 ~ 40mA/μs 0.16mA/μs ±(10% + 15μs) 0~1.02A 0.05mA ±0.45 1.6 ~ 40 1.6 ~ 40 1.6 ~ 40 1.6 ~ 40 1.6 ~ 40 1.6 ~ 40	s / Res : 1ms = ± 100ppm 1.6 ~ 400mA/µ 1.6mA/µs ±(10% + 15µs 0~10.2A 0.5mA % F.S. 00mA/µs 1A/µs + 50µs) 350W/125V)
DYNAMIC MODE	T1&T2 Accuracy RENT MODE Slew Rate Slew Rate Resolution Slew Rate Accuracy of Setting Current Setting Range Current Resolution Current Accuracy STANCE MODE Slew Rate Resolution Slew Rate Resolution Slew Rate Accuracy of Setting Resistance Setting Range	10ms ~ 30s 1µs / 1ms 0.32 ~ 80mA/µs 0.32mA/µs ±(10% + 15µs) 0-2.04A 0.1mA ±0.45 3.2 ~ 80 3.2m ±(10% 0.075Ω~3000 3.75Ω~15kΩ	/ Res : Ims       ± 100ppm       3.2 ~ 800mA/μs       3.2mA/μs       ±(10% + 15μs)       0-20.4A       1mA       % F.S.       00mA/μs       hA/μs       + 50μs)       0.100W/16V)       (100W/80V)	0.8r ±(10% 0~' 0.12 0.8 ~ 20 0.8 ~ 20 0.8r 0.3Ω~1.2kt 15Ω~60kΩ	10ms ~ 30 1μs / 1m 10mA/μs 10A/μs 15mA ±0.4 5mA ±0.4 5mA ±0.4 00mA/μs 1A/μs ±(10% 0(30W/16V) (30W/80V)	s / Res : 1ms s + 100ppm 0.64 ~ 160mA/µs 0.64mA/µs ±(10% + 15µs) 0-4.08A 0.1mA % F.S. 6.4 ~ 16 6.4m + 50µs) 0.0375Ω-150 1.875Ω-7.5ka	6.4mA/μs ±(10% + 15μs) 0-40.8A 1mA 00mA/μs 1A/μs Ω(250W/16V) Ω(250W/80V)	10ms ~ 30s 1μs / 1ms 0.001 ~ 0.28A/μs 0.001A/μs ±(10% + 15μs) 0~7.14A 0.2mA ±0.45 0.01 ~ 0.01 ±(10% 0.025Ω~1000 1.25Ω~5kΩ	<ul> <li>/ Res : 1ms</li> <li>± 100ppm</li> <li>0.01 ~ 2.8A/μs</li> <li>0.01A/μs</li> <li>±(10% + 15μs)</li> <li>0~71.4A</li> <li>2mA</li> <li>% F.S.</li> <li>2.8A/μs</li> <li>A/μs</li> <li>+ 50μs)</li> <li>2.350W/16V)</li> <li>(350W/16V)</li> </ul>	10ms ~ 30s 1μs / 1ms 0.16 ~ 40mA/μs 0.16mA/μs ±(10% + 15μs) 0~1.02A 0.05mA ±(0.45 1.6 ~ 40 1.6m ±(10% 1.25Ω~5kΩ( 50Ω~200kΩ)	s / Res : 1ms = ±100ppm 1.6 ~ 400mA/μ 1.6mA/μs ±(10% + 15μs 0-10.2A 0.5mA % F.S. 00mA/μs + 50μs) 350W/125V) (350W/500V)
DYNAMIC MODE	T1&T2 Accuracy RENT MODE Slew Rate Slew Rate Resolution Slew Rate Accuracy of Setting Current Setting Range Current Resolution Current Accuracy STANCE MODE Slew Rate Slew Rate Resolution Slew Rate Accuracy of Setting	10ms ~ 30s 1µs / 1ms 0.32 ~ 80mA/µs 0.32mA/µs ±(10% + 15µs) 0-2.04A 0.1mA ±0.45 3.2 ~ 80 3.2rr ±(10% 0.075Ω~3000 3.75Ω~15kΩ 0.333mS(	<ul> <li>/ Res : Ims</li> <li>± 100ppm</li> <li>3.2 ~ 800mA/μs</li> <li>3.2mA/μs</li> <li>±(10% + 15μs)</li> <li>0-20.4A</li> <li>1mA</li> <li>% F.S.</li> <li>00mA/μs</li> <li>+ 50μs)</li> <li>2(100W/16V)</li> <li>100W/16V)</li> <li>100W/16V)</li> </ul>	0.8r ±(10% 0~3 0.12 0.8 ~ 20 0.8 ~ 20 0.8r 0.30~1.2kt 150~60kD 83.333µS	10ms ~ 30 1μs / 1m 10mA/μs 10A/μs + 15μs) 5.1A 5mA ±0.4 00mA/μs ±0.4 μs ±(10% 2(30W/16V) (30W/16V)	s / Res : 1ms s + 100ppm 0.64 ~ 160mA/µs 0.64mA/µs ±(10% + 15µs) 04.08A 0.1mA % F.S. 6.4 ~ 16 6.4m + 50µs) 0.0375Ω-150 1.875Ω-7.5k 0.6666mS(;	6.4mA/μs ±(10% + 15μs) 0-40.8A 1mA 00mA/μs 1A/μs Ω(250W/16V) Ω(250W/80V) 250W/16V)	10ms ~ 30s 1μs / 1ms 0.001 ~ 0.28A/μs 0.001A/μs ±(10% + 15μs) 0~7.14A 0.2mA ±(0.45 0.01 ~ 0.01 ±(10% 1.05Ω~5kΩ 1mS(35	/ Res : 1ms ± 100ppm 0.01 ~ 2.8A/µs 0.01A/µs ±(10% + 15µs) 0~71.4A 2mA % F.S. 2.8A/µs A/µs + 50µs) 2(350W/16V) (350W/16V) 0W/16V)	10ms ~ 30s 1μs / 1ms 0.16 ~ 40mA/μs 0.16mA/μs ±(10% + 15μs) 0~1.02A 0.05mA ±(0.45 1.6 ~ 40 1.6r ±(10% 1.25Ω~5kΩ( 50Ω~200kΩ) 20μS(350	s / Res : 1ms s ± 100ppm 1.6 ~ 400mA/µ 1.6mA/µs ±(10% + 15µs 0~10.2A 0.5mA % F.S. 00mA/µs + 50µs) 350W/125V) (350W/500V) 0W/125V)
DYNAMIC MODE	T1&T2 Accuracy RENT MODE Slew Rate Slew Rate Resolution Slew Rate Accuracy of Setting Current Setting Range Current Accuracy Current Accuracy STANCE MODE Slew Rate Slew Rate Resolution Slew Rate Accuracy of Setting Resistance Setting Range Resistance Resolution	$\begin{array}{c} 10 \text{ms} \sim 30 \text{s} \\ 1 \mu \text{s} \ / \ 1 \text{ms} \\ 0.32 - 80 \text{mA} / \mu \text{s} \\ 0.32 \text{mA} / \mu \text{s} \\ \pm (10\% + 15 \mu \text{s}) \\ 0 - 2.04 \text{A} \\ 0.1 \text{mA} \\ \pm 0.45 \\ \hline 3.2 \sim 80 \\ 3.2 \text{mA} \\ \pm (10\% \\ 0.075 \Omega - 3000 \\ 3.75 \Omega - 15 \text{kC} \\ 0.333 \text{mS} ( \\ 6.667 \mu \text{s} ( 1 \\ \end{array}$	<ul> <li>/ Res : 1ms</li> <li>± 100ppm</li> <li>3.2 ~ 800mA/μs</li> <li>3.2mA/μs</li> <li>±(10% + 15μs)</li> <li>0-20.4A</li> <li>1mA</li> <li>6 F.S.</li> <li>00mA/μs</li> <li>iA/μs</li> <li>+ 50μs)</li> <li>2(100W/16V)</li> <li>(100W/16V)</li> <li>100W/16V)</li> <li>00W/16V)</li> <li>00W/80V)</li> </ul>	0.8r ±(10% 0~: 0.12 0.8 ~ 20 0.8 ~ 20	10ms ~ 30 1μs / 1m 10mA/μs 10A/μs + 15μs) 5.1A 5mA ±0.4 00mA/μs ±0.4 00mA/μs 2(30W/16V) (30W/16V) (30W/16V) 30W/80V)	s / Res : 1ms s + 100ppm 0.64 ~ 160mA/µs 0.64mA/µs ±(10% + 15µs) 0-4.08A 0.1mA % F.S. 6.4 ~ 16 6.4m + 50µs) 0.0375Ω-150 1.875Ω-7.5k 0.666mS(: 13.333µS(	6.4mA/μs ±(10% + 15μs) 0-40.8A 1mA 00mA/μs 1A/μs Ω(250W/16V) Ω(250W/16V) 250W/16V) 250W/80V)	10ms ~ 30s 1μs / 1ms 0.001 ~ 0.28A/μs 0.001A/μs ±(10% + 15μs) 0-7.14A 0.2mA ±0.45 0.01 ~ 0.01 ±(10% 0.025Ω~1000 1.25Ω~5kΩ 1mS(35 20 μS(35)	/ Res : 1ms ± 100ppm 0.01 ~ 2.8A/μs 0.01A/μs ±(10% + 15μs) 0~71.4A 2mA % F.S. 2.8A/μs A/μs + 50μs) 2(350W/16V) (350W/16V) 0W/16V) 0W/16V)	10ms ~ 30s 1μs / 1ms 0.16 ~ 40mA/μs 0.16mA/μs ±(10% + 15μs) 0~1.02A 0.05mA ±(10% 1.6 ~ 40 1.6 ~ 40 1.6 ~ 40 1.6 ~ 40 1.6 ~ 40 1.25Ω~5kΩ( 50Ω~200kΩ) 20μS(35i 0.5μS(35i	s / Res : Ims s ± 100ppm 1.6 ~ 400mA/μ 1.6mA/μs ±(10% + 15μs 0~10.2A 0.5mA % F.S. 00mA/μs + 50μs) 350W/125V) 0350W/25V) 0W/25V)
DYNAMIC MODE	T1&T2 Accuracy RENT MODE Slew Rate Slew Rate Resolution Slew Rate Accuracy of Setting Current Setting Range Current Resolution Current Accuracy STANCE MODE Slew Rate Resolution Slew Rate Resolution Slew Rate Accuracy of Setting Resistance Setting Range	$\begin{array}{c} 10 \text{ms} \sim 30 \text{s} \\ 1 \mu \text{s} \ / \ 1 \text{ms} \\ 0.32 - 80 \text{mA} / \mu \text{s} \\ 0.32 \text{mA} / \mu \text{s} \\ \pm (10\% + 15 \mu \text{s}) \\ 0 - 2.04 \text{A} \\ 0.1 \text{mA} \\ \pm 0.45 \\ \hline 3.2 \sim 80 \\ 3.2 \text{mA} \\ \pm (10\% \\ 0.075 \Omega - 3000 \\ 3.75 \Omega - 15 \text{kC} \\ 0.333 \text{mS} \\ \hline (6.667 \mu \text{S} (1300\Omega ; \pm (0.55 \text{mS})) \\ \hline 300\Omega ; \pm (0.55 \text{mS}) \\ \hline 300\Omega ; \pm (0.55 \text{mS}) \\ \hline 0.31 \text{mB} \\ \hline 0.31 \text{mS} \\ \hline 0.31 \text{mB} \\ \hline 0.300 mB$	/ Res : Ims         ± 100ppm         3.2 ~ 800mA/μs         3.2mA/μs         ±(10% + 15µs)         0-20.4A         1mA         % F.S.         00mA/μs         \A/µs         + 50µs)         0:(100W/16V)         \(100W/16V)         00W/80V)         00W/80V)         \(00W/80V)         \(00W/80V)         \(00W/80V)	0.8r ±(10% 0 0.12 0.8-2C 0.8-2C 0.8r 150-60kΩ 83.333JS 1.666µS( 1.2kΩ : ±(0.3	10ms ~ 30 1μs / 1m 10mA/μs 1A/μs + 15μs) 5.1A 5mA ±0.4 00mA/μs ±(10% 1(30W/16V) (30W/16V) (30W/16V) 30W/80V) 5%set + 0.1S)	s / Res : 1ms s + 100ppm 0.64 ~ 160mA/µs 0.64mA/µs ±(10% + 15µs) 0~4.08A 0.1mA % F.S. 6.4 ~ 16 6.4m s + 50µs) 0.03750~1500 1.8750~7.5k 0.666mS(: 13.333µS( 1500 : ±(0.5)	6.4mA/μs ±(10% + 15μs) 0-40.8A 1mA 00mA/μs 1a/μs 0(250W/16V) 0(250W/16V) 250W/80V) 250W/80V) 250W/80V)	10ms ~ 30s 1μs / 1ms 0.001 ~ 0.28A/μs 0.001A/μs ±(10% + 15μs) 0-7.14A 0.2mA ±0.49 0.01 ~ ±0.49 1.25Ω-5kΩ 1mS(35 20 μS(35 100Ω : ±(0.5	/ Res : 1ms ± 100ppm 0.01 ~ 2.8A/µs 0.01A/µs ±(10% + 15µs) 0~71.4A 2mA % F.S. 2.8A/µs A/µs + 50µs) 0(350W/16V) (350W/16V) 00W/16V) 00W/16V) 00W/80V)	10ms ~ 30s 1μs / 1ms 0.16 ~ 40mA/μs 0.16mA/μs ±(10% + 15μs) 0~1.02A 0.05mA ±(0.45 1.6 ~ 40 1.6 ~ 40 1.6 ~ 40 1.25Ω~5kΩ ±(10% 1.25Ω~5kΩ 20μS(35 5kΩ : ±(0.5%	s / Res : Ims ± 100ppm 1.6 ~ 400mA/μ 1.6mA/μs ±(10% + 15μs 0~10.2A 0.5mA % F.S. 00mA/μs 1A/μs + 50μs) 350W/125V) (350W/500V) 0W/125V) 0W/25V) 0W/500V) %set + 0.02S)
DYNAMIC MODE	T1&T2 Accuracy RENT MODE Slew Rate Slew Rate Resolution Slew Rate Accuracy of Setting Current Setting Range Current Resolution Current Accuracy STANCE MODE Slew Rate Slew Rate Resolution Slew Rate Accuracy of Setting Resistance Setting Range Resistance Resolution	$\begin{array}{c} 10 \text{ms} \sim 30 \text{s} \\ 1 \mu \text{s} \ / \ 1 \text{ms} \\ 0.32 - 80 \text{mA} / \mu \text{s} \\ 0.32 \text{mA} / \mu \text{s} \\ \pm (10\% + 15 \mu \text{s}) \\ 0 - 2.04 \text{A} \\ 0.1 \text{mA} \\ \pm 0.45 \\ \hline 3.2 \sim 80 \\ 3.2 \text{mA} \\ \pm (10\% \\ 0.075 \Omega - 3000 \\ 3.75 \Omega - 15 \text{kC} \\ 0.333 \text{mS} \\ \hline (6.667 \mu \text{S} (1300\Omega ; \pm (0.55 \text{mS})) \\ \hline 300\Omega ; \pm (0.55 \text{mS}) \\ \hline 300\Omega ; \pm (0.55 \text{mS}) \\ \hline 0.31 \text{mB} \\ \hline 0.31 \text{mS} \\ \hline 0.31 \text{mB} \\ \hline 0.300 mB$	<ul> <li>/ Res : 1ms</li> <li>± 100ppm</li> <li>3.2 ~ 800mA/μs</li> <li>3.2mA/μs</li> <li>±(10% + 15μs)</li> <li>0-20.4A</li> <li>1mA</li> <li>6 F.S.</li> <li>00mA/μs</li> <li>iA/μs</li> <li>+ 50μs)</li> <li>2(100W/16V)</li> <li>(100W/16V)</li> <li>100W/16V)</li> <li>00W/16V)</li> <li>00W/80V)</li> </ul>	0.8r ±(10% 0 0.12 0.8-2C 0.8-2C 0.8r 150-60kΩ 83.333JS 1.666µS( 1.2kΩ : ±(0.3	10ms ~ 30 1μs / 1m 10mA/μs 10A/μs + 15μs) 5.1A 5mA ±0.4 00mA/μs ±0.4 00mA/μs 2(30W/16V) (30W/16V) (30W/16V) 30W/80V)	s / Res : 1ms s + 100ppm 0.64 ~ 160mA/µs 0.64mA/µs ±(10% + 15µs) 0~4.08A 0.1mA % F.S. 6.4 ~ 16 6.4m s + 50µs) 0.03750~1500 1.8750~7.5k 0.666mS(: 13.333µS( 1500 : ±(0.5)	6.4mA/μs ±(10% + 15μs) 0-40.8A 1mA 00mA/μs 1A/μs Ω(250W/16V) Ω(250W/16V) 250W/16V) 250W/80V)	10ms ~ 30s 1μs / 1ms 0.001 ~ 0.28A/μs 0.001A/μs ±(10% + 15μs) 0-7.14A 0.2mA ±0.49 ±0	/ Res : 1ms ± 100ppm 0.01 ~ 2.8A/μs 0.01A/μs ±(10% + 15μs) 0~71.4A 2mA % F.S. 2.8A/μs A/μs + 50μs) 2(350W/16V) (350W/16V) 0W/16V) 0W/16V)	10ms ~ 30s 1μs / 1ms 0.16 ~ 40mA/μs 0.16mA/μs ±(10% + 15μs) 0~1.02A 0.05mA ±(0.45 1.6 ~ 40 1.6 ~ 40 1.6 ~ 40 1.25Ω~5kΩ ±(10% 1.25Ω~5kΩ 20μS(35 5kΩ : ±(0.5%	s / Res : Ims s ± 100ppm 1.6 ~ 400mA/μ 1.6mA/μs ±(10% + 15μs 0~10.2A 0.5mA % F.S. 00mA/μs + 50μs) 350W/125V) 0350W/25V) 0W/25V)
OYNAMIC MODE	T1&T2 Accuracy RENT MODE Slew Rate Resolution Slew Rate Resolution Slew Rate Accuracy of Setting Current Setting Range Current Accuracy Current Accuracy Current Accuracy STANCE MODE Slew Rate Resolution Slew Rate Accuracy of Setting Resistance Setting Range Resistance Resolution Resistance Accuracy	$\begin{array}{c} 10 \text{ms} \sim 30 \text{s} \\ 1 \mu \text{s} \ / \ 1 \text{ms} \\ 0.32 - 80 \text{mA} / \mu \text{s} \\ 0.32 \text{mA} / \mu \text{s} \\ \pm (10\% + 15 \mu \text{s}) \\ 0 - 2.04 \text{A} \\ 0.1 \text{mA} \\ \pm 0.45 \\ \hline 3.2 \sim 80 \\ 3.2 \text{mA} \\ \pm (10\% \\ 0.075 \Omega - 3000 \\ 3.75 \Omega - 15 \text{kC} \\ 0.333 \text{mS} \\ \hline (6.667 \mu \text{S} (1300\Omega : \pm (0.55 \text{mS})) \\ \hline 300\Omega : \pm (0.55 \text{mS}) \\ \hline 300\Omega : \pm (0.55 \text{mS}) \\ \hline 0.300 \ 0 = 1000 \\ \hline 0.3000 \\ \hline 0.3000 \\ \hline 0.30000 \\ \hline 0.30$	/ Res : Ims         ± 100ppm         3.2 ~ 800mA/μs         3.2mA/μs         ±(10% + 15µs)         0-20.4A         1mA         % F.S.         00mA/μs         \A/µs         + 50µs)         0:(100W/16V)         \(100W/16V)         00W/80V)         00W/80V)         \(00W/80V)         \(00W/80V)         \(00W/80V)	0.8r ±(10% 0 0.12 0.8-2C 0.8-2C 0.8r 150-60kΩ 83.333JS 1.666µS( 1.2kΩ : ±(0.3	10ms ~ 30 1μs / 1m 10mA/μs 1A/μs + 15μs) 5.1A 5mA ±0.4 00mA/μs ±(10% 1(30W/16V) (30W/16V) (30W/16V) 30W/80V) 5%set + 0.1S)	s / Res : 1ms s + 100ppm 0.64 ~ 160mA/µs 0.64mA/µs ±(10% + 15µs) 0~4.08A 0.1mA % F.S. 6.4 ~ 16 6.4m s + 50µs) 0.03750~1500 1.8750~7.5k 0.666mS(: 13.333µS( 1500 : ±(0.5)	6.4mA/μs ±(10% + 15μs) 0-40.8A 1mA 00mA/μs 1a/μs 0(250W/16V) 0(250W/16V) 250W/80V) 250W/80V) 250W/80V)	10ms ~ 30s 1μs / 1ms 0.001 ~ 0.28A/μs 0.001A/μs ±(10% + 15μs) 0-7.14A 0.2mA ±0.49 ±0	/ Res : 1ms ± 100ppm 0.01 ~ 2.8A/µs 0.01A/µs ±(10% + 15µs) 0~71.4A 2mA % F.S. 2.8A/µs A/µs + 50µs) 0(350W/16V) (350W/16V) 00W/16V) 00W/16V) 00W/80V)	10ms ~ 30s 1μs / 1ms 0.16 ~ 40mA/μs 0.16mA/μs ±(10% + 15μs) 0~1.02A 0.05mA ±(0.45 1.6 ~ 40 1.6 ~ 40 1.6 ~ 40 1.25Ω~5kΩ ±(10% 1.25Ω~5kΩ 20μS(35 5kΩ : ±(0.5%	s / Res : 1ms ± 100ppm 1.6 ~ 400mA/µ ±(10% + 15µs ±(10% + 15µs 0~10.2A 0.5mA % F.S. 00mA/µs nA/µs + 50µs) 350W/125V) (350W/500V) 0W/125V) 0W/25V) 0W/500V)
CONSTANT CURI	T1&T2 Accuracy RENT MODE Slew Rate Resolution Slew Rate Resolution Slew Rate Accuracy of Setting Current Setting Range Current Accuracy Current Accuracy Current Accuracy STANCE MODE Slew Rate Resolution Slew Rate Accuracy of Setting Resistance Setting Range Resistance Resolution Resistance Accuracy	$\begin{array}{c} 10 \text{ms} \sim 30 \text{s} \\ 1 \mu \text{s} \ / \ 1 \text{ms} \\ 0.32 - 80 \text{mA} / \mu \text{s} \\ 0.32 \text{mA} / \mu \text{s} \\ \pm (10\% + 15 \mu \text{s}) \\ 0 - 2.04 \text{A} \\ 0.1 \text{mA} \\ \pm 0.45 \\ \hline 3.2 \sim 80 \\ 3.2 \text{mA} \\ \pm (10\% \\ 0.075 \Omega - 3000 \\ 3.75 \Omega - 15 \text{kC} \\ 0.333 \text{mS} \\ \hline (6.667 \mu \text{S} (1300\Omega : \pm (0.55 \text{mS})) \\ \hline 300\Omega : \pm (0.55 \text{mS}) \\ \hline 300\Omega : \pm (0.55 \text{mS}) \\ \hline 0.300 \ 0 = 1000 \\ \hline 0.3000 \\ \hline 0.3000 \\ \hline 0.30000 \\ \hline 0.30$	/ Res : Ims         ± 100ppm         3.2 ~ 800mA/μs         3.2mA/μs         ±(10% + 15µs)         0-20.4A         1mA         % F.S.         00mA/μs         \A/µs         + 50µs)         0:(100W/16V)         \(100W/16V)         00W/80V)         00W/80V)         \(00W/80V)         \(00W/80V)         \(00W/80V)	0.8r ±(10% 0 0.12 0.8-2C 0.8-2C 0.8r 150-60kΩ 83.333JS 1.666µS( 1.2kΩ : ±(0.3	10ms ~ 30 1μs / 1m 10mA/μs 1A/μs + 15μs) 5.1A 5mA ±0.4 00mA/μs ±(10% 1(30W/16V) (30W/16V) (30W/16V) 30W/80V) 5%set + 0.1S)	s / Res : 1ms s + 100ppm 0.64 ~ 160mA/µs 0.64mA/µs ±(10% + 15µs) 0~4.08A 0.1mA % F.S. 6.4 ~ 16 6.4m s + 50µs) 0.03750~1500 1.8750~7.5k 0.666mS(: 13.333µS( 1500 : ±(0.5)	6.4mA/μs ±(10% + 15μs) 0-40.8A 1mA 00mA/μs 1a/μs 0(250W/16V) 0(250W/16V) 250W/80V) 250W/80V) 250W/80V)	10ms ~ 30s 1μs / 1ms 0.001 ~ 0.28A/μs 0.001A/μs ±(10% + 15μs) 0-7.14A 0.2mA ±0.49 ±0	/ Res : 1ms ± 100ppm 0.01 ~ 2.8A/µs 0.01A/µs ±(10% + 15µs) 0~71.4A 2mA % F.S. 2.8A/µs A/µs + 50µs) 0(350W/16V) (350W/16V) 00W/16V) 00W/16V) 00W/80V)	10ms ~ 30s 1μs / 1ms 0.16 ~ 40mA/μs 0.16mA/μs ±(10% + 15μs) 0~1.02A 0.05mA ±(0.45 1.6 ~ 40 1.6 ~ 40 1.6 ~ 40 1.25Ω~5kΩ ±(10% 1.25Ω~5kΩ 20μS(35 5kΩ : ±(0.5%	s / Res : Ims ± 100ppm 1.6 ~ 400mA/µ 1.6mA/µs ±(10% + 15µs 0~10.2A 0.5mA % F.S. 00mA/µs +50µs) 350W/125V) (350W/500V) 0W/125V) 0W/25V) 0W/500V)
CONSTANT CURI	T1&T2 Accuracy RENT MODE Slew Rate Slew Rate Resolution Slew Rate Accuracy of Setting Current Setting Range Current Accuracy Current Accuracy Current Accuracy STANCE MODE Slew Rate Resolution Slew Rate Accuracy of Setting Resistance Setting Range Resistance Resolution Resistance Accuracy	$\begin{array}{c} 10 \text{ms} \sim 30 \text{s} \\ 1 \mu \text{s} \ / 1 \text{ms} \\ 0.32 - 80 \text{mA} / \mu \text{s} \\ 0.32 \text{mA} / \mu \text{s} \\ \pm (10\% + 15 \mu \text{s}) \\ 0 - 2.04 \text{A} \\ 0.1 \text{mA} \\ \pm 0.4\% \\ \hline 3.2 - 80 \\ 3.2 \text{mA} \\ \pm (10\% \\ 0.075 \Omega - 3000 \\ 3.75 \Omega - 15 \text{kC} \\ 0.333 \text{mS} \\ (1300 \Omega : \pm (0.55) \\ 15 \text{kC} : \pm (0.55) \\ \hline \end{array}$	/ Res : 1ms ± 100ppm 3.2 ~ 800mA/µs 3.2mA/µs ±(10% + 15µs) 0-20.4A 1mA % F.S. 00mA/µs 1A/µs + 50µs) 0(100W/16V) 0(100W/16V) 0(100W/16V) 000W/80V) %set + 0.1S) %set + 0.01S)	0.8r $\pm (10\%)$ 012 $0.8 \sim 22$ $0.8 \sim 22$ 0.8r $1.5\Omega-60K2$ $1.2k\Omega : \pm (0.5)$ $1.2k\Omega : \pm (0.5)$	10ms ~ 30 1μs / 1m 1μs / 1m 10mA/μs 1A/μs + 15μs) 5.1A 5mA ±0.4 25mA ±0.4 10mA/μs ±(10% 2(30W/16V) (30W/16V) (30W/16V) (30W/16V) 30W/80V) 5%set + 0.1S) *	s / Res : 1ms s + 100ppm 0.64 ~ 160mA/µs 0.64mA/µs ±(10% + 15µs) 04.08A 0.1mA % F.S. 6.4 ~ 16 6.4 ~ 16 6.4 ~ 16 6.4 ~ 15 0.0375Ω ~ 1500 1.875Ω ~ 7.5kΩ 0.666m5( 13.333µS( 150Ω : ±(0.55) 7.5kΩ : ±(0.55)	6.4mA/μs ±(10% + 15μs) 0-40.8A 1mA 00mA/μs nA/μs 0(250W/16V) 0(250W/16V) 0(250W/16V) 250W/16V) 250W/16V) 250W/80V) %set + 0.15)	$\begin{array}{c} 10 \text{ms} \sim 30 \text{s} \\ 1 \mu \text{s} \ / \ 1 \text{ms} \\ 0.001 \sim 0.28 \text{A} / \mu \text{s} \\ 0.001 \text{A} / \mu \text{s} \\ \pm (10\% + 15 \mu \text{s}) \\ 0.7.14 \text{A} \\ 0.2 \text{mA} \\ \pm 0.45 \\ 0.2 \text{mA} \\ \pm 0.45 \\ 0.01 \sim \\ 0.001 \sim \\ 0.001$	/ Res : 1ms ± 100ppm 0.01 ~ 2.8A/µs 0.01A/µs ±(10% + 15µs) 0-71.4A 2mA % F.S. 2.8A/µs A/µs A/µs A/µs 0.050W/16V) 0350W/16V) 0350W/16V) 00W/16V) 00W/16V) 00W/16V) 00W/16V) 00W/16V)	$\begin{array}{c} 10 \text{ms} \sim 30 \text{s} \\ 1 \mu \text{s} \ / 1 \text{ms} \\ 0.16 \sim 40 \text{mA} / \mu \text{s} \\ 0.16 \text{mA} / \mu \text{s} \\ \pm (10\% + 15 \mu \text{s}) \\ 0 \sim 1.02 \text{A} \\ 0.05 \text{mA} \\ \pm 0.45 \\ \hline 1.6 \sim 40 \\ 1.6 \sim 40 \\ 1.6 \text{mA} \\ \pm (10\% \\ 1.25 \Omega \sim 5 \text{k} \Omega \\ 1.25 \Omega \sim 5 \text{k} \Omega \\ 1.25 \Omega \sim 20 \text{k} \Omega \\ 20 \mu \text{s} (35 \text{s}) \\ 0.5 \mu \text{s} (35 \text{s}) \\ 5 \text{s} \text{k} \Omega : \pm (0.5\% \\ 200 \text{k} \Omega : \pm (0.5\% \\ 1.5 \text{s}) \\ \end{array}$	s / Res : 1ms ± 100ppm 1.6 ~ 400mA/ 1.6mA/μs ±(10% + 15μ: 0-10.2A 0.5mA % F.S. 00mA/μs 1350W/125V) (350W/500V) (350W/500V) (350W/500V) %set + 0.02S) (350K) (3
CONSTANT CURI	T1&T2 Accuracy RENT MODE Slew Rate Resolution Slew Rate Resolution Current Setting Range Current Resolution Current Accuracy STANCE MODE Slew Rate Slew Rate Resolution Slew Rate Accuracy of Setting Resistance Setting Range Resistance Resolution Resistance Accuracy	$\begin{array}{c} 10 \text{ms} \sim 30 \text{s} \\ 1 \mu \text{s} \ / \ 1 \text{ms} \\ 0.32 - 80 \text{mA} / \mu \text{s} \\ 0.32 \text{mA} / \mu \text{s} \\ \pm (10\% + 15 \mu \text{s}) \\ 0 - 2.04 \text{A} \\ 0.1 \text{mA} \\ \pm 0.45 \\ \hline 0.204 \text{A} \\ 0.1 \text{mA} \\ \pm 0.45 \\ \hline 0.204 \text{A} \\ 0.1 \text{mA} \\ \pm 0.45 \\ \hline 0.204 \text{A} \\ 0.1 \text{mA} \\ \pm 0.45 \\ \hline 0.204 \text{A} \\ 0.1 \text{mA} \\ \pm 0.45 \\ \hline 0.204 \text{A} \\ 0.1 \text{mA} \\ \pm 0.45 \\ \hline 0.204 \text{A} \\ 0.1 \text{mA} \\ \pm 0.45 \\ \hline 0.204 \text{A} \\ 0.1 \text{mA} \\ \pm 0.45 \\ \hline 0.204 \text{A} \\ 0.075 \Omega - 3000 \\ \hline 0.333 \text{mS} \\ \hline 0.005 \Omega - 15 \text{k} \\ 0.05 \\ \hline 0.15 \text{k} \\ 0.5 \\ \hline 0.204 \text{mV} \\ \hline 0.32 \text{mV} \\ \hline \end{array}$	/ Res : 1ms ± 100ppm 3.2 ~ 800mA/μs 3.2mA/μs ±(10% + 15μs) 0-20.4A 1mA % F.S. 00mA/μs + 50μs) 0(100W/16V) 000W/16V) 000W/16V) 000W/16V) 000W/16V) 000W/16V) 000W/16V) 000W/16V) 000W/16V) 000W/16V) 000W/16V) 000W/16V) 000W/16V) 000W/16V) 000W/16V) 000W/16V)	0.8r ±(10% 0 0.12 0.8 ~ 2( 0.8 ~ 2( 0.8r 150~60kΩ 150~60kΩ 1.2kΩ : ±(0.5) 60kΩ : ±(0.5) 0~16V	10ms ~ 30 1μs / 1m 30mA/μs 3A/μs + 15μs) 5.1A 5mA ±0.4 (10% 5mA ±0.4 (10% (30W/16V) (	s / Res : 1ms s + 100ppm 0.64 ~ 160mA/µs 0.64mA/µs ±(10% + 15µs) 04.08A 0.1mA % F.S. 6.4 ~ 16 6.4m 6.4m 50µs) 0.0375Ω-150 1.875Ω-7.5kΩ 0.666mS( 13.333µS( 150Ω : ±(0.5) 7.5kΩ : ±(0.5) 016V	6.4mA/μs ±(10% + 15μs) 0-40.8A 1mA 00mA/μs 1A/μs 0(250W/16V) 0(250W/16V) 250W/16V) 250W/16V) 250W/80V) %set + 0.15) %set + 0.015) 0-80V	$\begin{array}{c} 10 \text{ms} \sim 30 \text{s} \\ 1 \mu \text{s} \ / 1 \text{ms} \\ 0.001 \sim 0.28 \text{A} / \mu \text{s} \\ 0.001 \text{A} / \mu \text{s} \\ \pm (10\% + 15 \mu \text{s}) \\ 0.7.14 \text{A} \\ 0.2 \text{mA} \\ \pm 0.45 \\ 0.2 \text{mA} \\ \pm 0.45 \\ 0.01 \sim \\ \pm (10\% \\ 0.025 \Omega - 1000 \\ 1.25 \Omega - 5 \text{k} \Omega \\ 1.00\Omega : \pm (0.5\% \\ 100\Omega : \pm (0.5\% \\ 0.32 \text{mV} \\ \end{array}$	<ul> <li>/ Res : 1ms</li> <li>± 100ppm</li> <li>0.01 ~ 2.8A/μs</li> <li>0.01A/μs</li> <li>±(10% + 15μs)</li> <li>0-71.4A</li> <li>2mA</li> <li>% F.S.</li> <li>2.8A/μs</li> <li>A/μs</li> <li>+ 50μs)</li> <li>2.0350W/16V)</li> <li>(350W/16V)</li> <li>(350W/16V)<!--</td--><td><math display="block">\begin{array}{c} 10 \text{ms} - 30 \text{s} \\ 1 \mu \text{s} \ / 1 \text{ms} \\ 0.16 - 40 \text{mA} / \mu \text{s} \\ 0.16 \text{mA} / \mu \text{s} \\ \pm (10\% + 15 \mu \text{s}) \\ 0 - 1.02 \text{A} \\ 0.05 \text{mA} \\ \pm 0.45 \\ \hline 1.6 - 40 \\ 1.6 \text{m} \\ \pm (10\% \\ 1.25 \Omega - 5 \text{kG} (10\% \\ 0.5 \mu \text{S} (35\% \ 0.5 \mu \text{S} </math></td><td>s / Res : 1ms s ± 100ppm 1.6 ~ 400mA/μ 1.6mA/μs ±(10% + 15μs 0-10.2A 0.5mA % F.S. 00mA/μs 1A/μs + 50μs) 350W/125V) (350W/500V) 00W/25V/25V) 00W/25V/25V/25V/25V/25V/25V/25V/25V/25V/25V</td></li></ul>	$\begin{array}{c} 10 \text{ms} - 30 \text{s} \\ 1 \mu \text{s} \ / 1 \text{ms} \\ 0.16 - 40 \text{mA} / \mu \text{s} \\ 0.16 \text{mA} / \mu \text{s} \\ \pm (10\% + 15 \mu \text{s}) \\ 0 - 1.02 \text{A} \\ 0.05 \text{mA} \\ \pm 0.45 \\ \hline 1.6 - 40 \\ 1.6 \text{m} \\ \pm (10\% \\ 1.25 \Omega - 5 \text{kG} (10\% \\ 0.5 \mu \text{S} (35\% \ 0.5 \mu \text{S} $	s / Res : 1ms s ± 100ppm 1.6 ~ 400mA/μ 1.6mA/μs ±(10% + 15μs 0-10.2A 0.5mA % F.S. 00mA/μs 1A/μs + 50μs) 350W/125V) (350W/500V) 00W/25V/25V) 00W/25V/25V/25V/25V/25V/25V/25V/25V/25V/25V
CONSTANT CUR	T1&T2 Accuracy RENT MODE Slew Rate Resolution Slew Rate Resolution Current Resolution Current Resolution Current Resolution Current Accuracy STANCE MODE Slew Rate Slew Rate Resolution Slew Rate Accuracy of Setting Resistance Setting Range Resistance Resolution Resistance Accuracy ACK Range Resolution Accuracy ACK	$\begin{array}{c} 10 \text{ms} \sim 30 \text{s} \\ 1 \mu \text{s} \ / \ 1 \text{ms} \\ 0.32 - 80 \text{mA} / \mu \text{s} \\ 0.32 \text{mA} / \mu \text{s} \\ \pm (10\% + 15 \mu \text{s}) \\ 0 - 2.04 \text{A} \\ 0.1 \text{mA} \\ \pm 0.45 \\ \hline 3.2 \sim 80 \\ 3.2 \text{mA} \\ \pm (10\% \\ 0.075 \Omega - 3000 \\ 3.75 \Omega - 15 \text{kC} \\ 0.333 \text{mS} (10\% \\ 0.075 \Omega - 3000 \\ 3.75 \Omega - 15 \text{kC} \\ 0.333 \text{mS} (10\% \\ 0.075 \Omega - 3000 \\ 1.5 \text{kC} \\ \pm (0.55 \\ 1.5 \text{kC} \\ \pm (0.55 \\ 0 - 16 \text{V} \\ 0.32 \text{mV} \\ \pm (0.025\% \text{set} \\ 1.5 \text{mA} \\ $	<ul> <li>/ Res : 1ms</li> <li>± 100ppm</li> <li>3.2 ~ 800mA/μs</li> <li>3.2mA/μs</li> <li>± (10% + 15μs)</li> <li>0-20.4A</li> <li>1mA</li> <li>% F.S.</li> <li>00mA/μs</li> <li>iA/μs</li> <li>+ 50μs)</li> <li>20(100W/16V)</li> <li>(100W/16V)</li> <li>(00W/16V)</li> <li>00W/16V)</li> <li>00W/16V)</li> <li>00W/80V)</li> <li>%set + 0.1S)</li> <li>1.6mV</li> <li>+ 0.025% F.S.)</li> </ul>	0.8r ±(10% 0 0.12 0.8 ~ 20 0.8 ~ 20 0.8 ~ 20 0.8r 15Ω-60kΩ 83.333µS 1.666µS( 1.2kΩ : ±(0.5) 60kΩ: ±(0.5) 0-16V 0.32mV	10ms ~ 30 1μs / 1m 10mA/μs 1A/μs + 15μs) 5.1A 5mA ±0.4 10mA/μs ±(10% 2(30W/16V) 30W/80V) 30W/80V) 30W/80V) 30W/80V 30W/80V 5%set + 0.15) 6%set + 0.015) 0-80V 1.6mV ±(0.025%set	s / Res : 1ms s + 100ppm 0.64 ~ 160mA/µs 0.64mA/µs ±(10% + 15µs) 0-4.08A 0.1mA % F.S. 6.4 ~ 16 6.4m + 50µs) 0.0375Ω-150 1.875Ω-7.5k0 0.666mS(: 13.333µS( 150Ω : ±(0.5) 7.5kΩ: ±(0.5) 0.32mV + 0.025% F.S.)	6.4mA/μs ±(10% + 15μs) 0-40.8A 1mA 00mA/μs 1A/μs 1A/μs 00mA/μs 1A/μs	$\begin{array}{c} 10 \text{ms} \sim 30 \text{s} \\ 1 \mu \text{s} \ / 1 \text{ms} \\ 0.001 \sim 0.28 \text{A} / \mu \text{s} \\ 0.001 \text{A} / \mu \text{s} \\ \pm (10\% + 15 \mu \text{s}) \\ 0 - 7.14 \text{A} \\ 0.2 \text{mA} \\ \pm 0.45 \\ 0.01 \sim \\ \pm 0.45 \\ 0.01 \sim \\ 1.001 \sim \\ 0.01 \sim \\ 0.025 \Omega - 100 \\ 1.25 \Omega - 5 \text{k} \Omega \\ 1.25 \Omega - 5 \text{k} \Omega \\ 1.25 \Omega - 5 \text{k} \Omega \\ 1.00 \Omega : \pm (0.5\% \text{s} \text{s} \text{s} \text{s} \text{s} \text{s} \text{s} \text{s}$	<ul> <li>/ Res : 1ms</li> <li>± 100ppm</li> <li>0.01 ~ 2.8A/μs</li> <li>0.01A/μs</li> <li>±(10% + 15μs)</li> <li>0-71.4A</li> <li>2mA</li> <li>% F.S.</li> <li>2.8A/μs</li> <li>A/μs</li> <li>+ 50μs)</li> <li>2(350W/16V)</li> <li>(350W/16V)</li> <li>(350W/16V)</li> <li>00W/16V)</li> <li>00W/80V)</li> <li>%set + 0.1S)</li> <li>Sset + 0.01S)</li> <li>0-80V</li> <li>1.6mV</li> <li>+ 0.025% F.S.)</li> </ul>	$\begin{array}{c} 10 \text{ms} - 30 \text{s} \\ 1 \mu \text{s} \ / 1 \text{ms} \\ 0.16 - 40 \text{mA} / \mu \text{s} \\ 0.16 \text{mA} / \mu \text{s} \\ \pm (10\% + 15 \mu \text{s}) \\ 0 - 1.02 \text{A} \\ 0.05 \text{mA} \\ \pm (10\% + 15 \mu \text{s}) \\ 0 - 1.02 \text{A} \\ 1.6 - 40 \\ 1.6 \text{mA} \\ \pm (10\% \\ 1.25 \Omega - 5 \text{kO} (10\% \ 10\% \\ 1.25 \Omega - 5 \text{kO} (10\% \ 1$	s / Res : Ims           ± 100ppm           1.6 ~ 400mA/μ           1.6mA/μs           ±(10% + 15μs           0-10.2A           0.5mA           % F.S.           00mA/μs           +50μs)           350W/125V)           0350W/125V)           00W125V)           00W/25V)           00W/25V)           00W/500V)           %set + 0.02S)           %set + 0.02S)           0-500V           10mV           + 0.025% F.S.)
OYNAMIC MODE	T1&T2 Accuracy RENT MODE Slew Rate Resolution Slew Rate Resolution Current Setting Range Current Resolution Current Accuracy of STANCE MODE Slew Rate Resolution Slew Rate Resolution Slew Rate Accuracy of Setting Resistance Setting Range Resistance Resolution Resistance Accuracy ACK Range Resolution Accuracy ACK Range	$\begin{array}{c} 10 \text{ms} \sim 30 \text{s} \\ 1 \mu \text{s} \ / \ 1 \text{ms} \\ 0.32 - 80 \text{mA} / \mu \text{s} \\ 0.32 \text{mA} / \mu \text{s} \\ \pm (10\% + 15 \mu \text{s}) \\ 0 - 2.04 \text{A} \\ 0.1 \text{mA} \\ \pm 0.45 \\ \hline 3.2 \sim 86 \\ 3.2 \text{mA} \\ \pm (10\% \\ 0.075 \Omega - 3000 \\ 3.75 \Omega - 15 \text{kC} \\ 0.0333 \text{mS} \\ \hline 6.667 \mu \text{S} \\ 1300\Omega : \pm (0.55 \\ 15 \text{k}\Omega : \pm (0.55 \\ 15 \text{k}\Omega : \pm (0.55 \\ 0 - 16 \text{V} \\ 0.32 \text{mV} \\ \pm (0.025\% \text{set} \\ 0 - 2 \text{A} \\ \hline \end{array}$	<ul> <li>/ Res : 1ms</li> <li>± 100ppm</li> <li>3.2 ~ 800mA/μs</li> <li>3.2mA/μs</li> <li>± (10% + 15μs)</li> <li>0-20.4A</li> <li>1mA</li> <li>% F.S.</li> <li>00mA/μs</li> <li>iA/μs</li> <li>+ 50μs)</li> <li>0(100W/16V)</li> <li>(100W/16V)</li> <li>(00W/80V)</li> <li>%set + 0.1S)</li> <li>%set + 0.1S)</li> <li>%set + 0.1S)</li> <li>%set + 0.0S)</li> <li>0-80V</li> <li>1.6mV</li> <li>+ 0.025% F.S.)</li> <li>0~20A</li> </ul>	0.8r ±(10% 0' 0.12 0.8~2( 0.8~2( 0.8r 15Ω-60kΩ 83.333μS 1.666μS( 1.2kΩ : ±(0.5) 0-16V 0.32mV	10ms ~ 30 1µs / 1m 1µs / 1m 10mA/µs 1A/µs 5.1A 5.1A 5.1A 5.1A 5.1A ±0.4 10mA/µs ±(10% ±(10% 1.6V) 30W/16V) 30W/16V) 30W/16V) 30W/80V) 5.6E + 0.01S) 0-80V 1.6mV ±(0.025%set	s / Res : 1ms s + 100ppm 0.64 ~ 160mA/µs 0.64mA/µs ±(10% + 15µs) 04.08A 0.1mA % F.S. 6.4 ~ 16 6.4 ~ 16 6.4 ~ 16 0.0375Ω-1500 1.875Ω-7.5kΩ 0.0375Ω-1500 1.8333µS( 150Ω : ±(0.5) 7.5kΩ: ±(0.5) 016V 0.32mV + 0.025% F.S.)	6.4mA/μs ±(10% + 15μs) 0-40.8A 1mA 00mA/μs nA/μs 00mA/μs 0	10ms ~ 30s 1µs / 1ms 0.001 ~ 0.28A/µs 0.001A/µs ±(10% + 15µs) 0-7.14A 0.2mA 0.01 ~ ±0.45 0.01 ~ ±(10% 0.025Ω~1000 1.25Ω~5KΩ 1000 : ±(0.5% 0.025%set 0~7A	/ Res : 1ms ± 100ppm 0.01 ~ 2.8A/µs 0.01A/µs ±(10% + 15µs) 0-71.4A 2mA % F.S. 2.8A/µs A/µs + 50µs) 2(350W/16V) (350W/16V) 00W/16V) 00W/16V/10V/10V/10V/10V/10V/10V/10V/10V/10V/10	10ms ~ 30s 1µs / 1ms 0.16 ~ 40mA/µs 0.16mA/µs ±(10% + 15µs) 0~1.02A 0.05mA ±0.43 1.6 ~ 40 1.6 ~ 40 1.6 ~ 40 1.25Ω~5kΩ( 50Ω~200kΩ 2.05µS(35 5kΩ : ±(0.59 200kΩ: ±(0.59 2.5mV ±(0.025%set 0~1A	<ul> <li>j / Res : 1ms</li> <li>± 100ppm</li> <li>1.6 ~ 400mA/μ</li> <li>1.6mA/μs</li> <li>± (10% + 15µs</li> <li>0~10.2A</li> <li>0.5mA</li> <li>% F.S.</li> <li>30mA/μs</li> <li>nA/μs</li> <li>+ 50μs)</li> <li>350W/125V)</li> <li>(350W/500V)</li> <li>0W/125V)</li> <li>0W/500V)</li> <li>%set + 0.02S)</li> <li>%set + 0.02S)</li> <li>%set + 0.02S)</li> <li>0~500V</li> <li>10mV</li> <li>+ 0.025% F.S.)</li> <li>0~10A</li> </ul>
CONSTANT CURI	T1&T2 Accuracy RENT MODE Slew Rate Resolution Slew Rate Resolution Current Resolution Current Resolution Current Accuracy STANCE MODE Slew Rate Resolution Slew Rate Accuracy of Setting Resistance Setting Range Resistance Resolution Resistance Accuracy ACK Range Resolution Accuracy ACK Range Resolution Resoluti Resoluti Resolutio Resolutio Resolutio Resolutio Resolutio Res	10ms ~ 30s 1µs / 1ms 0.32 ~ 80mA/µs 0.32mA/µs ±(10% + 15µs) 0-2.04A 0.1mA ±0.45 0.1mA ±0.45 0.32mV ±(10% 0.075Ω~300 3.75Ω~15KΩ 0.333mS( 6.667µS(1 300Ω : ±(0.55) 0~16V 0.32mV ±(0.25%set 0~2A 0.04mA	/ Res : 1ms ± 100ppm 3.2 ~ 800mA/µs 3.2mA/µs ±(10% + 15µs) 0-20.4A 1mA % F.S. 00mA/µs 1A/µs + 50µs) 0(100W/16V) 000W/80V) %set + 0.1S) 0-80V 0.6mV + 0.25% F.S.)	0.8r ±(10% 0' 0.12 0.8~2( 0.8~2( 0.8r 15Ω-60kΩ 83.333μS 1.666μS( 1.2kΩ : ±(0.5) 0-16V 0.32mV	10ms ~ 30 1μs / 1m 1μs / 1m 10mA/μs 1A/μs 15μs) 5.1A 5mA ±0.4 10mA/μs 14/μs ±(10% 1(30W/16V) (30W/16V) (30W/16V) (30W/16V) 30W/80V) (30W/16V) 30W/80V) (30W/16V) 56set + 0.01S) 0-80V 1.6mV ±(0.025%set 5A mA	s / Res : 1ms s + 100ppm 0.64 ~ 160mA/µs 0.64mA/µs ±(10% + 15µs) 04.08A 0.1mA % F.S. 6.4 ~ 16 6.4 ~ 16 6.4 ~ 16 6.4 ~ 16 1.875Ω-7.5k 0.0375Ω-150 1.875Ω-7.5kΩ ±(0.5) 7.5kΩ ±(0.5) 0.32mV + 0.025% F.S.)	6.4mA/μs ±(10% + 15μs) 0-40.8A 1mA 00mA/μs 1A/μs 1A/μs 00mA/μs 1A/μs	10ms ~ 30s 1µs / 1ms 0.001 ~ 0.28A/µs 0.001A/µs ±(10% + 15µs) 0-7.14A 0.2mA ±0.45 0.01 ~ ±(10% 0.025Ω~1000 1.25Ω~5K0 1.25Ω~5K0 1.25Ω~5K0 1.25Ω~5K0 0.025%set 0-16V 0.32mV ±(0.025%set	<ul> <li>/ Res : 1ms</li> <li>± 100ppm</li> <li>0.01 ~ 2.8A/µs</li> <li>0.01A/µs</li> <li>±(10% + 15µs)</li> <li>0-71.4A</li> <li>2mA</li> <li>% F.S.</li> <li>2.8A/µs</li> <li>A/µs</li> <li>+ 50µs)</li> <li>Ω(350W/16V)</li> <li>(350W/16V)</li> <li>(350W/80V)</li> <li>(350W/80V)</li> <li>(350W/80V)</li> <li>(350W/16V)</li> <li>(350W/16V)<td>10ms ~ 30s           1µs / 1ms           0.16 ~ 40mA/µs           0.16mA/µs           0.16mA/µs           ±(10% + 15µs)           0~1.02A           0.05mA           ±0.45           ±0.16m           ±1.6 ~ 40           1.6 ~ 40           1.6 ~ 40           1.6 ~ 40           1.6 ~ 40           0.05mA           0.05mA           0.05mA           0.05mA           0.020kΩ           20µS (35)           0.4250           0.05mA           0.125V           2.5mV           ±(0.025%set           0~1A           0.02mA</td><td>s / Res : 1ms ± 100ppm 1.6 ~ 400mA/µ 1.6mA/µs ±(10% + 15µs 0~10.2A 0.5mA % F.S. 00mA/µs 1A/µs + 50µs) 350W/125V) 350W/125V) 350W/500V) 0W/125V) 0W/125V) 0W/25V) 0W/500V) 000000 00000000 000000000 00000000</td></li></ul>	10ms ~ 30s           1µs / 1ms           0.16 ~ 40mA/µs           0.16mA/µs           0.16mA/µs           ±(10% + 15µs)           0~1.02A           0.05mA           ±0.45           ±0.16m           ±1.6 ~ 40           1.6 ~ 40           1.6 ~ 40           1.6 ~ 40           1.6 ~ 40           0.05mA           0.05mA           0.05mA           0.05mA           0.020kΩ           20µS (35)           0.4250           0.05mA           0.125V           2.5mV           ±(0.025%set           0~1A           0.02mA	s / Res : 1ms ± 100ppm 1.6 ~ 400mA/µ 1.6mA/µs ±(10% + 15µs 0~10.2A 0.5mA % F.S. 00mA/µs 1A/µs + 50µs) 350W/125V) 350W/125V) 350W/500V) 0W/125V) 0W/125V) 0W/25V) 0W/500V) 000000 00000000 000000000 00000000
CONSTANT CURI	T1&T2 Accuracy RENT MODE Slew Rate Resolution Slew Rate Resolution Current Setting Range Current Resolution Current Accuracy STANCE MODE Slew Rate Resolution Slew Rate Resolution Slew Rate Resolution Slew Rate Resolution Resistance Setting Range Resistance Accuracy ACK Range Resolution Accuracy Accuracy Accuracy Resolution Accuracy	$\begin{array}{c} 10 \text{ms} \sim 30 \text{s} \\ 1 \mu \text{s} \ / \ 1 \text{ms} \\ 0.32 - 80 \text{mA} / \mu \text{s} \\ 0.32 \text{mA} / \mu \text{s} \\ \pm (10\% + 15 \mu \text{s}) \\ 0 - 2.04 \text{A} \\ 0.1 \text{mA} \\ \pm 0.45 \\ \hline 3.2 \sim 86 \\ 3.2 \text{mA} \\ \pm (10\% \\ 0.075 \Omega - 3000 \\ 3.75 \Omega - 15 \text{kC} \\ 0.0333 \text{mS} \\ \hline 6.667 \mu \text{S} \\ 1300\Omega : \pm (0.55 \\ 15 \text{k}\Omega : \pm (0.55 \\ 15 \text{k}\Omega : \pm (0.55 \\ 0 - 16 \text{V} \\ 0.32 \text{mV} \\ \pm (0.025\% \text{set} \\ 0 - 2 \text{A} \\ \hline \end{array}$	/ Res : 1ms ± 100ppm 3.2 ~ 800mA/µs 3.2mA/µs ±(10% + 15µs) 0-20.4A 1mA % F.S. 00mA/µs 1A/µs + 50µs) 0(100W/16V) 000W/80V) %set + 0.1S) 0-80V 0.6mV + 0.25% F.S.)	0.8r ±(10% 0' 0.12 0.8~2( 0.8~2( 0.8r 15Ω-60kΩ 83.333μS 1.666μS( 1.2kΩ : ±(0.5) 0-16V 0.32mV	10ms ~ 30 1μs / 1m 1μs / 1m 10mA/μs 1A/μs 15μs) 5.1A 5mA ±0.4 10mA/μs 14/μs ±(10% 1(30W/16V) (30W/16V) (30W/16V) (30W/16V) 30W/80V) (30W/16V) 30W/80V) (30W/16V) 56set + 0.01S) 0-80V 1.6mV ±(0.025%set 5A mA	s / Res : 1ms s + 100ppm 0.64 ~ 160mA/µs 0.64mA/µs ±(10% + 15µs) 04.08A 0.1mA % F.S. 6.4 ~ 16 6.4 ~ 16 6.4 ~ 16 0.0375Ω-1500 1.875Ω-7.5kΩ 0.0375Ω-1500 1.8333µS( 150Ω : ±(0.5) 7.5kΩ: ±(0.5) 016V 0.32mV + 0.025% F.S.)	6.4mA/μs ±(10% + 15μs) 0-40.8A 1mA 00mA/μs nA/μs 00mA/μs 0	10ms ~ 30s 1µs / 1ms 0.001 ~ 0.28A/µs 0.001A/µs ±(10% + 15µs) 0-7.14A 0.2mA 0.01 ~ ±0.45 0.01 ~ ±(10% 0.025Ω~1000 1.25Ω~5KΩ 1000 : ±(0.5% 0.025%set 0~7A	<ul> <li>/ Res : 1ms</li> <li>± 100ppm</li> <li>0.01 ~ 2.8A/µs</li> <li>0.01A/µs</li> <li>±(10% + 15µs)</li> <li>0-71.4A</li> <li>2mA</li> <li>% F.S.</li> <li>2.8A/µs</li> <li>A/µs</li> <li>+ 50µs)</li> <li>Ω(350W/16V)</li> <li>(350W/16V)</li> <li>(350W/80V)</li> <li>(350W/80V)</li> <li>(350W/80V)</li> <li>(350W/16V)</li> <li>(350W/16V)<td>10ms ~ 30s           1µs / 1ms           0.16 ~ 40mA/µs           0.16mA/µs           0.16mA/µs           ±(10% + 15µs)           0~1.02A           0.05mA           ±0.45           ±0.16m           ±1.6 ~ 40           1.6 ~ 40           1.6 ~ 40           1.6 ~ 40           1.6 ~ 40           0.05mA           0.05mA           0.05mA           0.05mA           0.020kΩ           20µS (35)           0.4250           0.05mA           0.125V           2.5mV           ±(0.025%set           0~1A           0.02mA</td><td><ul> <li>j / Res : 1ms</li> <li>± 100ppm</li> <li>1.6 ~ 400mA/μ</li> <li>1.6mA/μs</li> <li>± (10% + 15µs</li> <li>0~10.2A</li> <li>0.5mA</li> <li>% F.S.</li> <li>30mA/μs</li> <li>nA/μs</li> <li>+ 50μs)</li> <li>350W/125V)</li> <li>(350W/500V)</li> <li>0W/125V)</li> <li>0W/500V)</li> <li>%set + 0.02S)</li> <li>%set + 0.02S)</li> <li>%set + 0.02S)</li> <li>0~500V</li> <li>10mV</li> <li>+ 0.025% F.S.)</li> <li>0~10A</li> </ul></td></li></ul>	10ms ~ 30s           1µs / 1ms           0.16 ~ 40mA/µs           0.16mA/µs           0.16mA/µs           ±(10% + 15µs)           0~1.02A           0.05mA           ±0.45           ±0.16m           ±1.6 ~ 40           1.6 ~ 40           1.6 ~ 40           1.6 ~ 40           1.6 ~ 40           0.05mA           0.05mA           0.05mA           0.05mA           0.020kΩ           20µS (35)           0.4250           0.05mA           0.125V           2.5mV           ±(0.025%set           0~1A           0.02mA	<ul> <li>j / Res : 1ms</li> <li>± 100ppm</li> <li>1.6 ~ 400mA/μ</li> <li>1.6mA/μs</li> <li>± (10% + 15µs</li> <li>0~10.2A</li> <li>0.5mA</li> <li>% F.S.</li> <li>30mA/μs</li> <li>nA/μs</li> <li>+ 50μs)</li> <li>350W/125V)</li> <li>(350W/500V)</li> <li>0W/125V)</li> <li>0W/500V)</li> <li>%set + 0.02S)</li> <li>%set + 0.02S)</li> <li>%set + 0.02S)</li> <li>0~500V</li> <li>10mV</li> <li>+ 0.025% F.S.)</li> <li>0~10A</li> </ul>
CONSTANT CURI	T1&T2 Accuracy RENT MODE Slew Rate Resolution Slew Rate Resolution Slew Rate Accuracy of Current Setting Range Current Setting Range Current Accuracy STANCE MODE Slew Rate Resolution Slew Rate Accuracy of Slew Rate Accuracy of Setting Resistance Setting Range Resistance Resolution Resistance Accuracy ACK Range Resolution Accuracy KE	10ms ~ 30s 1µs / 1ms 0.32 ~ 80mA/µs 0.32mA/µs ±(10% + 15µs) 0-2.04A 0.1mA ±0.49 3.2 ~ 80 3.2 ~ 8	<ul> <li>/ Res : Ims</li> <li>± 100ppm</li> <li>3.2 ~ 800mA/μs</li> <li>3.2mA/μs</li> <li>±(10% + 15µs)</li> <li>0-20.4A</li> <li>1mA</li> <li>% F.S.</li> <li>00mA/μs</li> <li>hA/μs</li> <li>+ 50μs)</li> <li>0(100W/16V)</li> <li>000W/16V)</li> <li>0000W/16V)</li> <li>000W/16V)</li> <li>000W/16V</li> <li>000W/16V</li></ul>	0.8r ±(10% 0 0.12 0.8 ~ 22 0.8 ~ 22 0.8r 1.5Ω~6040 1.2kΩ : ±(0.5 60kΩ : ±(0.5) 0-16V 0.32mV 0.32mV	10ms ~ 30 1μs / 1m 10mA/μs 1A/μs 1A/μs 5.1A 5mA ±0.4 5mA ±0.4 15mA ±0.4 10mA/μs ±(10% 00mA/μs ±(10%) 00mA/μs	s / Res : 1ms s + 100ppm 0.64 ~ 160mA/µs 0.64mA/µs ±(10% + 15µs) 04.08A 0.1mA % F.S. 6.4 ~ 16 6.4m 6.4m 50µs) 0.0375Ω~150 1.875Ω~7.5kΩ 0.0666mS( 13.333µS( 150Ω : ±(0.5) 7.5kΩ : ±(0.5) 016V 0.32mV + 0.025% F.S.)	6.4mA/μs         ±(10% + 15μs)         0-40.8A         1mA         00mA/μs         nA/μs         0250W/16V)         250W/16V)         250W/16V)         250W/80V)         %set + 0.1S)         %set + 0.1S)         0-80V         1.6mV         0.8mA	$\begin{array}{c} 10 \text{ms} \sim 30 \text{s} \\ 1 \mu \text{s} \ / 1 \text{ms} \\ 0.001 \sim 0.28 \text{A} / \mu \text{s} \\ 0.001 \text{A} / \mu \text{s} \\ \pm (10\% + 15 \mu \text{s}) \\ 0.7.14 \text{A} \\ 0.2 \text{mA} \\ \pm 0.4\% \\ \hline 0.01 \sim \\ \pm 0.01 \sim \\ 0.01 \sim \\ 1.0\% \\ 1.25 \Omega - 5 \text{k} \Omega \\ 1.25 \Omega - $	<ul> <li>/ Res : 1ms</li> <li>± 100ppm</li> <li>0.01 ~ 2.8A/μs</li> <li>0.01A/μs</li> <li>±(10% + 15μs)</li> <li>0-71.4A</li> <li>2mA</li> <li>% F.S.</li> <li>2.8A/μs</li> <li>A/μs</li> <li>+ 50μs)</li> <li>2.0350W/16V)</li> <li>(350W/16V)</li> <li>(350W/16V)<!--</td--><td>10ms ~ 30s           1µs / 1ms           0.16 ~ 40mA/µs           0.16mA/µs           ±(10% + 15µs)           0~1.02A           0.05mA           ±0.45           1.6 ~ 40           1.6 ~ 40           1.6 ~ 40           1.6 ~ 40           1.6 ~ 40           1.6 ~ 40           0.05mA           ±0.45           0.05mA           ±0.45           0.05mA           ±0.59           5kQ : ±(0.59           20kG3: ±(0.59           0~125V           2.5mV           ±(0.025%set           0~1A           0.02mA           ±(0.05%set +</td><td>s / Res : 1ms s ± 100ppm 1.6 ~ 400mA/μ 1.6mA/μs ±(10% + 15µs 0~10.2A 0.5mA % F.S. 00mA/μs 1.6mA/μs + 50μs) 350W/125V) (350W/500V) 00W/500V) 350W/125V) (350W/500V) 00W/125V) 00W/125V/125V) 00W/125V/125V/125V/125V/125V/125V/125V/125V</td></li></ul>	10ms ~ 30s           1µs / 1ms           0.16 ~ 40mA/µs           0.16mA/µs           ±(10% + 15µs)           0~1.02A           0.05mA           ±0.45           1.6 ~ 40           1.6 ~ 40           1.6 ~ 40           1.6 ~ 40           1.6 ~ 40           1.6 ~ 40           0.05mA           ±0.45           0.05mA           ±0.45           0.05mA           ±0.59           5kQ : ±(0.59           20kG3: ±(0.59           0~125V           2.5mV           ±(0.025%set           0~1A           0.02mA           ±(0.05%set +	s / Res : 1ms s ± 100ppm 1.6 ~ 400mA/μ 1.6mA/μs ±(10% + 15µs 0~10.2A 0.5mA % F.S. 00mA/μs 1.6mA/μs + 50μs) 350W/125V) (350W/500V) 00W/500V) 350W/125V) (350W/500V) 00W/125V) 00W/125V/125V) 00W/125V/125V/125V/125V/125V/125V/125V/125V
CONSTANT CURI	T1&T2 Accuracy RENT MODE Slew Rate Resolution Slew Rate Resolution Current Setting Range Current Resolution Current Accuracy STANCE MODE Slew Rate Resolution Slew Rate Resolution Slew Rate Resolution Slew Rate Resolution Resistance Setting Range Resistance Accuracy ACK Range Resolution Accuracy Accuracy Accuracy Resolution Accuracy	10ms ~ 30s 1µs / 1ms 0.32 ~ 80mA/µs 0.32mA/µs ±(10% + 15µs) 0-2.04A 0.1mA ±0.45 0.1mA ±0.45 0.32mV ±(10% 0.075Ω~300 3.75Ω~15KΩ 0.333mS( 6.667µS(1 300Ω : ±(0.55) 0~16V 0.32mV ±(0.25%set 0~2A 0.04mA	/ Res : Ims         ± 100ppm         3.2 ~ 800mA/μs         3.2mA/μs         ±(10% + 15µs)         0-20.4A         1mA         % F.S.         00mA/μs         hA/μs         + 50µs)         0.100W/16V)         00W/80V)         %set + 0.1S)         %set + 0.1S)         %set + 0.0S         0-80V         1.6mV         + 0.025% F.S.)         0-20A         0.4mA         0.05% F.S.*2)	0.8r ±(10% 0 0.12 0.8 ~ 22 0.8 ~ 22 0.8r 1.5Ω~6040 1.2kΩ : ±(0.5 60kΩ : ±(0.5) 0-16V 0.32mV 0.32mV	10ms ~ 30 1μs / 1m 10mA/μs 1A/μs 15mA ±0.4 5mA ±0.4 5mA ±0.4 10mA/μs	s / Res : 1ms s + 100ppm 0.64 ~ 160mA/µs 0.64mA/µs ±(10% + 15µs) 04.08A 0.1mA % F.S. 6.4 ~ 16 6.4 ~ 16 6.4 ~ 16 6.4 ~ 16 1.875Ω-7.5k 0.0375Ω-150 1.875Ω-7.5kΩ ±(0.5) 7.5kΩ ±(0.5) 0.32mV + 0.025% F.S.)	6.4mA/μs ±(10% + 15μs) 0-40.8A 1mA 00mA/μs 1A/μs 0(250W/16V) 0(250W/16V) 250W/80V) 250W/80V) %set + 0.15) %set + 0.01S) 0-80V 1.6mV 0-40A 0.8mA 0-250W	10ms ~ 30s 1µs / 1ms 0.001 ~ 0.28A/µs 0.001A/µs ±(10% + 15µs) 0-7.14A 0.2mA ±0.45 0.01 ~ ±(10% 0.025Ω~1000 1.25Ω~5K0 1.25Ω~5K0 1.25Ω~5K0 1.25Ω~5K0 0.025%set 0-16V 0.32mV ±(0.025%set	<ul> <li>/ Res : 1ms</li> <li>± 100ppm</li> <li>0.01 ~ 2.8A/μs</li> <li>0.01A/μs</li> <li>±(10% + 15μs)</li> <li>0~71.4A</li> <li>2mA</li> <li>% F.S.</li> <li>2.8A/μs</li> <li>A/μs</li> <li>+ 50μs)</li> <li>2.350W/16V)</li> <li>(350W/16V)</li> <li>(350W/16V)<td><math display="block">\begin{array}{c} 10 \text{ms} - 30 \text{s} \\ 1 \mu \text{s} / 1 \text{ms} \\ 0.16 - 40 \text{mA}/\mu \text{s} \\ 0.16 \text{mA}/\mu \text{s} \\ \pm (10\% + 15 \mu \text{s}) \\ 0 - 1.02 \text{A} \\ 0.05 \text{mA} \\ \pm 0.45 \\ \hline 1.6 - 40 \\ 1.6 \text{m} \\ \pm (10\% \\ 1.25 \Omega - 5 \text{kQ} \\ 1.6 \text{m} \\ \pm (10\% \\ 1.25 \Omega - 5 \text{kQ} \\ 1.25 \Omega - 200 \text{kQ} \\ 20 \mu \text{S} (35 \text{f} \\ 0.5 \mu \text{S} \text{s} \text{f} \\ 1.6 \text{m} \\ 1.6 \text{m} \\ 1.25 \text{V} \\ 2.5 \text{mV} \\ \pm (0.025 \text{S} \text{s} \text{s} \text{f} \\ 1.6 \text{m} </math></td><td>s / Res : 1ms ± 100ppm 1.6 ~ 400mA/µ 1.6mA/µs ±(10% + 15µs 0~10.2A 0.5mA % F.S. 00mA/µs 1A/µs + 50µs) 350W/125V) 350W/125V) 350W/500V) 0W/125V) 0W/125V) 0W/125V) 0W/500V) 8est + 0.02S) 0 ~ 500V 10mV + 0.025% F.S.) 0~10A 0.2mA</td></li></ul>	$\begin{array}{c} 10 \text{ms} - 30 \text{s} \\ 1 \mu \text{s} / 1 \text{ms} \\ 0.16 - 40 \text{mA}/\mu \text{s} \\ 0.16 \text{mA}/\mu \text{s} \\ \pm (10\% + 15 \mu \text{s}) \\ 0 - 1.02 \text{A} \\ 0.05 \text{mA} \\ \pm 0.45 \\ \hline 1.6 - 40 \\ 1.6 \text{m} \\ \pm (10\% \\ 1.25 \Omega - 5 \text{kQ} \\ 1.6 \text{m} \\ \pm (10\% \\ 1.25 \Omega - 5 \text{kQ} \\ 1.25 \Omega - 200 \text{kQ} \\ 20 \mu \text{S} (35 \text{f} \\ 0.5 \mu \text{S} \text{s} \text{f} \\ 1.6 \text{m} \\ 1.6 \text{m} \\ 1.25 \text{V} \\ 2.5 \text{mV} \\ \pm (0.025 \text{S} \text{s} \text{s} \text{f} \\ 1.6 \text{m} $	s / Res : 1ms ± 100ppm 1.6 ~ 400mA/µ 1.6mA/µs ±(10% + 15µs 0~10.2A 0.5mA % F.S. 00mA/µs 1A/µs + 50µs) 350W/125V) 350W/125V) 350W/500V) 0W/125V) 0W/125V) 0W/125V) 0W/500V) 8est + 0.02S) 0 ~ 500V 10mV + 0.025% F.S.) 0~10A 0.2mA

Over Current Protection Rang Reso Accu Over Voltage Protection Rang Reso Accu Over Voltage Content Reso Accu Over Voltage Over Over Voltage Over Cover Voltage Over Reso Accu Over Over	solution curacy nge solution curacy	PEL-20	0.25%F.S) 20.4A 15A 0.25%F.S) 1.6V 2V	0.1 ±(2%set + 0.062 0.01 ±(2%set + 1-8 0.	PEL-20: 30.6W 5W 0.25%F.S) 5~5.1A 125A 0.25%F.S) 1.6V 2V	1.25- 1.: ±(2%set -	-255W 25W + 0.25%F.S) -40.8A .1A + 0.25%F.S) 31.6V	1.7 ±(2%set + 0.875 0.1	-357W 75W -0.25%F.S) ~71.4A 75A -0.25%F.S)	PEL-20 1.75~ ±(2%set + 0.125- 0.02 ±(2%set +	-357W '5W 0.25%F.S) ~10.2A 25A		
Over Power Protection Rang Resol Accur Over Current Protection Rang Resol Accur Over Voltage Protection Rang Resol Accur Over Voltage Protection Rang Resol Accur Vore Vore Vore Vore Vore Vore Vore Vor	solution curacy nge solution curacy nge solution curacy	0.5 ±(2%set + 0.25~ 0.0 ±(2%set + 1~8 0.2	5W 0.25%F.S) 20.4A 55A 0.25%F.S) 1.6V 2V	0.1 ±(2%set + 0.062 0.01 ±(2%set + 1-8 0.	5W 0.25%F.S) 5~5.1A 125A 0.25%F.S) 1.6V	1.: ±(2%set - 0.5~ 0 ±(2%set -	25W + 0.25%F.S) -40.8A .1A + 0.25%F.S)	1.7 ±(2%set + 0.875 0.1 ±(2%set +	-71.4A -71.4A -0.25%F.S) -0.25%F.S)	1.7 ±(2%set + 0.125~ 0.02	'5W 0.25%F.S) ~10.2A 25A		
Rang Resol Accu Over Current Protection Rang Resol Accu Over Voltage Protection Rang Resol Accu Over Prote Rated Power Protection Value Xalue Accu	solution curacy nge solution curacy nge solution curacy	0.5 ±(2%set + 0.25~ 0.0 ±(2%set + 1~8 0.2	5W 0.25%F.S) 20.4A 55A 0.25%F.S) 1.6V 2V	0.1 ±(2%set + 0.062 0.01 ±(2%set + 1-8 0.	5W 0.25%F.S) 5~5.1A 125A 0.25%F.S) 1.6V	1.: ±(2%set - 0.5~ 0 ±(2%set -	25W + 0.25%F.S) -40.8A .1A + 0.25%F.S)	1.7 ±(2%set + 0.875 0.1 ±(2%set +	-71.4A -71.4A -0.25%F.S) -0.25%F.S)	1.7 ±(2%set + 0.125~ 0.02	'5W 0.25%F.S) ~10.2A 25A		
Accu Over Current Protection Resol Accu Protection Rang Accu	solution curacy nge solution curacy nge solution curacy	0.5 ±(2%set + 0.25~ 0.0 ±(2%set + 1~8 0.2	5W 0.25%F.S) 20.4A 55A 0.25%F.S) 1.6V 2V	0.1 ±(2%set + 0.062 0.01 ±(2%set + 1-8 0.	5W 0.25%F.S) 5~5.1A 125A 0.25%F.S) 1.6V	1.: ±(2%set - 0.5~ 0 ±(2%set -	25W + 0.25%F.S) -40.8A .1A + 0.25%F.S)	1.7 ±(2%set + 0.875 0.1 ±(2%set +	-71.4A -71.4A -0.25%F.S) -0.25%F.S)	1.7 ±(2%set + 0.125~ 0.02	'5W 0.25%F.S) ~10.2A 25A		
Accu Over Current Protection Resol Accu Over Voltage Protection Rang Resol Accu Over Voltage Protection Rated Power Protection Value Accu Value Accu	uracy nge solution curacy nge solution curacy	±(2%set + 0.25~ 0.0 ±(2%set + 1~8 0.2	0.25%F.S) 20.4A 55A 0.25%F.S) 1.6V 2V	±(2%set + 0.062 0.01 ±(2%set + 1-8 0.	0.25%F.S) 5~5.1A 125A 0.25%F.S) 1.6V	±(2%set - 0.5~ 0 ±(2%set - 1~{	-40.8A -1A + 0.25%F.S)	±(2%set + 0.875 0.1 ±(2%set +	~71.4A 75A - 0.25%F.S)	±(2%set + 0.125~ 0.02	~10.2A 25A		
Over Current Protection Rang Resol Accu Over Voltage Protection Rang Resol Accu Over Prote Rated Power Protection Value Accur Value Accur Value Accur Value Accur	nge solution curacy nge solution curacy	0.25~ 0.0 ±(2%set +	20.4A 15A 0.25%F.S) 1.6V 2V	0.062/ 0.01 ±(2%set + 1-8 0.	5-5.1A 125A 0.25%F.S) 1.6V	0.5~ 0 ±(2%set -	-40.8A .1A + 0.25%F.S)	0.875 0.1 ±(2%set +	~71.4A 75A - 0.25%F.S)	0.125~	~10.2A 25A		
Rang Reso Accu Over Voltage Protection Rang Reso Accu Over Prote Rated Power Protection Xalue Accur	nge solution curacy nge solution curacy	0.0 ±(2%set +	5A 0.25%F.S) 1.6V 2V	0.01 ±(2%set + 1~8 0.	125A 0.25%F.S) 1.6V	0 ±(2%set -	.1A + 0.25%F.S)	0.1 ±(2%set +	75A - 0.25%F.S)	0.02	25A		
Accu Over Voltage Protection Rang Reso Accu Over Prote tated Power Protection Value Accu Value	solution curacy nge solution curacy	0.0 ±(2%set +	5A 0.25%F.S) 1.6V 2V	0.01 ±(2%set + 1~8 0.	125A 0.25%F.S) 1.6V	0 ±(2%set -	.1A + 0.25%F.S)	0.1 ±(2%set +	75A - 0.25%F.S)	0.02	25A		
Accu Over Voltage Protection Rang Resol Accu Over Prote Rated Power Protection Value Accur Value	curacy nge solution curacy	1~8	, 1.6V 2V	1~8	1.6V	1~{	,	, , , , , , , , , , , , , , , , , , ,	,	±(2%set +	0.25%F.S)		
Over Voltage Protection Rang Reso Accu Over Prote Rated Power Protection Value Accur	nge solution curacy	1~8	, 1.6V 2V	1~8	1.6V	1~{	,	, , , , , , , , , , , , , , , , , , ,	,	_(_/			
Rang Reso Accu Over Prote Rated Power Protection Value Accur	nge solution curacy	0.2	2V	0.			81.6V	1~8	1.01				
Reso Accu Over Prote Rated Power Protection Value Accur	solution curacy				2V				01.0V	2.5~!	510V		
Over Prote Rated Power Protection Value Accur	,	±(2%set +	0.25%F.S)	1/20/ cot 1	0.2V		0.2V		0.2V		1.25V		
Prote Rated Power Protection Value Accur	er Temperature		±(2%set + 0.25%F.S)		±(2%set + 0.25%F.S)		±(2%set + 0.25%F.S)		±(2%set + 0.25%F.S)		±(2%set + 0.25%F.S)		
Value Accur	tection	≒85°C			≒8	35°C		≒85°C		≒85°C			
Accur		1	I					1					
	ue	110	0W	33	3W	2	75W	38	5W	38	5W		
GENERAL	uracy	±5%	6set	±5%set		±5%set		±5%set		±5%set			
			<u>+</u>	<u>.</u>		•		•					
SHORT CIRCUIT													
Curre	rrent (CC)	≒2.2/2A	≒22/20A	≒5.	5/5A	≒4.4/4A	≒44/40A	=7.7/7A	≒77/70A	≒1.1/1A	≒11/10A		
Volta	ltage (CV)	≒ 0V	≒ 0∨	=	0V	≒ 0V	≒ 0V	≒ 0V	≒ 0V	≒ 0V	≒ 0V		
Resis	sistance (CR)	≒3.75Ω	≒0.075Ω	≒15Ω	≒0.3Ω	≒1.875Ω	≒0.0375Ω	≒1.25Ω	≒0.025Ω	≒50Ω	≒1.25Ω		
INPUT RESISTANCE (LOAD OFF) 500kΩ (Typical)													
POWER SOURCE		100-120Vac/ 200-240Vac (90-132Vac/ 180-250Vac), 47 ~ 63Hz											
WEIGHT		Approx. 3.8kg	Approx. 3.8kg										
DIMENSIONS & WEIGHT	· /	272(W) x 200(H) >	x 581(D) mm; Appro	ox. 17.1kg (Full mod	dules)								
DIMENSIONS & WEIGHT	HT (PEL-2004B)	435(W) x 200(H) >	x 581(D) mm; Appro	ox. 28.4kg (Full mod	dules)								

# **ORDERING INFORMATION**

PEL-2020B	Dual Channel Module, (0~80V, 0~20A, 100W) x 2
PEL-2030B	Dual Channel Module, (1~80V, 0~5A, 30W)+(1~80V, 0~40A, 250W)
PEL-2040B	Single Channel Module, (0~80V, 0~70A, 350W)
PEL-2041B	Single Channel Module, (0~500V, 0~10A, 350Ŵ)
PEL-2004B	4-Slot Programmable D.C. Electronic Load Mainframe
PEL-2002B	2-Slot Programmable D.C. Electronic Load Mainframe
Note : Load r	nodule cannot be used without a mainframe
ACCESSORIE	S
PEL-2002B	User Manual x1, Power Cord x1, Panel Cover PEL-003 x1
PEL-2004B	User Manual x1, Power Cord x1, Panel Cover PEL-003 x3
PEL-2020B/20	<b>30B/2040B/2041B</b> Test Lead GTL-120 x1, Sense Lead GTL-121 x1

# OPTIONAL ASSESSORIES

PEL-001	GPIB Card
PEL-002	PEL-2000B Series Rack Mount Kit
GTL-248	GPIB Cable (2m)
GTL-249	Frame Link Cable
GTL-246	USB Cable, USB 2.0 A-B TYPE CABLE, 4P
GTL-232	RS-232C Cable, 9-pin, F-F Type,
	null modem, 2000mm

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