

## For electronic devices and substrate JEDEC/IPC standard temperature cycle test chambers

### Compatible with temperature cycle tests required by JEDEC/IPC standards

5th generation mobile communication systems (5G) makes faster communications and lower latency.

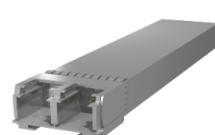
As a result, it is required to be used not only in conventional smartphones but also in a wide range of fields such as transportation, medical care, and disaster prevention.

On the other hand, further safety and reliability tests are essential because equipment failure threaten person injured and huge economic losses.

For this reason, the demands for reliability tests based on the JEDEC standard and IPC standard is increasing, and we introduce a dedicated chambers that supports the temperature change rate required by the standard.



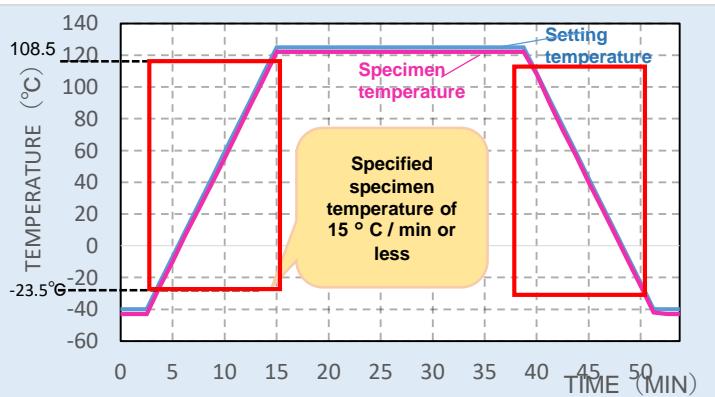
### Sample example

Device type	Electronic devices / semiconductors 	Optical transmission device 	Terminal (smartphone) / communication module 
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### Features

- It is possible to control the temperature change rate corresponding to JESD22-A104F and IPC-9701.

Test standard	Temperature setting High temperature(°C)	Temperature setting Low temperature(°C)	Temperature change rate	Soak time	Number of cycles
JESD22-A104F	G : +125	-40	Specimen temperature, 15°C / min. or less	1 · 5 · 10 · 15min	Not specified
	I : +115	-40			
	J : +100	0			
	K : +125	0			
	L : +110	-55			
	N : +85	-40			
	R : +125	-25			
	TC1 : +100	0			
IPC-9701	TC2 : +100	-25	Specimen temperature, 20°C / min. or less	Specimen 10分	200
	TC3 : +125	-40			500
	TC4 : +125	-55			1000
	TC5 : +100	-55			3000
					6000



<Test condition example>  
Standard number : JESD22-A104E condition

High temperature : +125°C

Low temperature : -40°C

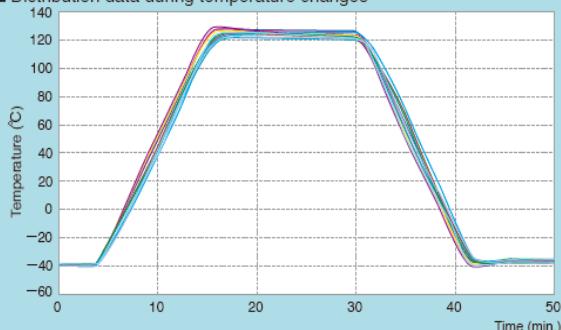
Temperature change rate : 15°C/min

## Features

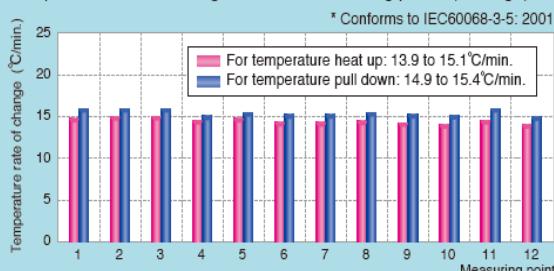
### Excellent temperature distribution even samples are in the chamber

#### Distribution performance during temperature changes (example)

##### Distribution data during temperature changes



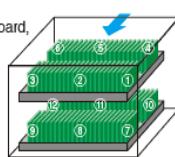
##### Temperature rate of change at twelve measuring points (Average)



##### Test conditions

High temp. soak : +125°C  
Low temp. soak : -40°C  
Ramp rate : 15°C/min.  
Control point : Air outlet sensor

Specimen : Printed Circuit Board,  
145 × 130 mm,  
90 pcs.



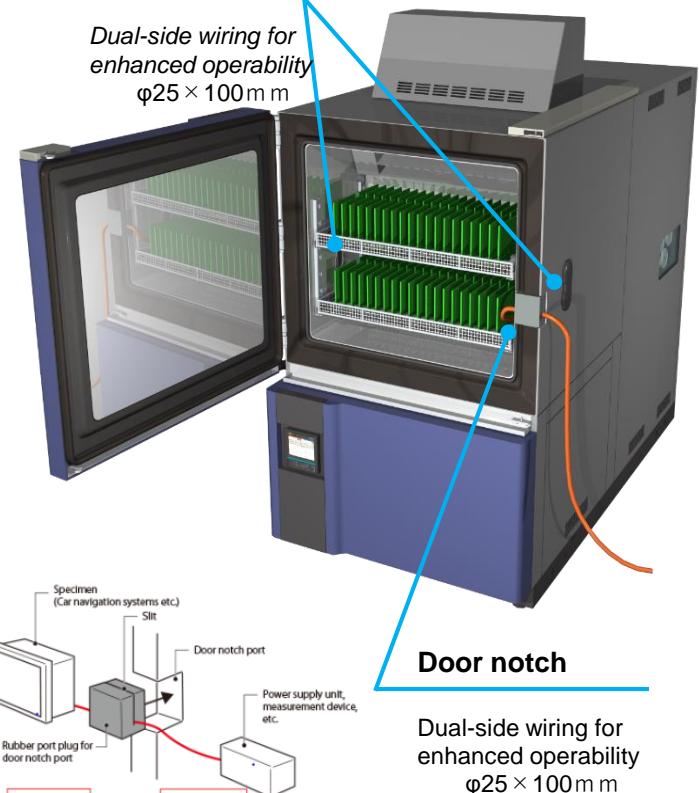
##### Measurement method

As shown on the right, thermocouples are attached to the specimens at twelve measuring points.

### Enhanced easy operability by free access to the left and right

#### Flat cable ports

Dual-side wiring for enhanced operability  
φ25 × 100mm



## Specifications

Model	Inside dimensions (mm)	Capacity	Temperature change rate
			+ 108.5 → -23.5°C Target temp.: + 125 → -40°C
TCC-151W (Water-cooled specifications)	W800×H500×D400mm	160L	Specimen temperature:15°C / min. 5kg of specimen(glass epoxy PCB)and 4kg of jigs

### Supports large samples and more samples



Model	HRG-357HS-25 (Water-cooled specifications)
Inside dimensions (mm)	W700 × H850 × D600mm
Capacity	357L
Compatibility Test standard	JESD22-A104E IPC-9701
Temperature change rate + 108.5 → -23.5°C Target temp.: + 125 → -40°C	Specimen temperature:13°C / min. 9kg of specimen(glass epoxy PCB)and 4kg of jigs