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With the principle of “Quality Parts,Customers Priority,Honest Operation,and Considerate Service”,our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip,ALPS,ROHM,Xilinx,Pulse,ON,Everlight and Freescale. Main products comprise IC,Modules,Potentiometer,IC Socket,Relay,Connector.Our parts cover such applications as commercial,industrial, and automotives areas.

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## Contact us

Tel: +86-755-8981 8866 Fax: +86-755-8427 6832

Email & Skype: info@chipsmall.com Web: www.chipsmall.com

Address: A1208, Overseas Decoration Building, #122 Zhenhua RD., Futian, Shenzhen, China





# DB2G42600L1

For rectification

### ■ Features

- Average Forward Current  $I_F(AV) \leq 1.0$  A rectification is possible
- Low Forward Voltage
- High power capability due to Chip Size Package  
RoHS compliant (EU RoHS / MSL:Level 1 compliant)

### ■ Marking Symbol: D6

### ■ Packaging

Embossed type (Thermo-compression sealing) : 1 000 pcs / reel (standard)

### ■ Absolute Maximum Ratings

Parameter	Symbol	Min	Max	Unit
Reverse Voltage <sup>*1</sup>	VR	-	40	V
Maximum Peak Reverse Voltage <sup>*1</sup>	VRM	-	40	V
Average Forward Current <sup>*2,3</sup>	$I_F(AV)$	-	1.0	A
Average Forward Current <sup>*2,4</sup>	$I_F(AV)$	-	1.0	A
Non-repetitive Peak Surge Forward Current <sup>*1,5</sup>	IFSM	-	10	A
Operating Junction Temperature <sup>*6</sup>	Tj	-	150	°C
Ambient Temperature	Ta	-40	+150	°C
Storage Temperature	Tstg	-55	+150	°C

Note) \*1: Ta = Tj = 25°C

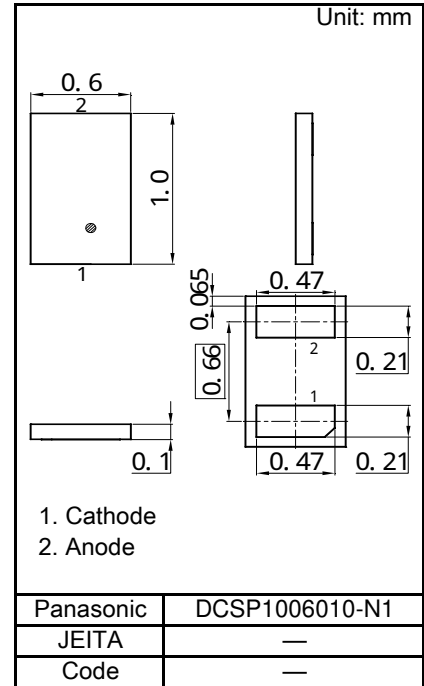
\*2: Squire wave :  $\sigma = 0.5$

\*3: Ta  $\leq 85^\circ\text{C}$ , when device mounted on a FR4 PCB (25.4mm×25.4mm, 1mm thick), copper wiring (620.0mm<sup>2</sup> area, 36 $\mu\text{m}$  thick).

\*4: Tsp  $\leq 136^\circ\text{C}$

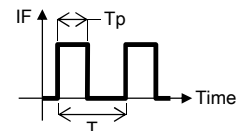
\*5: Squire wave : Tp = 5 ms

\*6: Power derating is necessary so that Tj < 150°C.



(Waveform definition)

$$\text{Duty Cycle : } \sigma = \frac{T_p}{T}$$



### ■ Electrical Characteristics Ta = 25 °C ± 3 °C

Parameter	Symbol	Conditions	Min	Typ	Max	Unit
Forward Voltage	VF	IF = 1.0 A	-	0.51	0.6	V
Reverse Current	IR	VR = 40 V	-	2	30	$\mu\text{A}$
Terminal Capacitance	Ct	VR = 10 V, f = 1 MHz	-	28	-	pF
Reverse Recovery Time <sup>*1</sup>	trr	IF = IR = 100 mA, I <sub>rr</sub> = 10 mA	-	8.7	-	ns

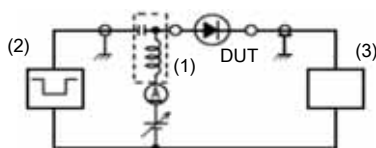
Note) 1. Measuring methods are based on JAPANESE INDUSTRIAL STANDARD JIS C 7031 measuring methods for diodes.

2. This product is sensitive to electric shock (static electricity, etc.).

Due attention must be paid on the charge of a human body and the leakage of current from the operating equipment.

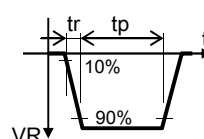
3. \*1: Measurement circuit, input pulse, output pulse for Reverse recovery time

(Measurement circuit)



- (1) Bias Insertion Unit (N-50BU)
- (2) Pulse Generator (PG-10N), RS = 50  $\Omega$
- (3) Wave Form Analyzer (SAS-8130), Ri = 50  $\Omega$

(Input pulse)



- tp = 2  $\mu\text{s}$   
tr = 0.35 ns  
 $\sigma = 0.05$

(Output pulse)

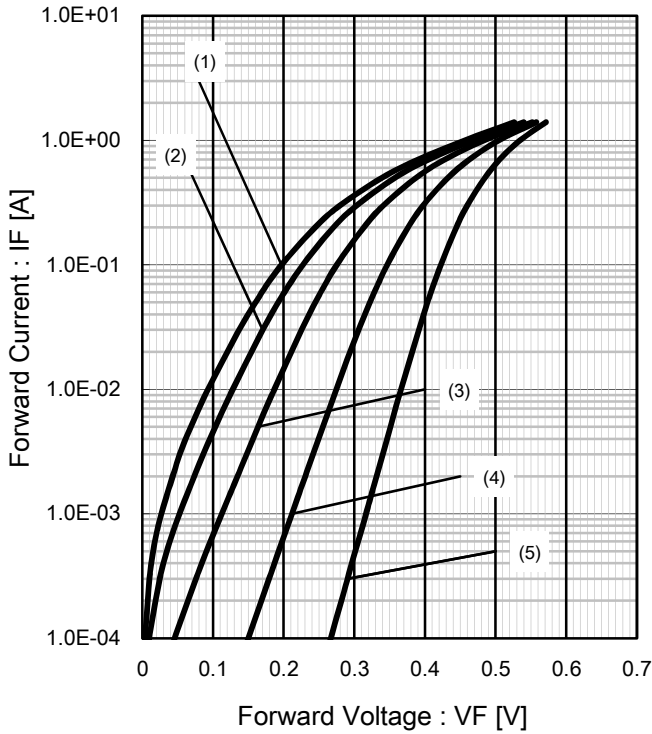


- IF = 100 mA  
IR = 100 mA  
Irr = 10 mA

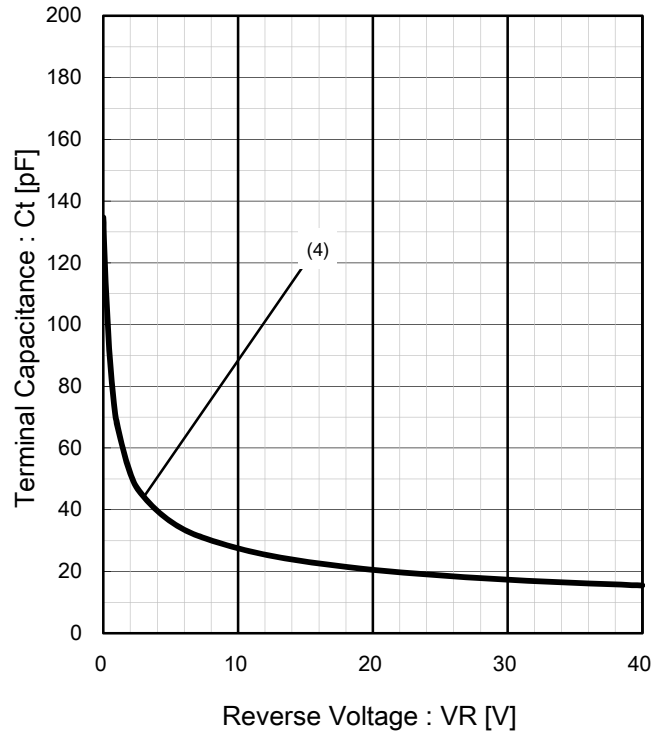


Electrical Characteristics Technical Data (Reference)

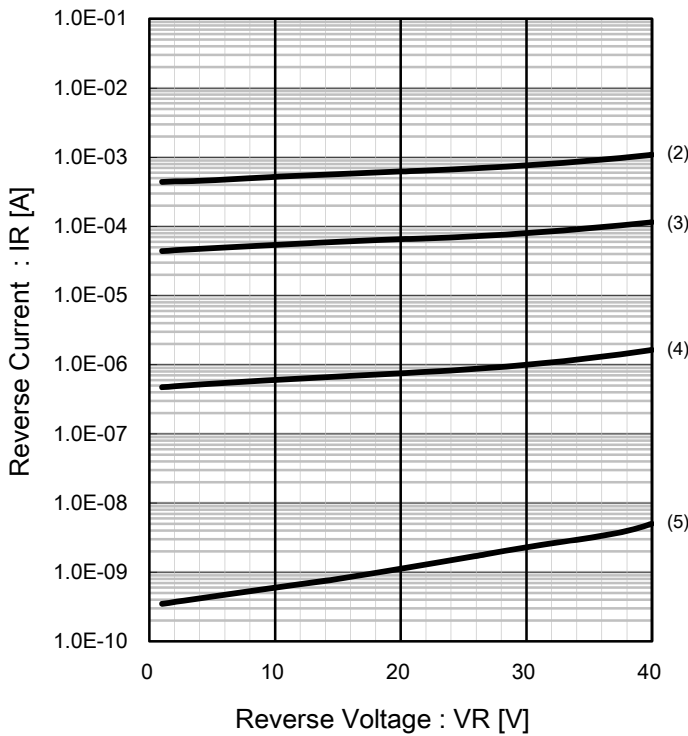
IF - VF / Typical Data



Ct - VR / Typical Data



IR - VR / Typical Data



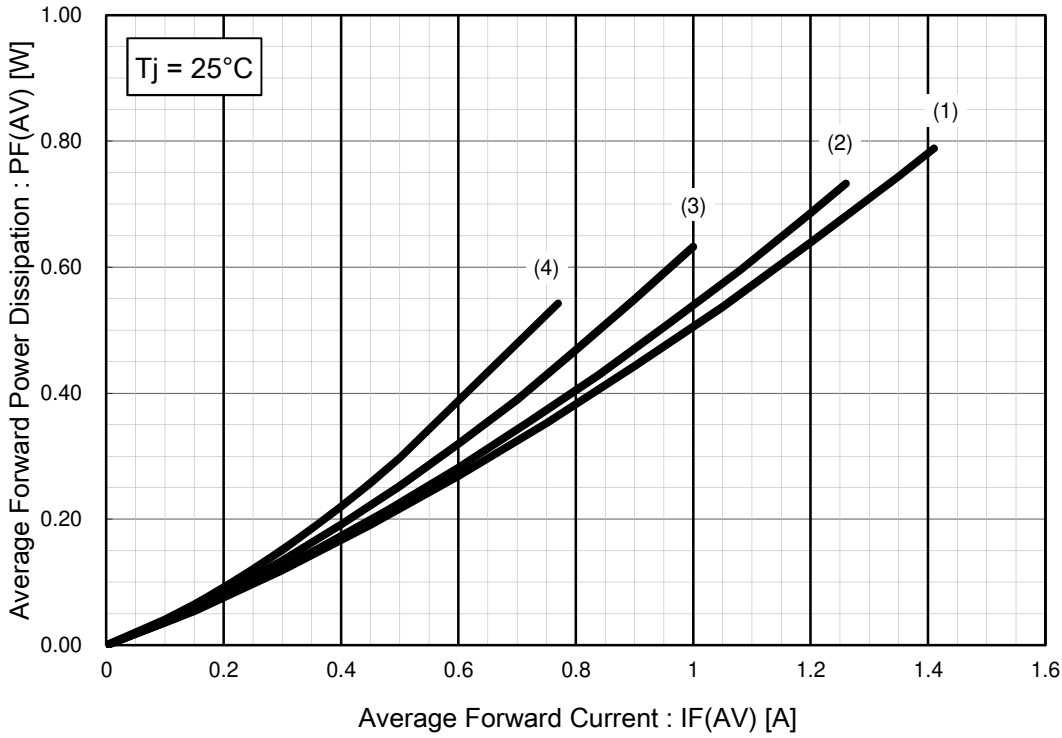
(Graph legends)

(1)	Ta = 150 °C
(2)	Ta = 125 °C
(3)	Ta = 85 °C
(4)	Ta = 25 °C
(5)	Ta = -40 °C

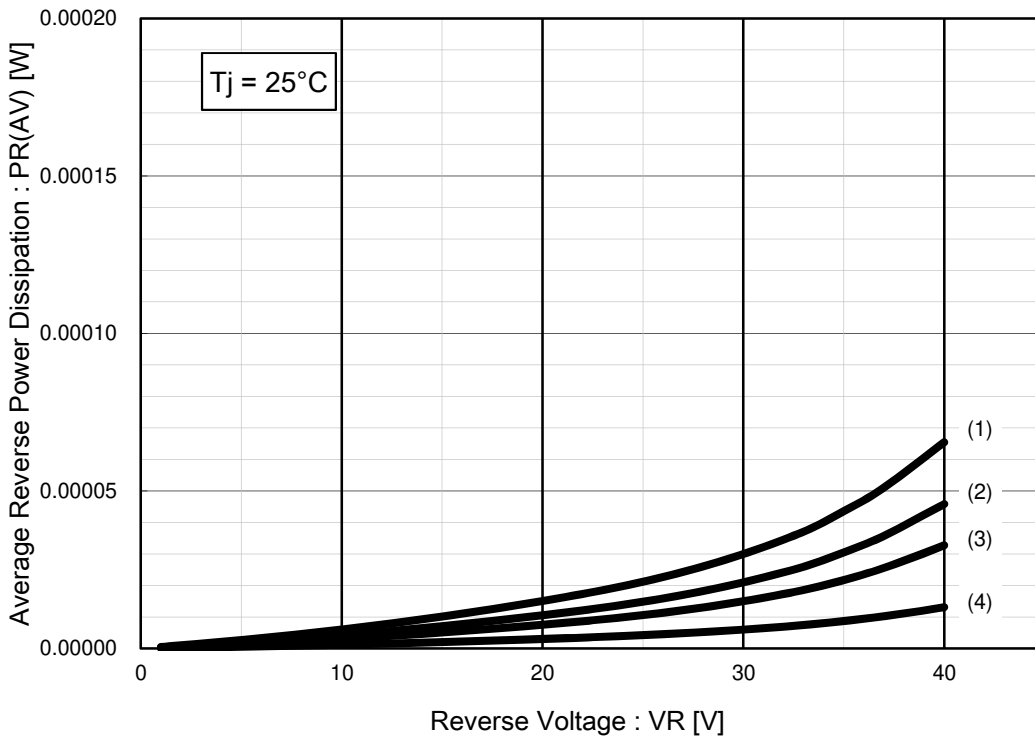


Electrical Characteristics Technical Data (Reference)

PF(AV) - IF(AV) / Typical Data



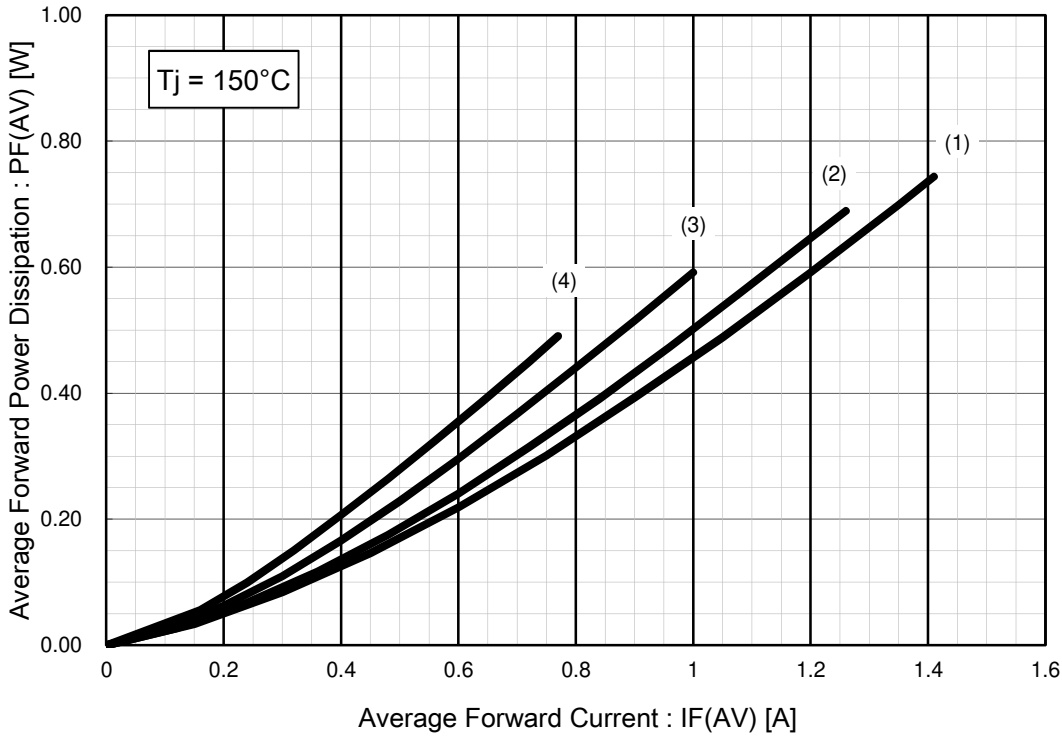
PR(AV) - VR / Typical Data



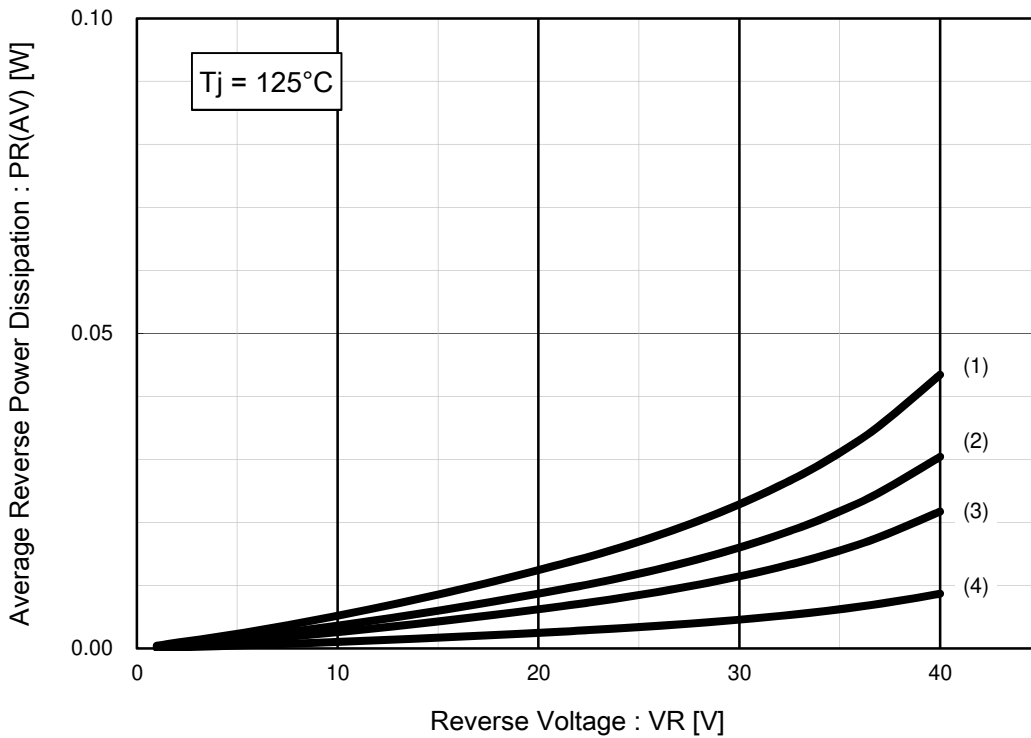


Electrical Characteristics Technical Data (Reference)

PF(AV) - IF(AV) / Typical Data



PR(AV) - VR / Typical Data



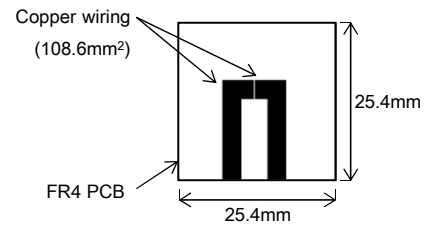
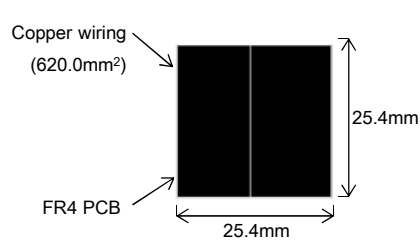


■ Thermal Characteristics

Parameter	Symbol	Conditions	Min	Typ	Max	Unit
Thermal Resistance, Junction to Splder Point	$R_{th(j-sp)}$	Ta = 25°C, in free air	-	20	-	°C/W
Thermal Resistance, Junction to Ambient *1	$R_{th(j-a)}$	Ta = 25°C, in free air	-	92	-	°C/W
Thermal Resistance, Junction to Ambient *2	$R_{th(j-a)}$	Ta = 25°C, in free air	-	170	-	°C/W

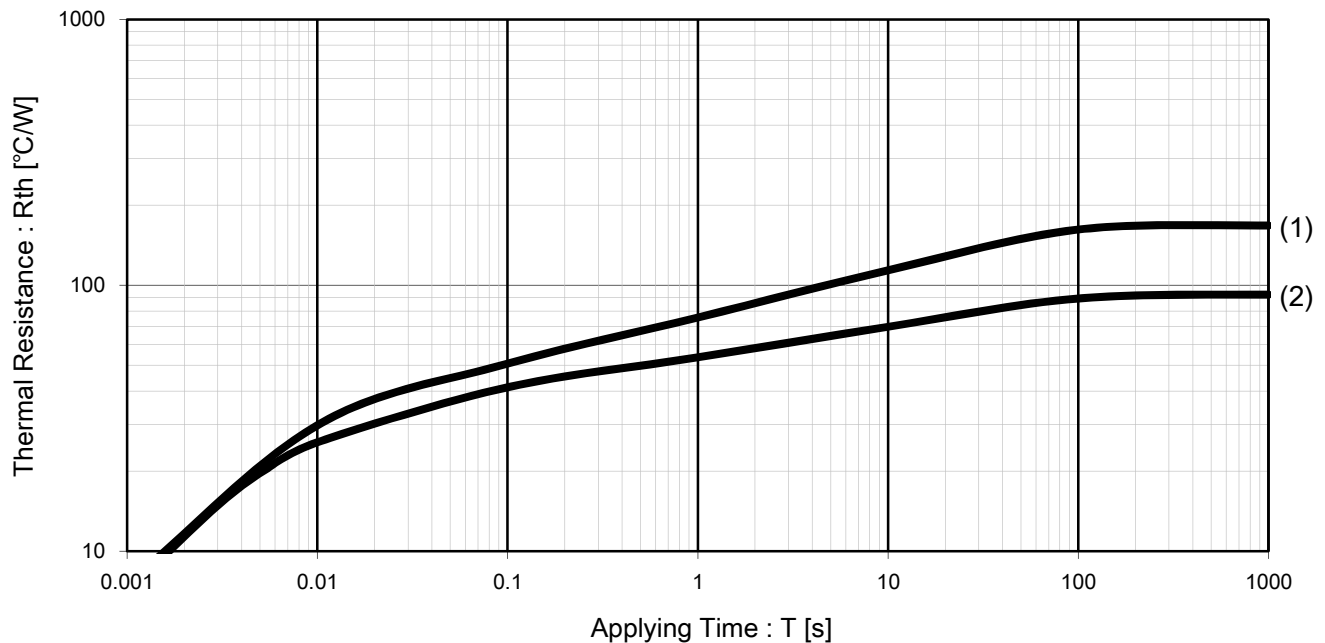
Note) \*1: Device mounted on a FR4 PCB (25.4mm×25.4mm, 1mm thick), copper wiring (620.0mm<sup>2</sup> area, 36μm thick).  
 \*2: Device mounted on a FR4 PCB (25.4mm×25.4mm, 1mm thick), copper wiring (108.6mm<sup>2</sup> area, 36μm thick).

(Evaluation board outline)

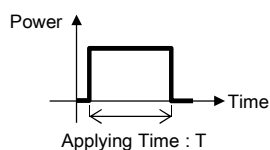


Thermal Characteristics Technical Data (Reference)

$R_{th} - T^{*1}$  / Typical Data



Note) \*1: Single pulse measurement  
 (Waveform definition)



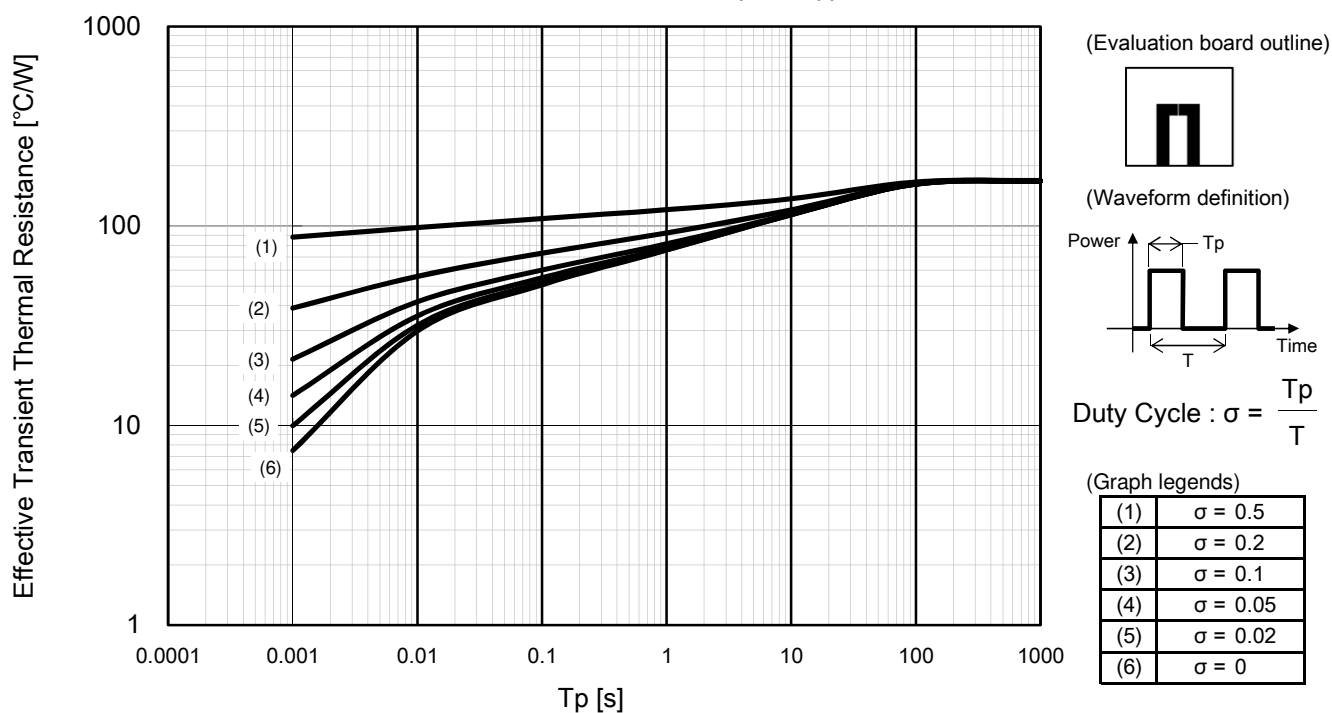
(Graph legends)

(1)	Device mounted on a FR4 PCB (25.4mm×25.4mm, 1mm thick), copper wiring (108.6mm <sup>2</sup> area, 36μm thick).
(2)	Device mounted on a FR4 PCB (25.4mm×25.4mm, 1mm thick), copper wiring (620.0mm <sup>2</sup> area, 36μm thick).

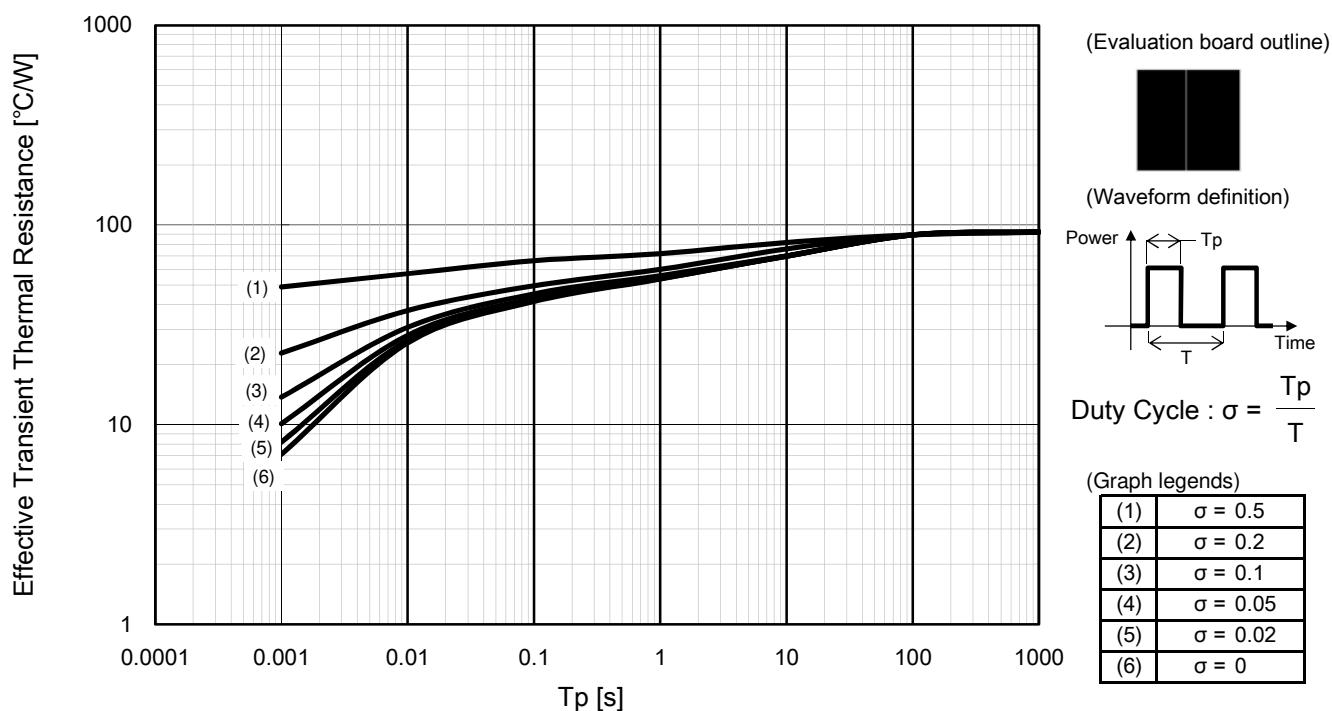


### Thermal Characteristics Technical Data (Reference)

Effective Transient Thermal Resistance -  $T_p^{*1}$  / Typical Data



Effective Transient Thermal Resistance -  $T_p^{*2}$  / Typical Data

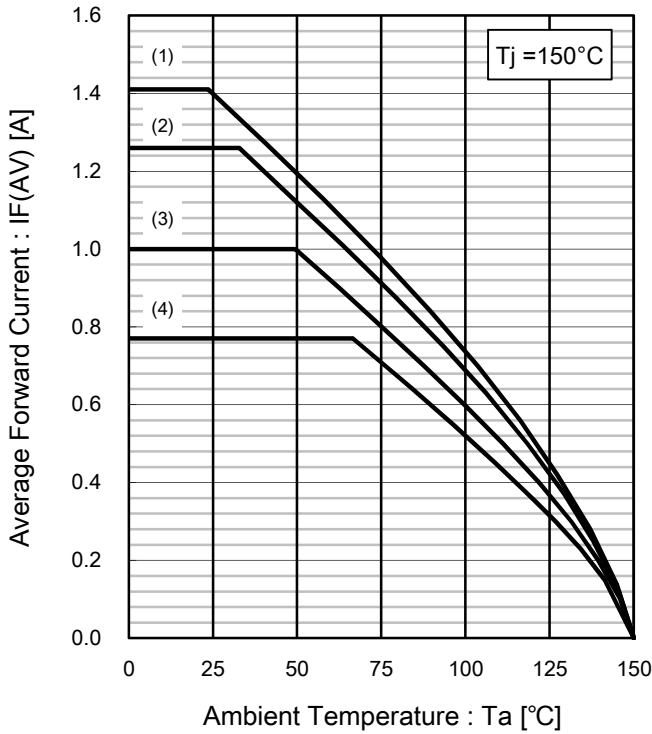


Note) \*1: Device mounted on a FR4 PCB (25.4mm×25.4mm, 1mm thick), copper wiring (108.6mm<sup>2</sup> area, 36μm thick).  
\*2: Device mounted on a FR4 PCB (25.4mm×25.4mm, 1mm thick), copper wiring (620.0mm<sup>2</sup> area, 36μm thick).

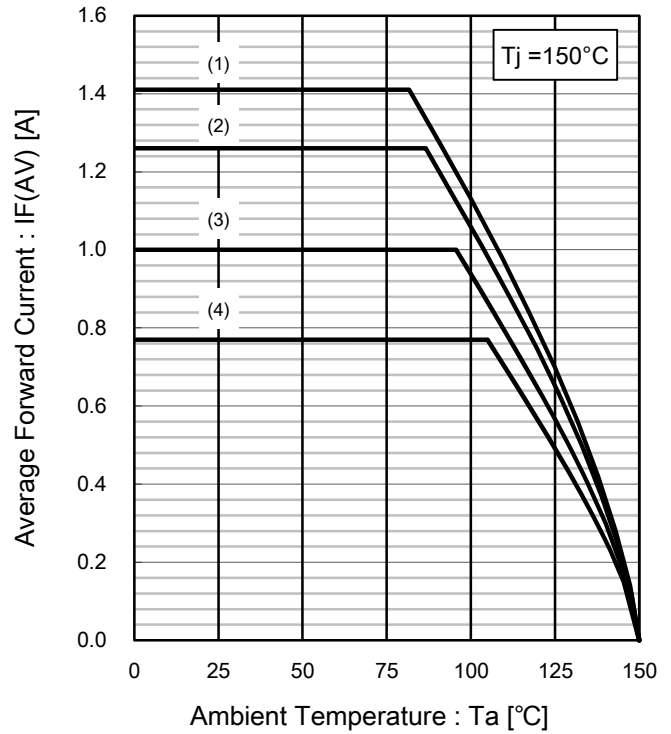


Power Derating Technical Data (Reference)

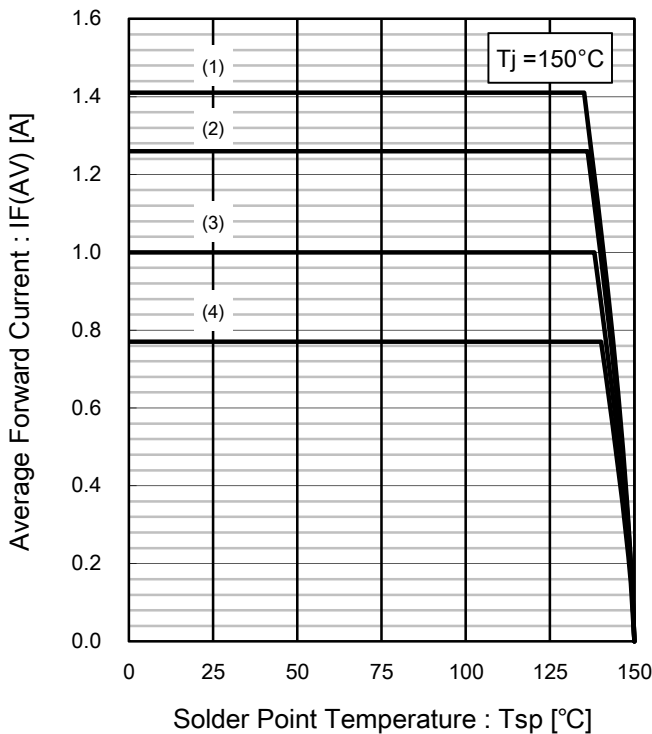
IF(AV) - Ta<sup>\*1</sup> / Typical Data



IF(AV) - Ta<sup>\*2</sup> / Typical Data



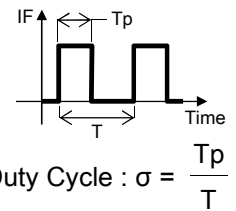
IF(AV) - Tsp / Typical Data



(Graph legends)

(1)	$\sigma = 1.0$
(2)	$\sigma = 0.8$
(3)	$\sigma = 0.5$
(4)	$\sigma = 0.3$

(Waveform definition)



Note)

\*1: Device mounted on a FR4 PCB (25.4mm×25.4mm, 1mm thick), copper wiring (108.6mm<sup>2</sup> area, 36μm thick).

(Evaluation board outline)



\*2: Device mounted on a FR4 PCB (25.4mm×25.4mm, 1mm thick), copper wiring (620.0mm<sup>2</sup> area, 36μm thick).

(Evaluation board outline)







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