

Panasonic

Schottky Barrier Diode

DB2G60800L

DB2G60800L

For rectification

■ Features

- Low forward voltage VF
- Forward current (Average) IF(AV) ≤ 1.0 A rectification is possible
- RoHS compliant
- (EU RoHS / MSL:Level 1 compliant)

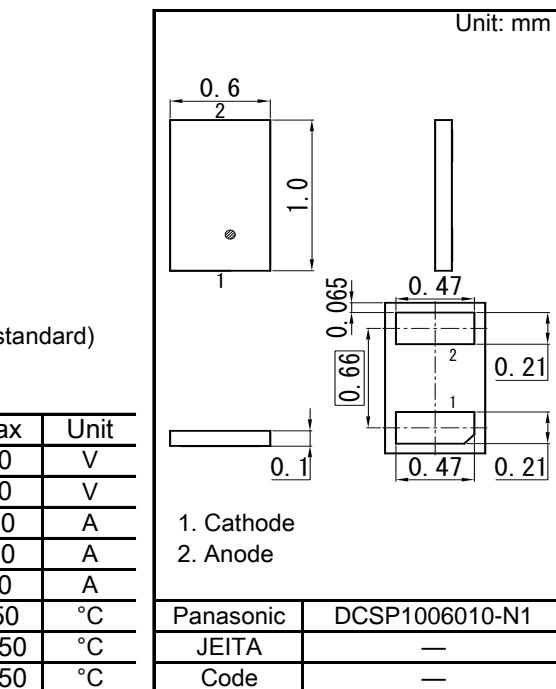
■ Marking Symbol: D7

■ Packaging

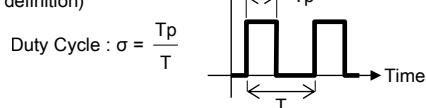
Embossed type (Thermo-compression sealing) : 20 000 pcs / reel (standard)

■ Absolute Maximum Ratings

Parameter	Symbol	Min	Max	Unit
Reverse Voltage ^{*1}	VR	-	60	V
Maximum Peak Reverse Voltage ^{*1}	VRM	-	60	V
Average Forward Current ^{*2,3}	IF(AV)	-	1.0	A
Average Forward Current ^{*2,4}	IF(AV)	-	1.0	A
Non-repetitive Peak Surge Forward Current ^{*1,5}	IFSM	-	10	A
Operating Junction Temperature ^{*6}	T _j	-	150	°C
Ambient Temperature	T _a	-40	+150	°C
Storage Temperature	T _{stg}	-55	+150	°C

Note) *1: T_a = T_j = 25°C*2: Square wave : $\sigma = 0.5$ *3: T_a \leq 85°C, when device mounted on a FR4 PCB (25.4mm×25.4mm, 1mm thick), (620.0mm² area, 36μm thick).*4: Solder Point Temperature : T_{sp} \leq 135°C*5: Square wave : T_p = 5 ms*6: Power derating is necessary so that T_j < 150°C.

(Waveform definition)



■ Electrical Characteristics T_a = 25 °C ± 3 °C

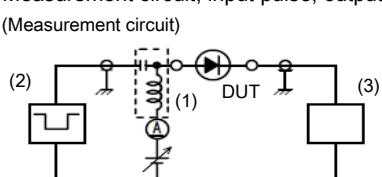
Parameter	Symbol	Conditions	Min	Typ	Max	Unit
Forward Voltage	VF	IF = 1.0 A	-	0.6	0.68	V
Reverse Current	IR	VR = 60 V	-	3	40	μA
Terminal Capacitance	C _t	VR = 10 V, f = 1 MHz	-	20	-	pF
Reverse Recovery Time ^{*1}	trr	IF = IR = 100 mA, Irr = 10 mA	-	6.6	-	ns

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

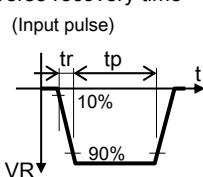
2. This product is sensitive to electric shock (static electricity, etc.).

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

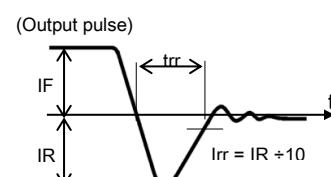
3. *1: Measurement circuit, input pulse, output pulse for Reverse recovery time



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



tp = 2 μs
 tr = 0.35 ns
 σ = 0.05



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

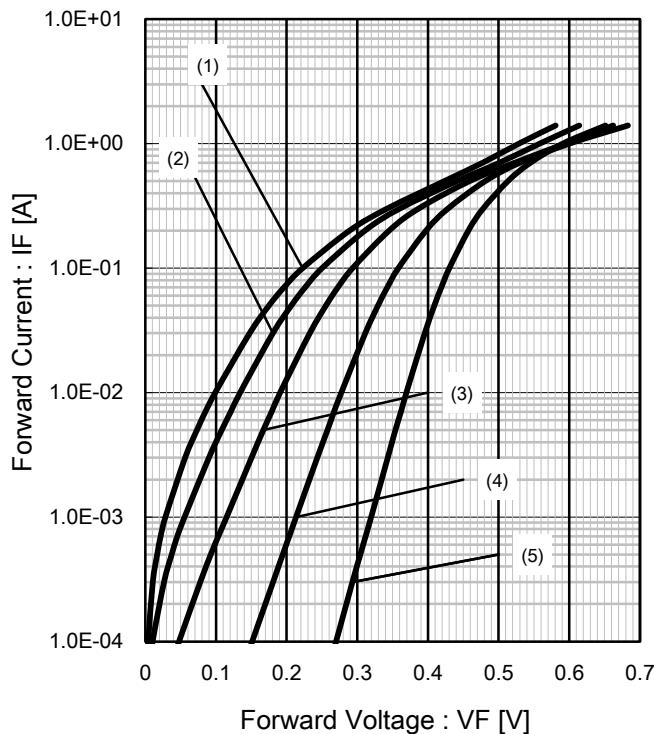


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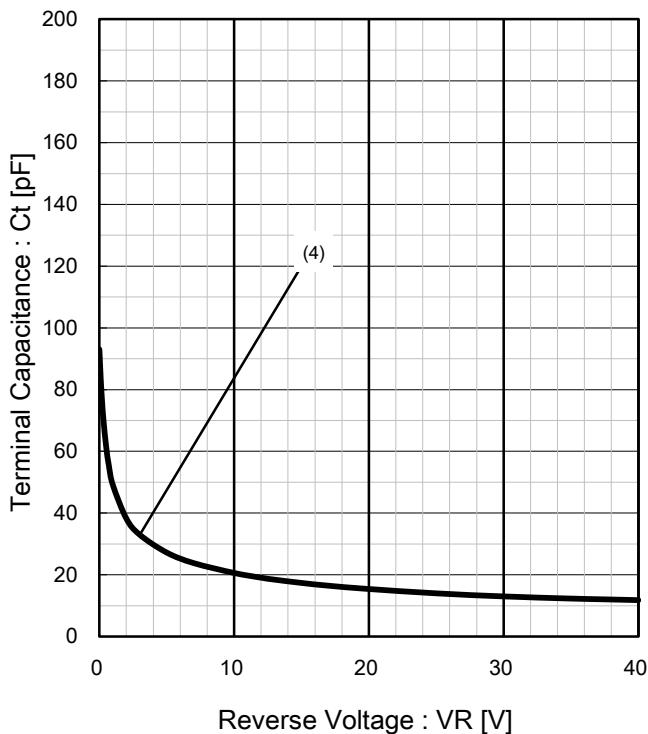
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Electrical Characteristics Technical Data (Reference)

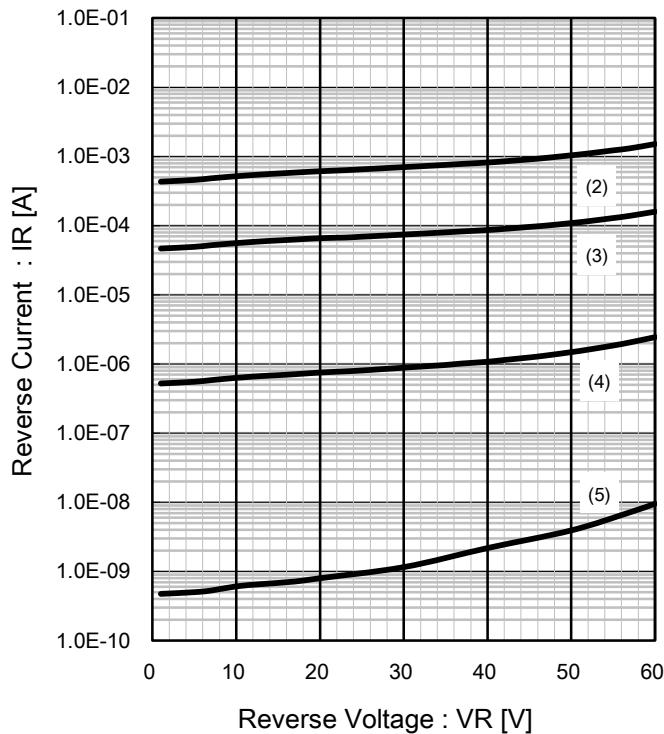
IF - VF / Typical Data



Ct - VR / Typical Data



IR - VR / Typical Data



(Graph legends)

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

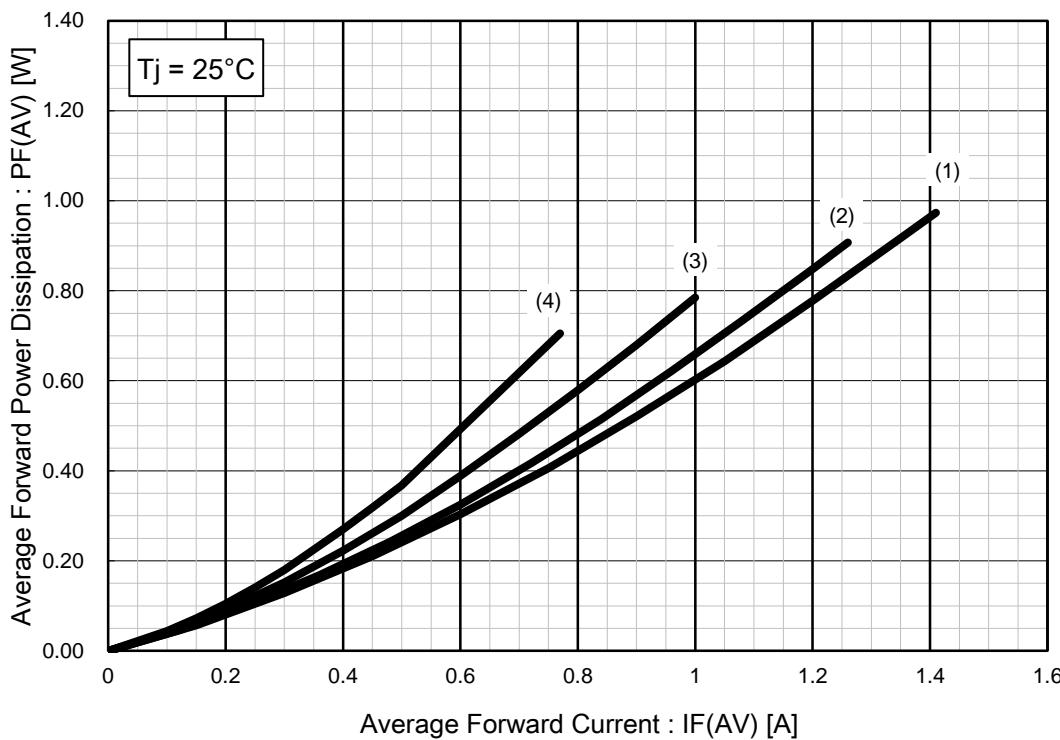


Schottky Barrier Diode

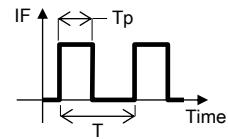
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Electrical Characteristics Technical Data (Reference)

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



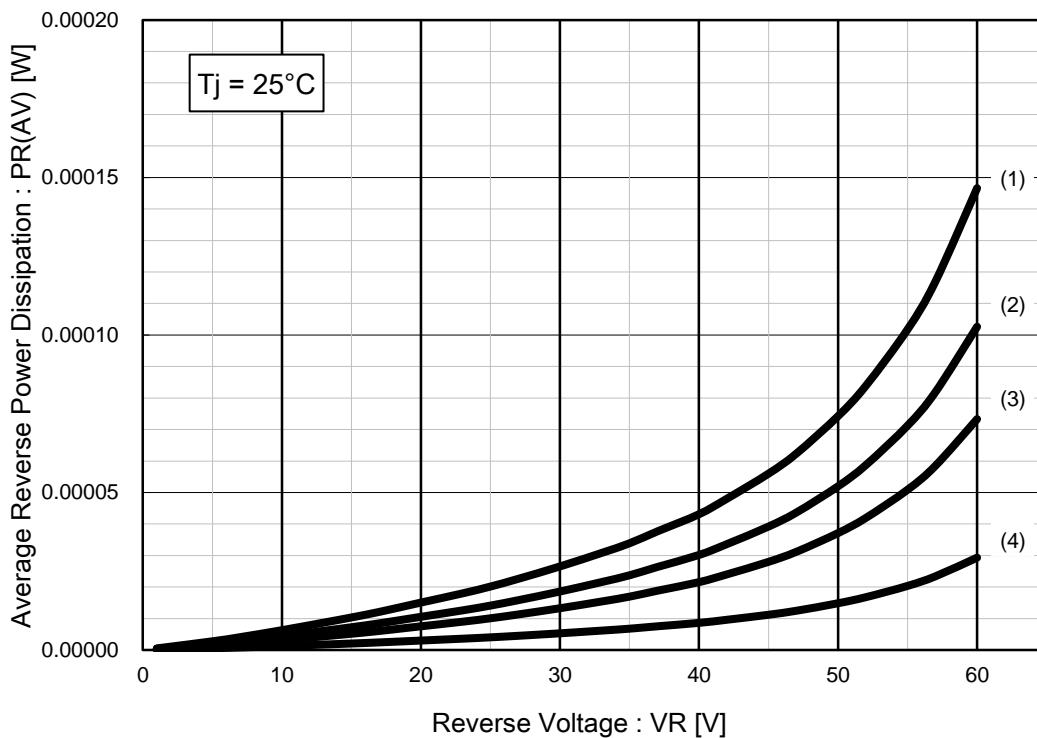
(Waveform definition)

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

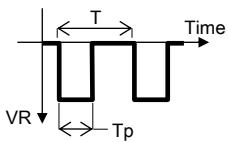
(Graph legends)

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

PR(AV) - VR / Typical Data



(Waveform definition)

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

(Graph legends)

(1)	$\sigma = 1.0$
(2)	$\sigma = 0.7$
(3)	$\sigma = 0.5$
(4)	$\sigma = 0.2$

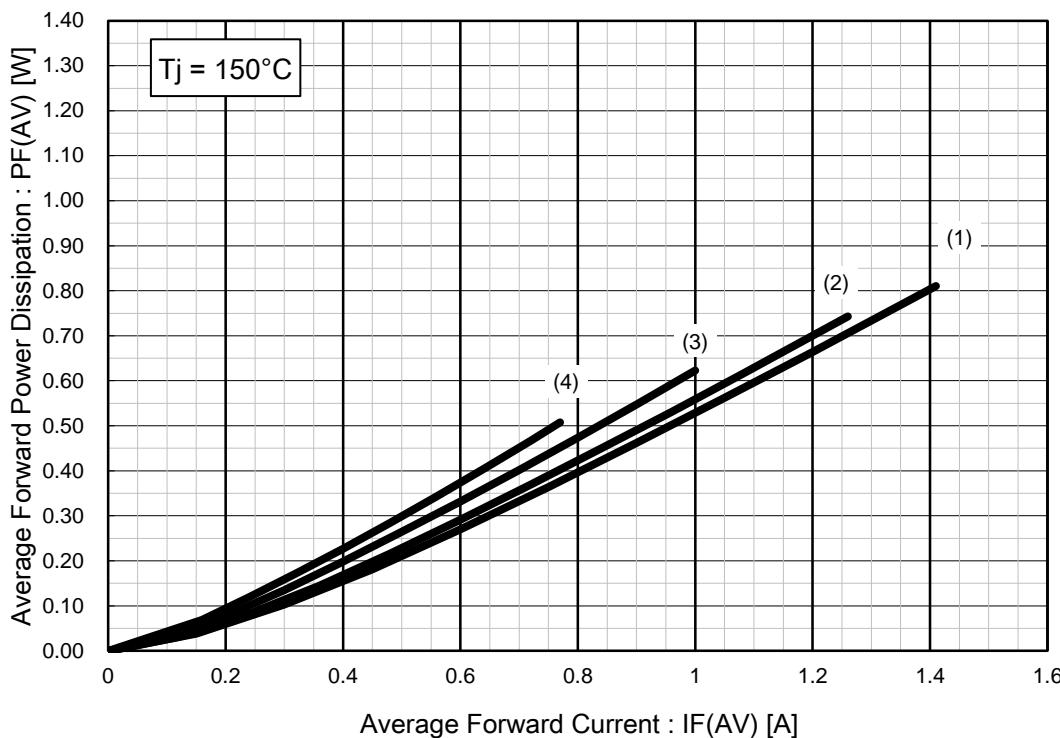


Schottky Barrier Diode

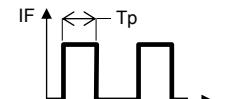
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Electrical Characteristics Technical Data (Reference)

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



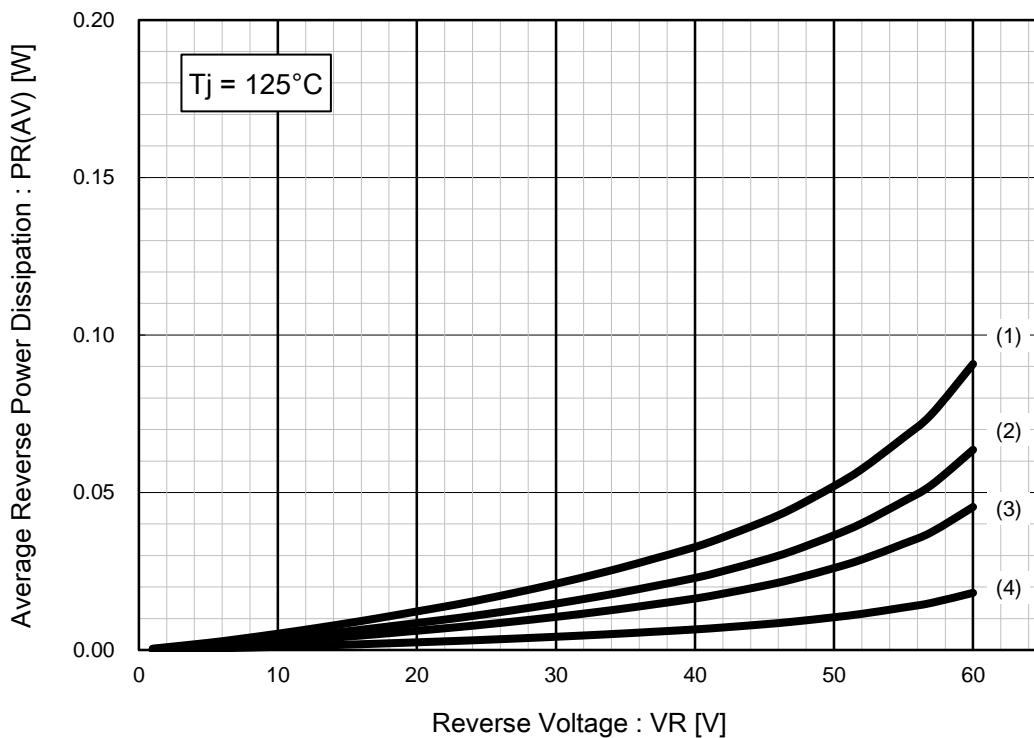
(Waveform definition)

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

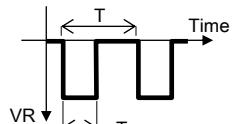
(Graph legends)

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

PR(AV) - VR / Typical Data



(Waveform definition)

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

(Graph legends)

(1)	$\sigma = 1.0$
(2)	$\sigma = 0.7$
(3)	$\sigma = 0.5$
(4)	$\sigma = 0.2$

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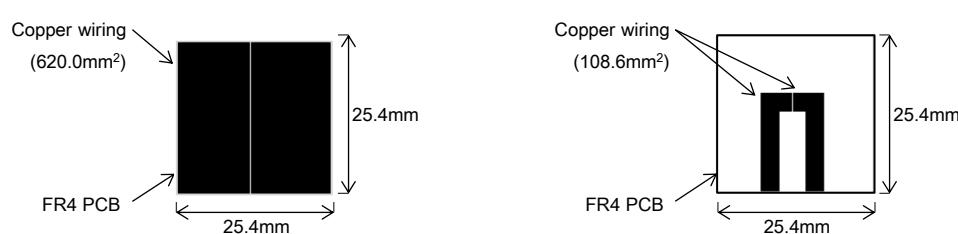
■ Thermal Characteristics

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

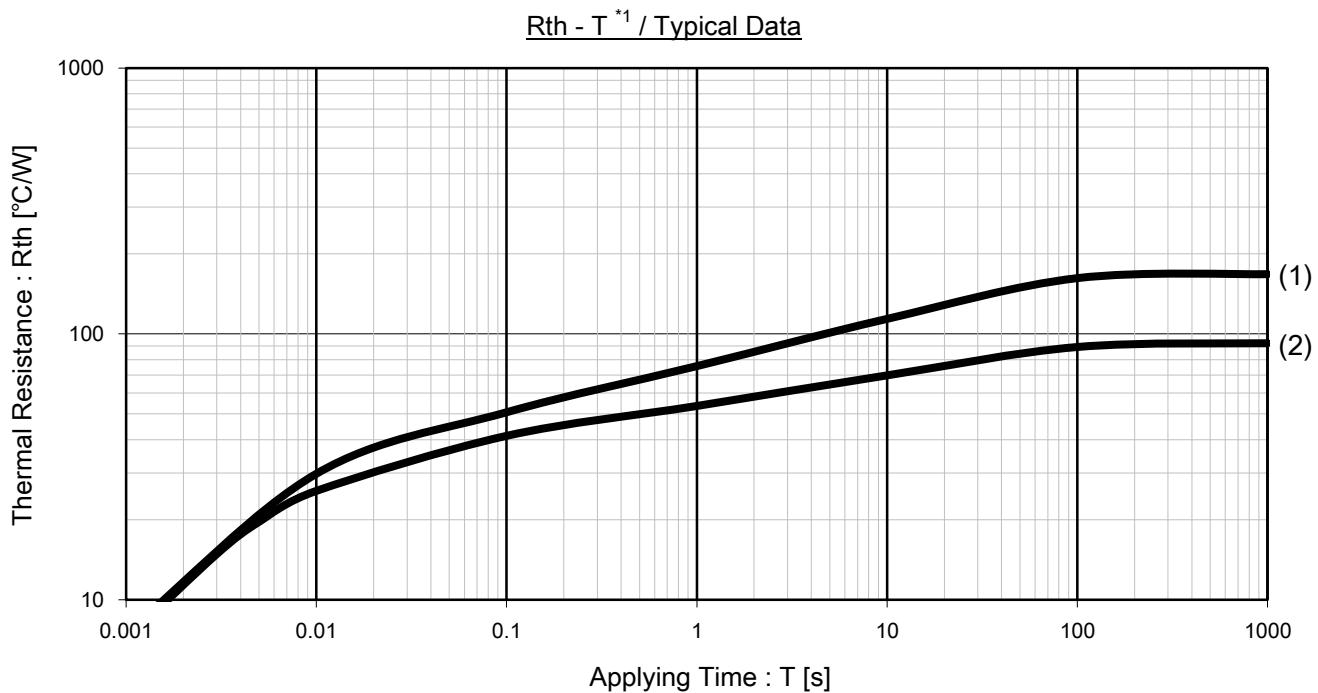
Note) ^{*1}: Device mounted on a FR4 PCB (25.4mm×25.4mm, 1mm thick), copper wiring (620.0mm² area, 36μm thick).

^{*2}: Device mounted on a FR4 PCB (25.4mm×25.4mm, 1mm thick), copper wiring (108.6mm² area, 36μm thick).

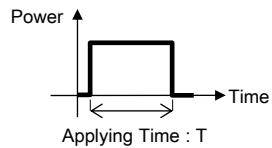
(Evaluation board outline)



Thermal Characteristics Technical Data (Reference)



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

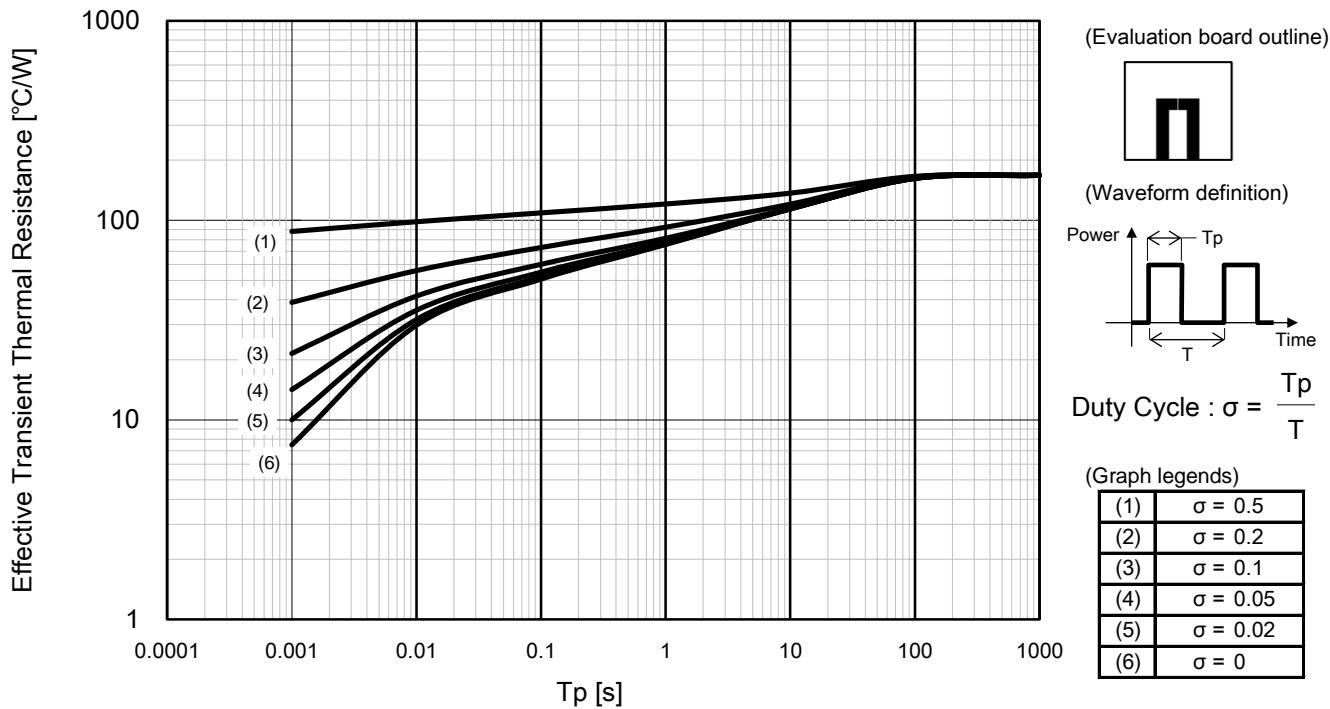


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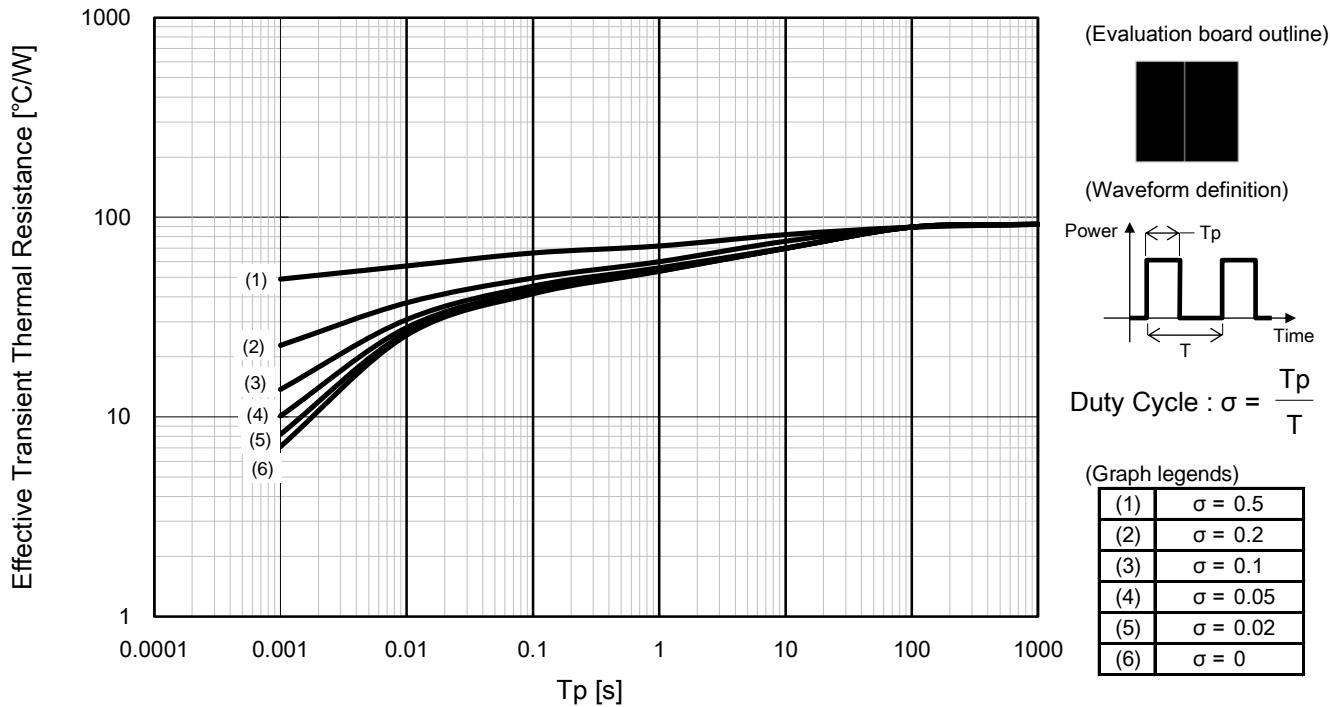
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Thermal Characteristics Technical Data (Reference)

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 (108.6mm² area, 36μm thick).

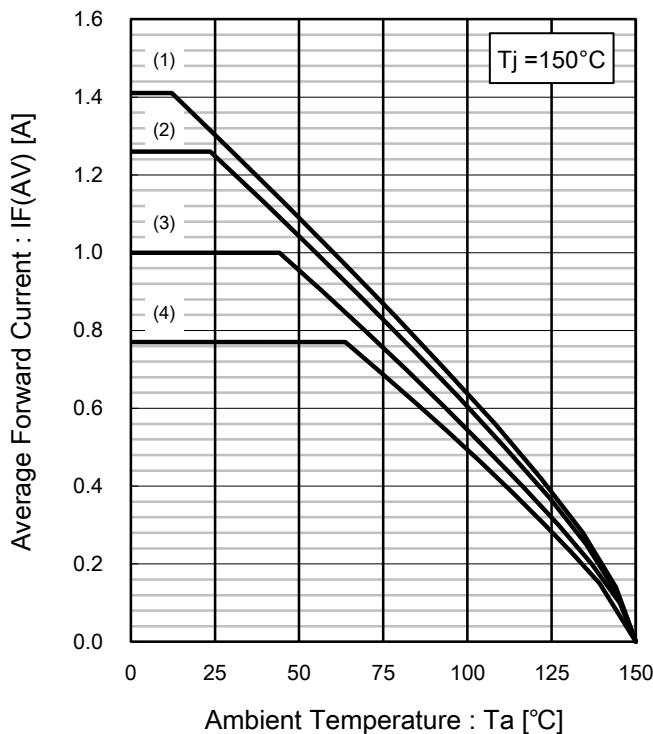
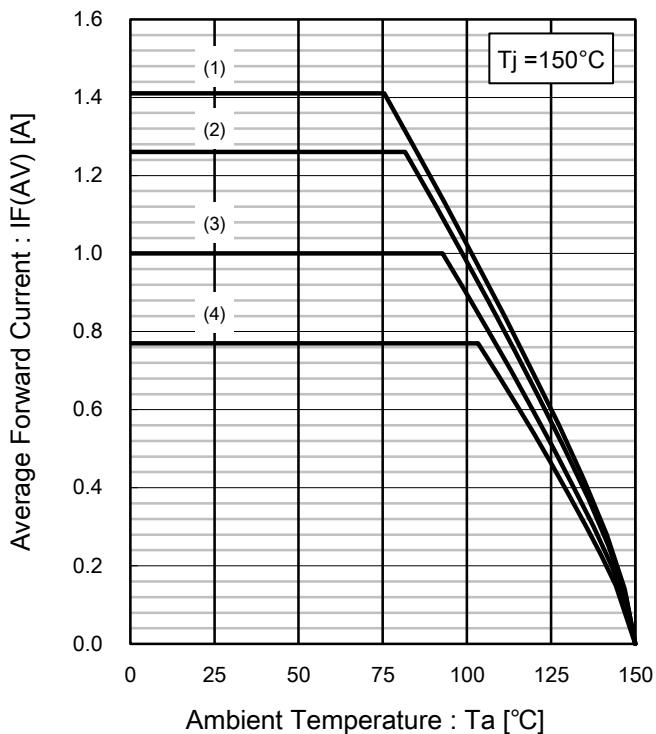
*2: Device mounted on a FR4 PCB (25.4mm×25.4mm, 1mm thick), copper wiring (620.0mm² area, 36μm thick).



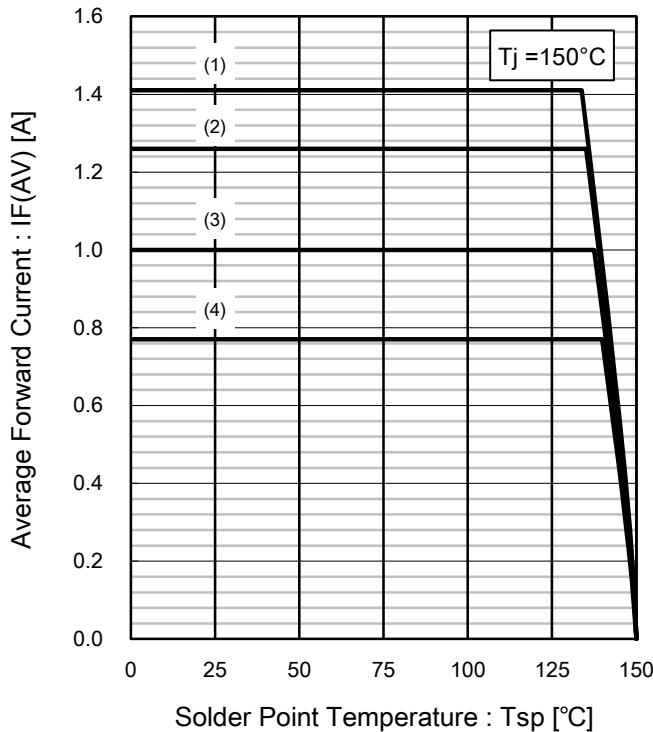
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Power Derating Technical Data (Reference)

IF(AV) - Ta ^{*1} / Typical DataIF(AV) - Ta ^{*2} / Typical Data

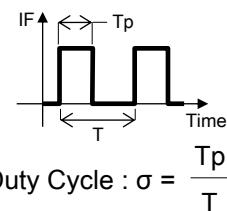
IF(AV) - Tsp / Typical Data



(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 (108.6mm² area, 36μm thick).

(Evaluation board outline)



*2: Device mounted on a FR4 PCB (25.4mm×25.4mm, 1mm thick), copper wiring (620.0mm² area, 36μm thick).

(Evaluation board outline)

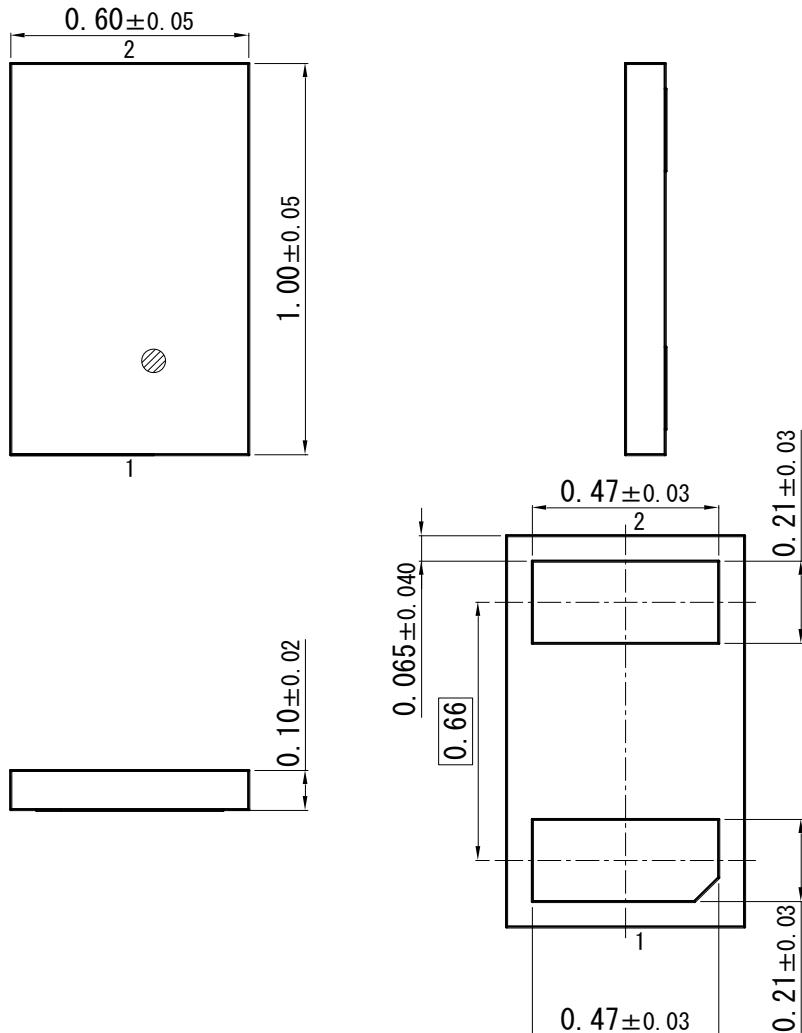


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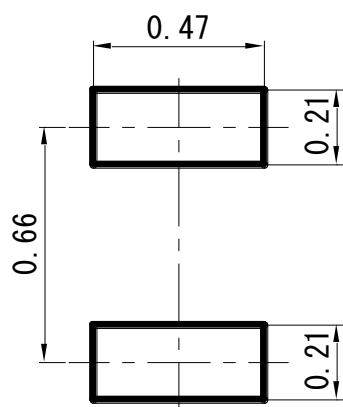
DCSP1006010-N1

Unit: mm



■ Land Pattern (Reference)

Unit: mm



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