

M1F60
General Rectifying Diodes
600V, 1.0A

Feature

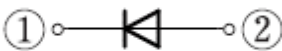
- Small SMD
- Available for automotive use
- Pb free terminal
- RoHS:Yes

OUTLINE

Package (House Name): M1F
Package (JEDEC Code): DO-219AA similar



Equivalent circuit



Absolute Maximum Ratings (unless otherwise specified : Tl=25°C)

Item	Symbol	Conditions	Ratings	Unit
Storage temperrature	Tstg		-55 to 150	°C
Junction temperature	Tj		-55 to 150	°C
Repetitive peak reverse voltage	V _{RRM}		600	V
Average forward current	I _{F(AV)}	50Hz sine wave, Resistance load, On alumina substrate, Ta=25°C ※	1	A
Average forward current	I _{F(AV)}	50Hz sine wave, Resistance load, On glass-epoxy substrate, Ta=25°C ※	0.64	A
Surge forward current	I _{FSM}	50Hz sine wave, Non-repetitive 1 cycle peak value, Tj=25°C	25	A

※ :See the original Specifications

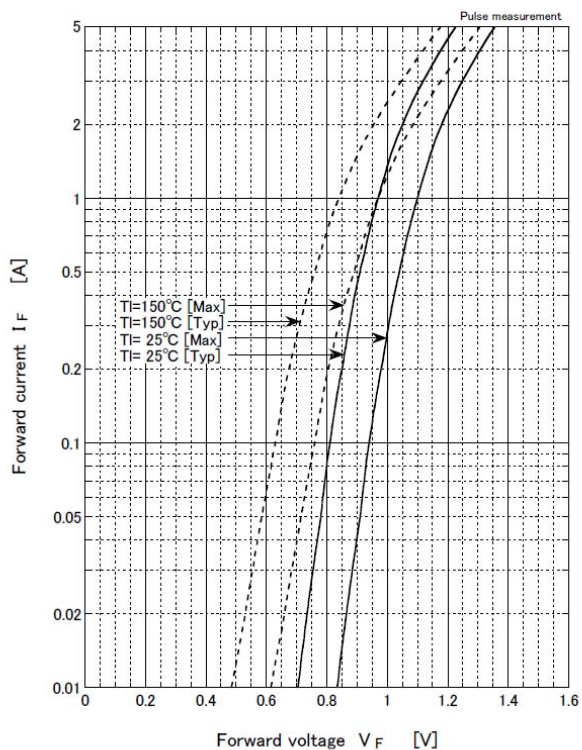
Electrical Characteristics (unless otherwise specified : Tl=25°C)

Item	Symbol	Conditions	Ratings			Unit
			MIN	TYP	MAX	
Forward voltage	V_F	IF=1A, Pulse measurement			1.1	V
Reverse current	I_R	VR=600V, Pulse measurement			10	μA
Thermal resistance	Rth(j-l)	Junction to lead			20	°C/W
Thermal resistance	Rth(j-a)	Junction to ambient, On alumina substrate ※			108	°C/W
Thermal resistance	Rth(j-a)	Junction to ambient, On glass-epoxy substrate ※			186	°C/W

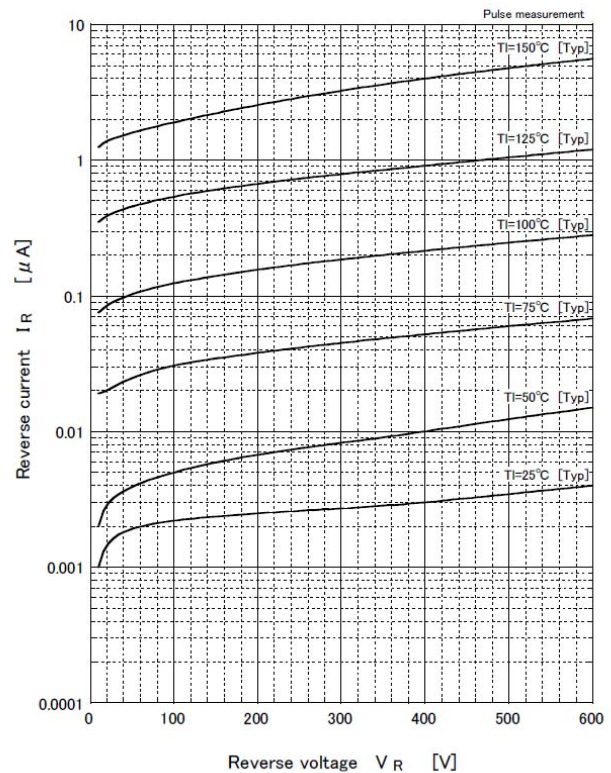
※ :See the original Specifications

CHARACTERISTIC DIAGRAMS

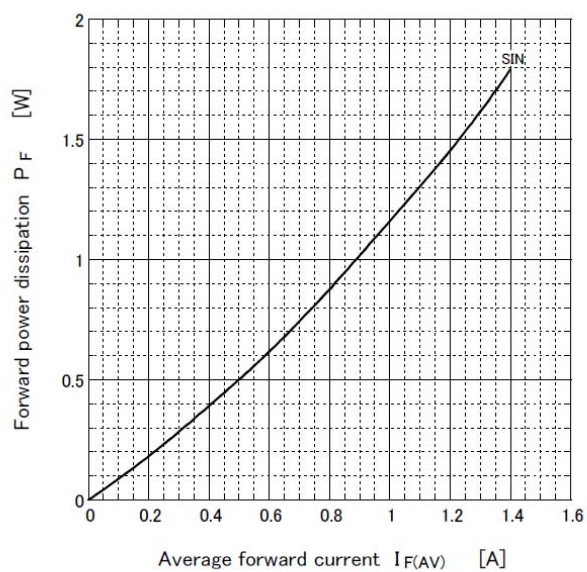
Forward voltage



Reverse current

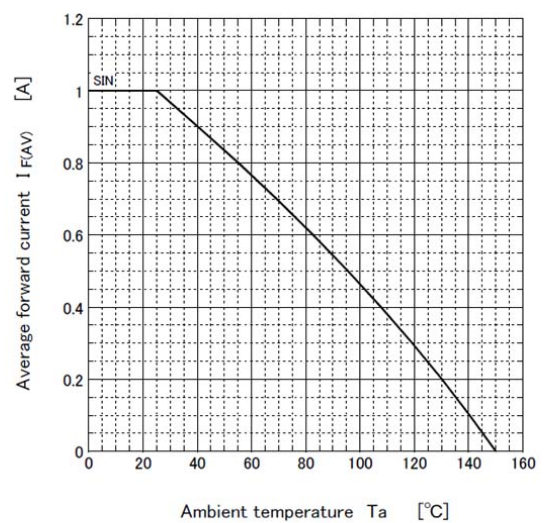


Forward power dissipation



● $T_j = 150^\circ\text{C}$

Derating curve



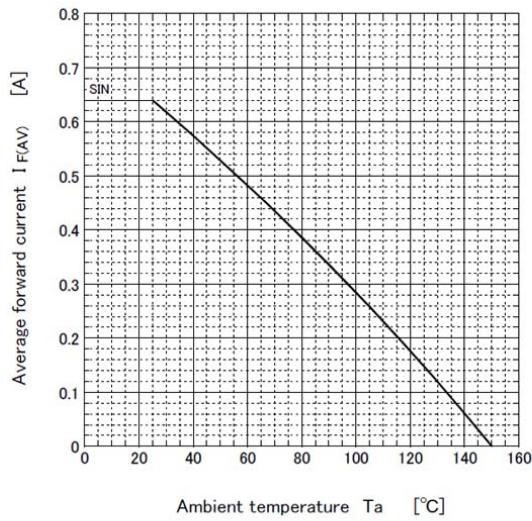
● $V_R = 600\text{V}$

R-load
Free in air

● Substrate detail

Type	Alumina
Size	1 inch ²
Thickness	0.64mm
Conductor thickness	20 μm
Pattern area	43.4mm ²

Derating curve

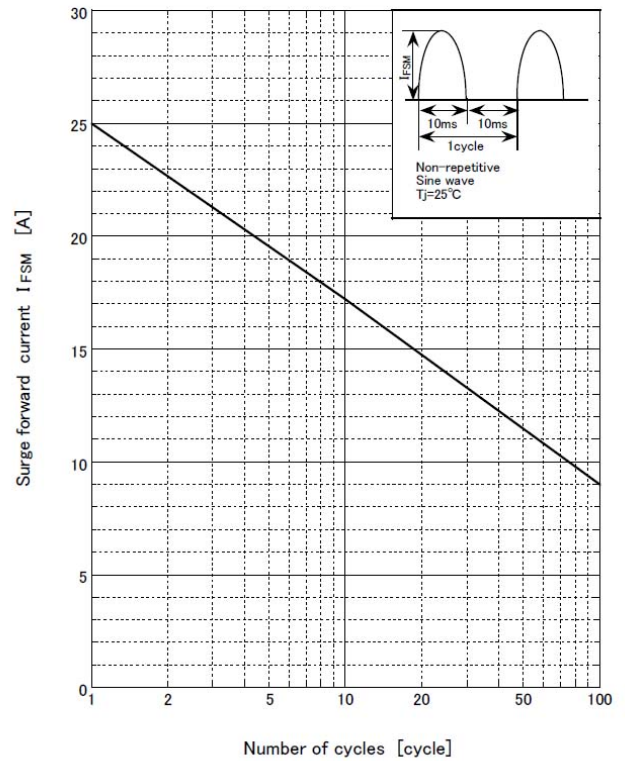


● $V_R = 600V$
R-load
Free in air

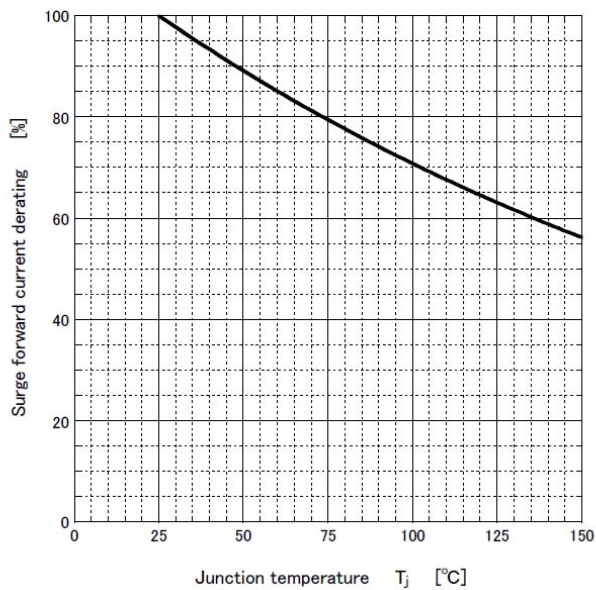
● Substrate detail

Type	Glass-epoxy
Size	1 inch ²
Thickness	1.5mm
Conductor thickness	35μm
Pattern area	43.4mm ²

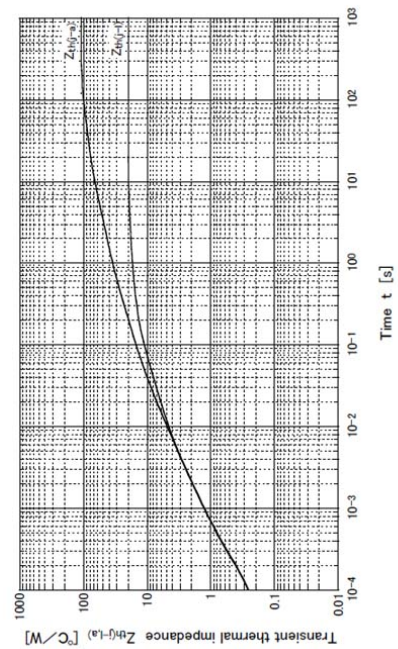
Surge forward current capability



Surge forward current derating vs Junction temperature



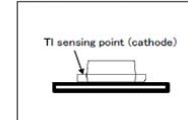
Transient thermal impedance



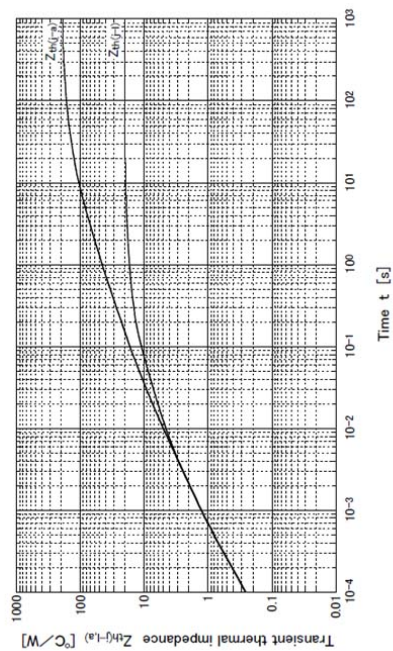
● Substrate detail

Type	Alumina
Size	1 inch ²
Thickness	0.64mm
Conductor thickness	20μm
Pattern area	43.4mm ²

● TI sensing point



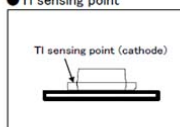
Transient thermal impedance



● Substrate detail

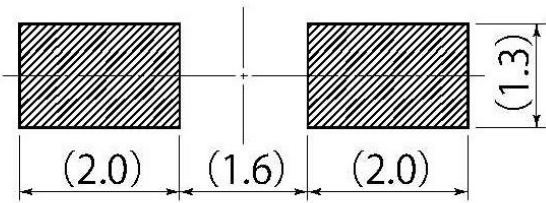
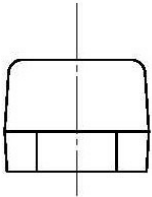
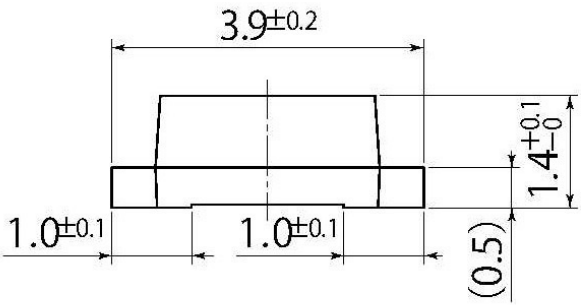
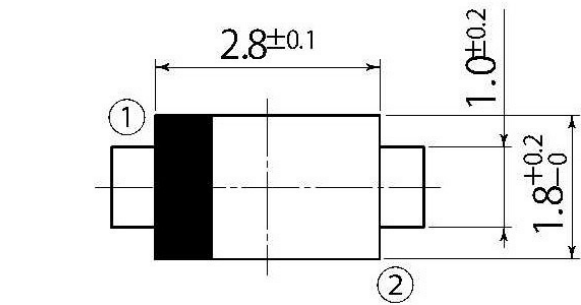
Type	Glass-epoxy
Size	1 inch ²
Thickness	1.6mm
Conductor thickness	35μm
Pattern area	434mm ²

● TI sensing point



B2

JEDEC Code	DO-219AA similar
JEITA Code	—
House Name	M1F



Referential Soldering Pad

• Optimize soldering pad to the board design and soldering condition.

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