

# M1F80

## General Rectifying Diodes

800V, 1.0A

### Feature

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

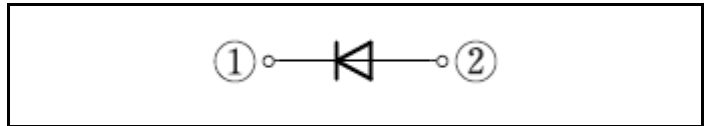
### OUTLINE

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 temperature	T <sub>stg</sub>		-55 to 150	°C
Junction temperature	T <sub>j</sub>		-55 to 150	°C
Repetitive peak reverse voltage	V <sub>RRM</sub>		800	V
Average forward current	I <sub>F(AV)</sub>	50Hz sine wave, Resistance load, On alumina substrate, Ta=25°C ※	1	A
Average forward current	I <sub>F(AV)</sub>	50Hz sine wave, Resistance load, On glass-epoxy substrate, Ta=25°C ※	0.64	A
Surge forward current	I <sub>FSM</sub>	50Hz sine wave, Non-repetitive 1 cycle peak value, T <sub>j</sub> =25°C	25	A

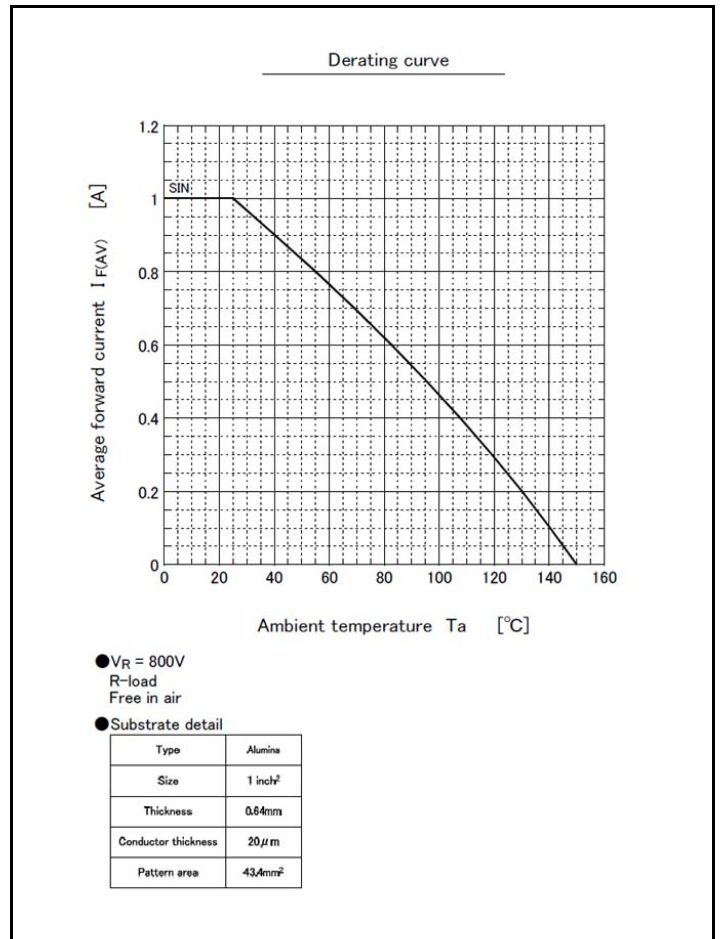
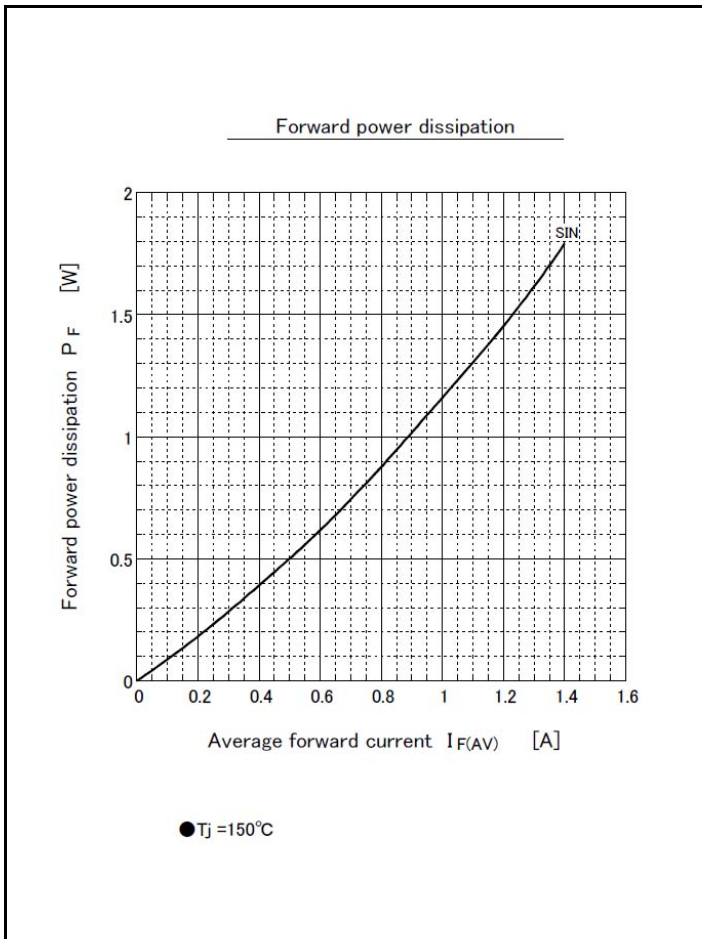
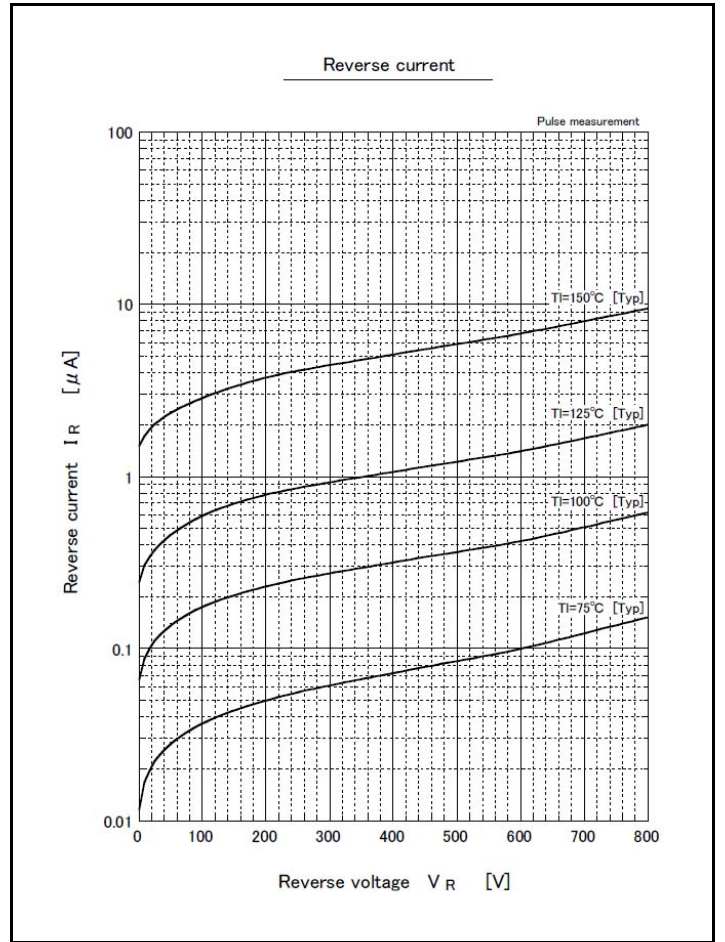
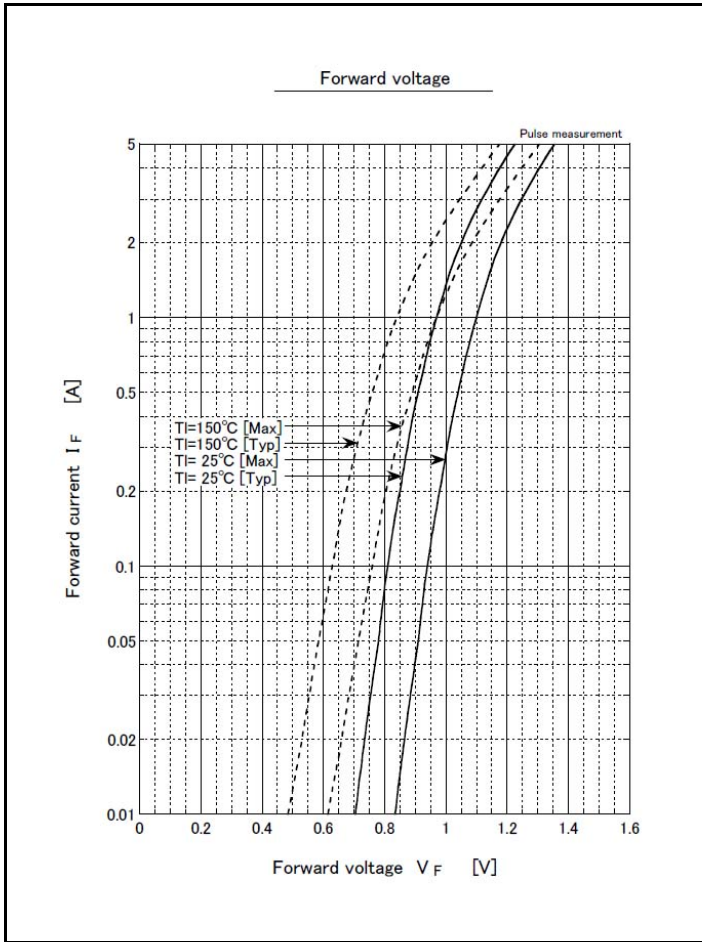
※ :See the original Specifications

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

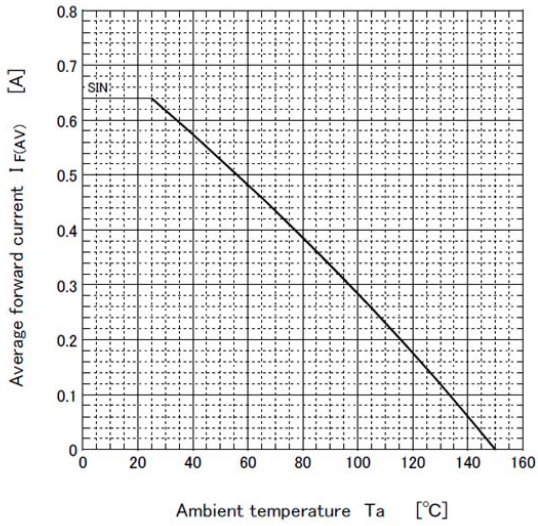
Item	Symbol	Conditions	Ratings			Unit
			MIN	TYP	MAX	
Forward voltage	$V_F$	$I_F=1A$ , Pulse measurement			1.1	V
Reverse current	$I_R$	$V_R=800V$ , Pulse measurement			10	$\mu A$
Thermal resistance	$R_{th(j-l)}$	Junction to lead			20	$^{\circ}C/W$
Thermal resistance	$R_{th(j-a)}$	Junction to ambient, On alumina substrate *			108	$^{\circ}C/W$
Thermal resistance	$R_{th(j-a)}$	Junction to ambient, On glass-epoxy substrate *			186	$^{\circ}C/W$

\* :See the original Specifications

# CHARACTERISTIC DIAGRAMS



Derating curve

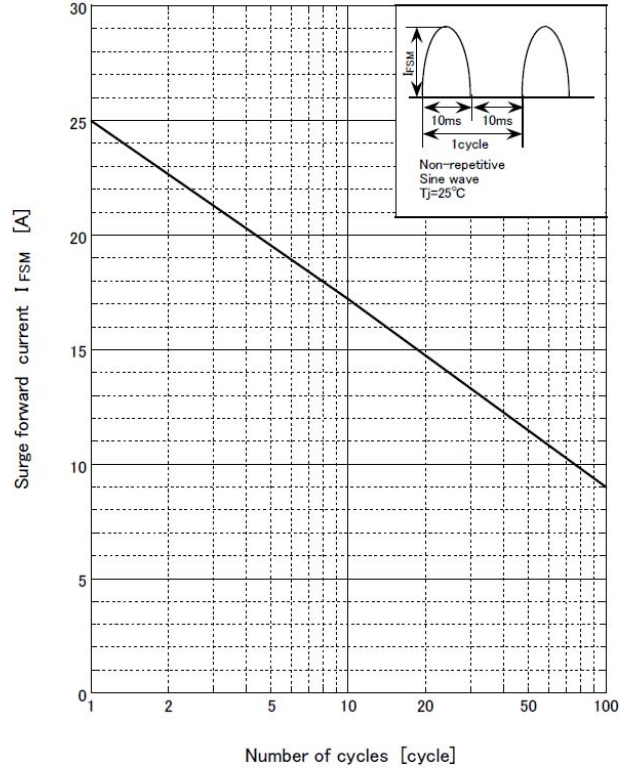


- $V_R = 800V$
- R-load
- Free in air

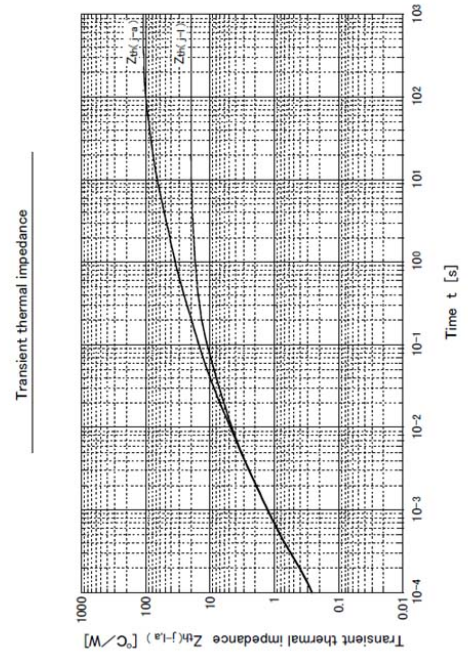
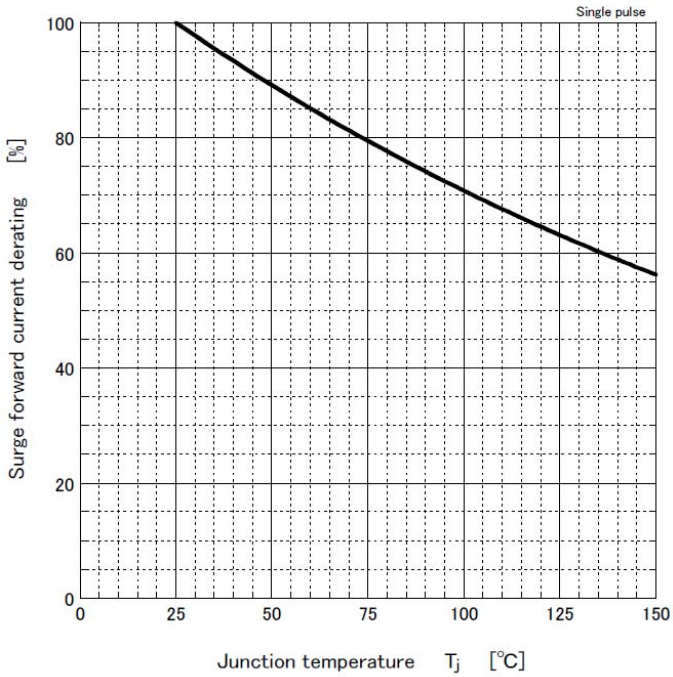
● Substrate detail

Type	Glass-epoxy
Size	1 inch <sup>2</sup>
Thickness	1.8mm
Conductor thickness	35 $\mu m$
Pattern area	43.4mm <sup>2</sup>

Surge forward current capability



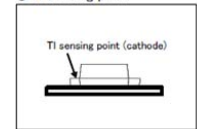
Surge forward current derating vs Junction temperature



● Substrate detail

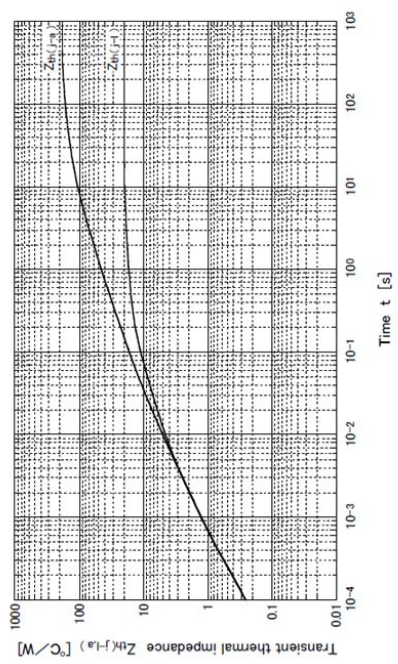
Type	Alumina
Size	1 inch <sup>2</sup>
Thickness	0.64mm
Conductor thickness	20 $\mu m$
Pattern area	43.4mm <sup>2</sup>

● TI sensing point





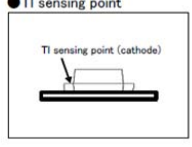
Transient thermal impedance



● Substrate detail

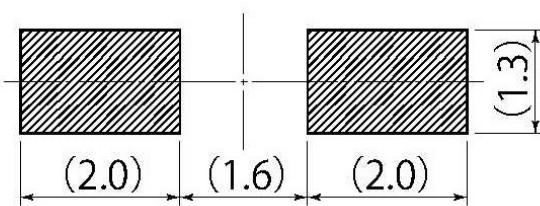
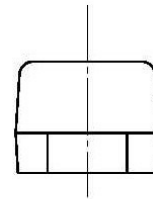
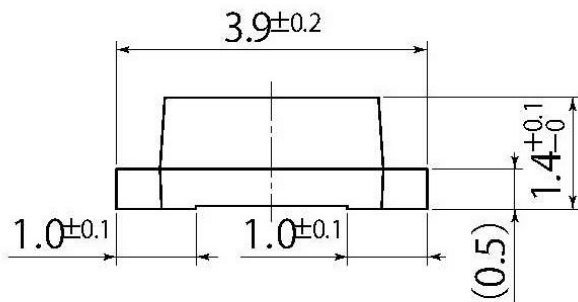
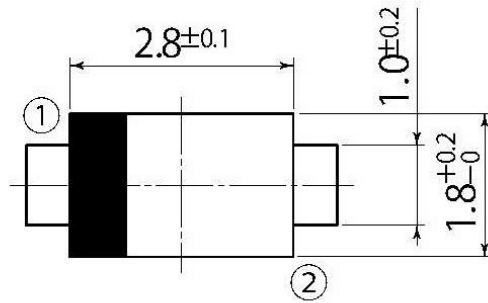
Type	Glass-epoxy
Size	1 inch <sup>2</sup>
Thickness	1.0mm
Conductor thickness	35μm
Pattern area	43.4mm <sup>2</sup>

● 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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