

# M1FL20U

## Fast Recovery Diodes

200V, 1.1A

### Feature

- Small SMD
- High Recovery Speed
- Based on AEC-Q101
- Pb free terminal
- RoHS:Yes

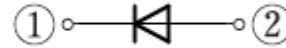
### OUTLINE

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	Tstg		-55 to 150	°C
Junction temperature	Tj		-55 to 150	°C
Repetitive peak reverse voltage	V <sub>RRM</sub>		200	V
Average forward current	I <sub>F(AV)</sub>	50Hz sine wave, Resistance load, On alumina substrate, Ta=25°C ※	1.1	A
Average forward current	I <sub>F(AV)</sub>	50Hz sine wave, Resistance load, On glass-epoxy substrate, Ta=25°C ※	0.75	A
Surge forward current	I <sub>FSM</sub>	50Hz sine wave, Non-repetitive 1 cycle, Peak value, Tj=25°C	30	A

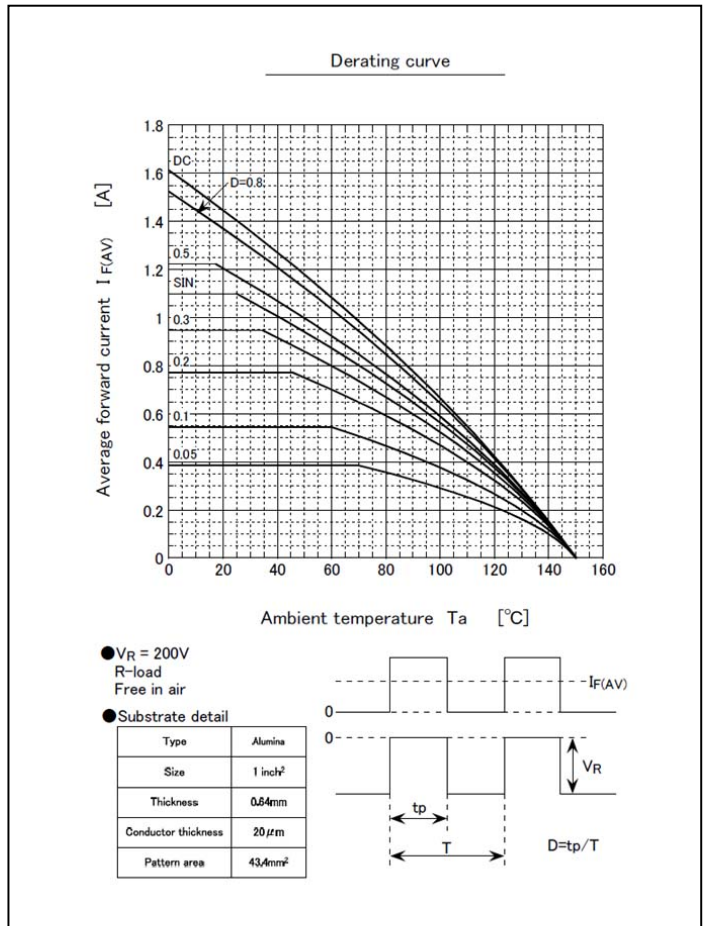
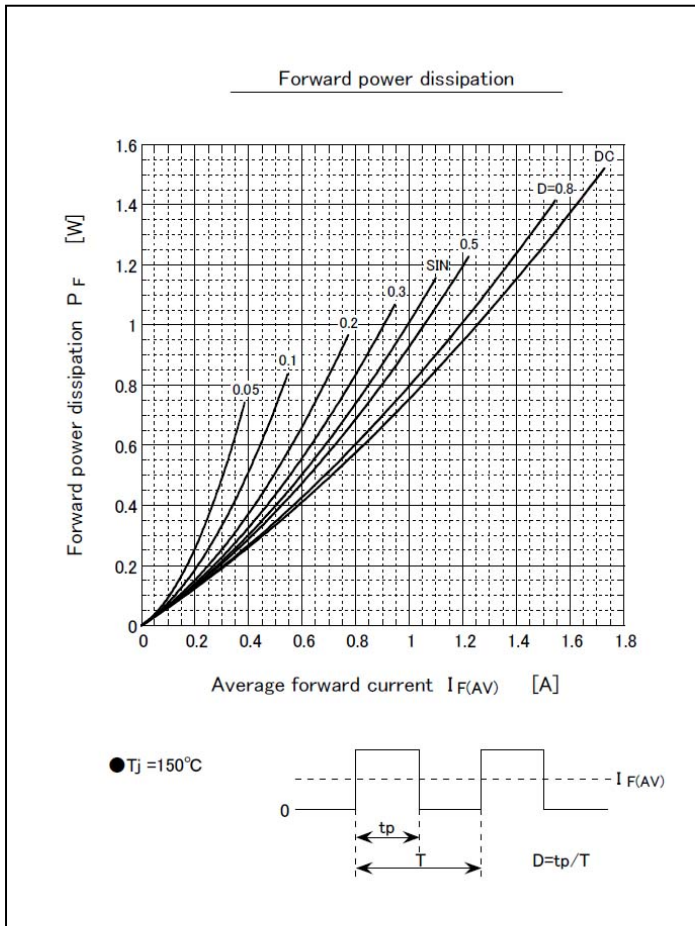
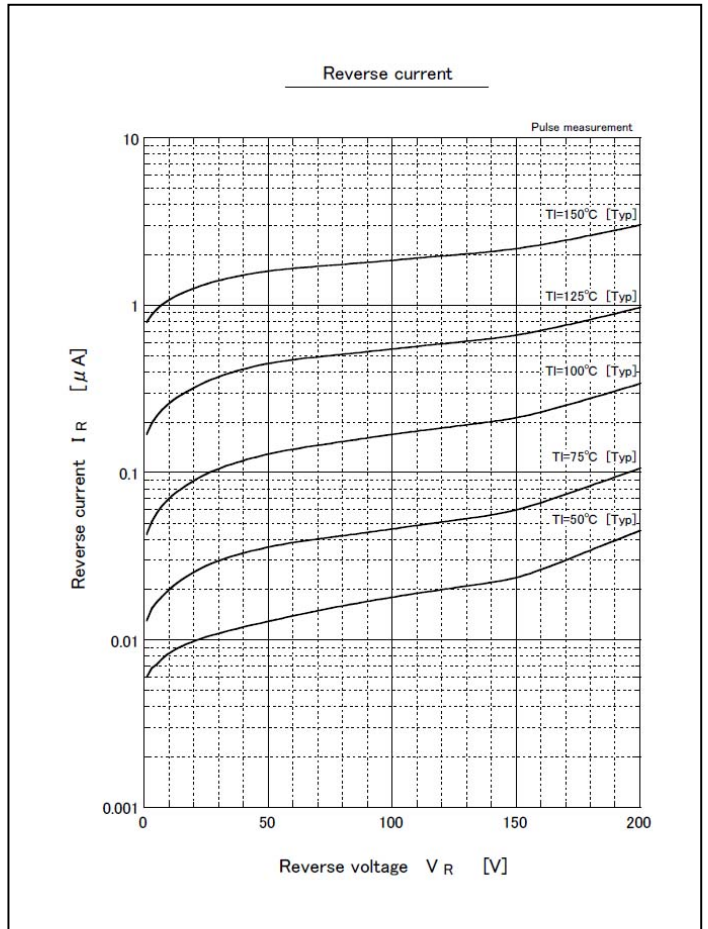
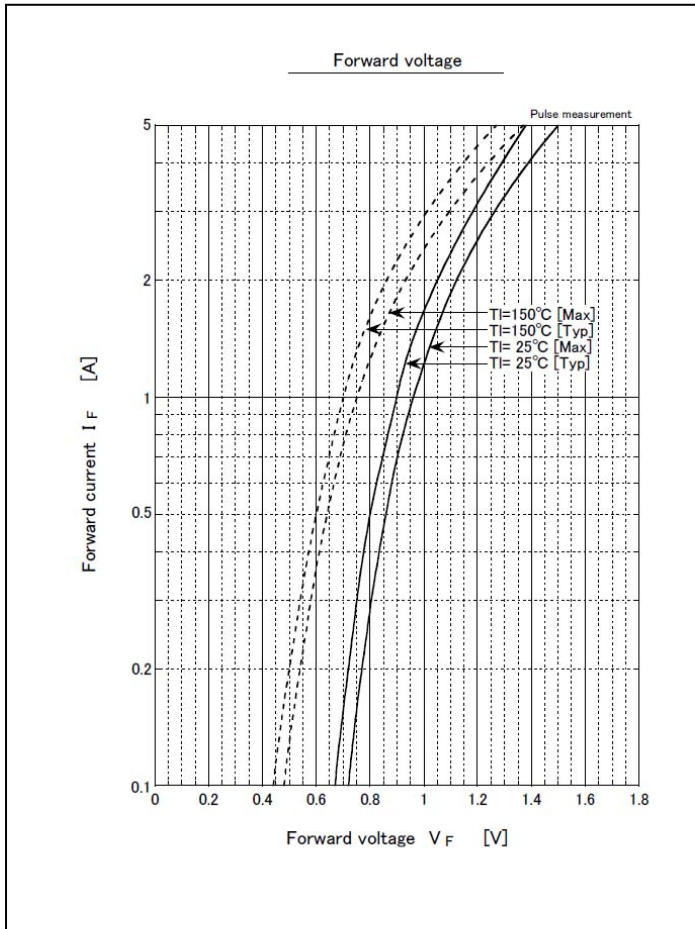
※ :See the original Specifications

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

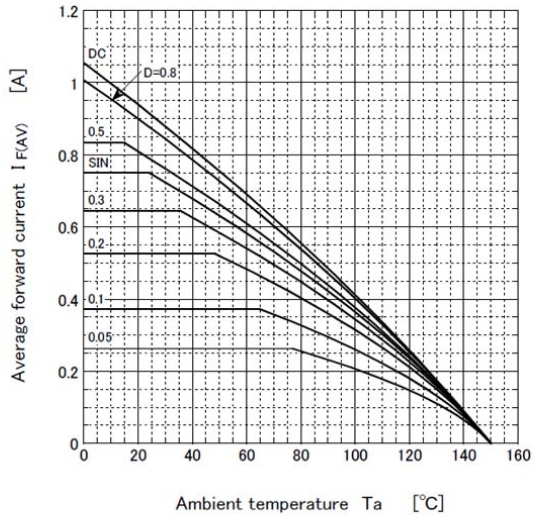
Item	Symbol	Conditions	Ratings			Unit
			MIN	TYP	MAX	
Forward voltage	$V_F$	IF=1.1A, Pulse measurement			0.98	V
Reverse current	$I_R$	VR=200V, Pulse measurement			10	$\mu$ A
Reverse recovery time	trr	IF=0.5A, IR=1.0A, 0.1IR			35	ns
Thermal resistance	Rth(j-l)	Junction to lead			20	°C/W
Thermal resistance	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



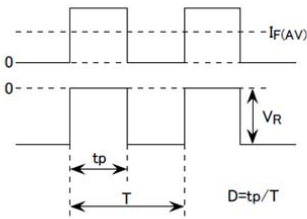
Derating curve



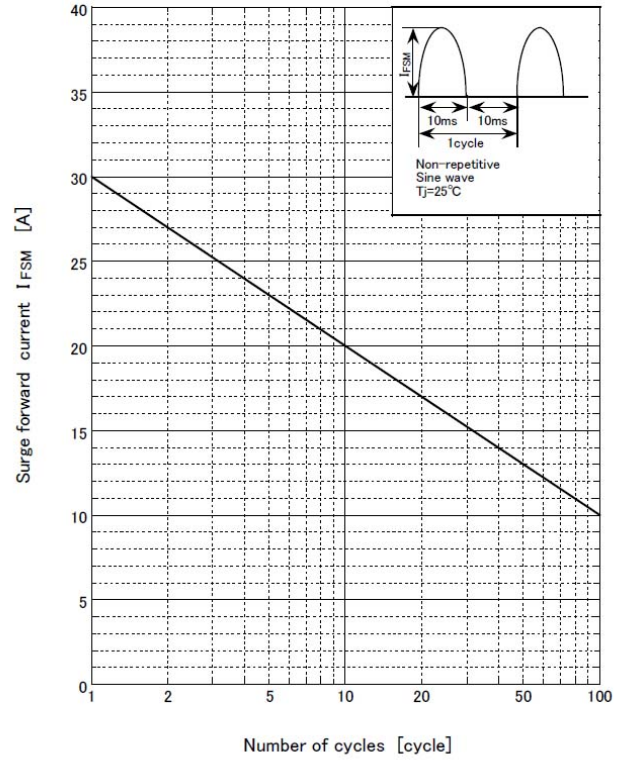
- $V_R = 200V$
- R-load
- Free in air

- Substrate detail

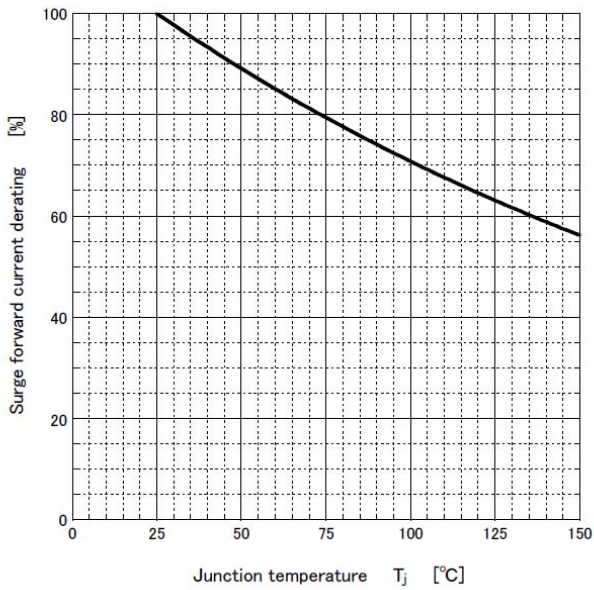
Type	Glass/epoxy
Size	1 inch <sup>2</sup>
Thickness	1.8mm
Conductor thickness	35μm
Pattern area	43.4mm <sup>2</sup>



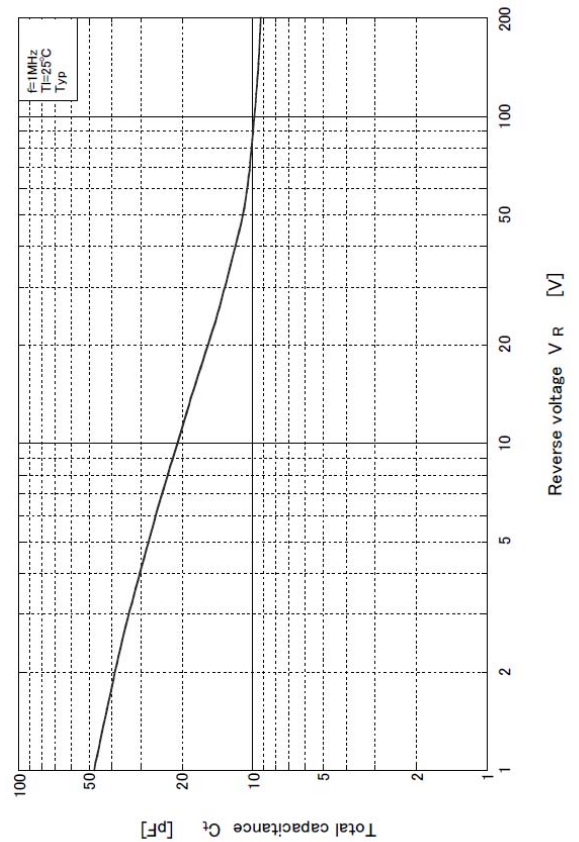
Surge forward current capability



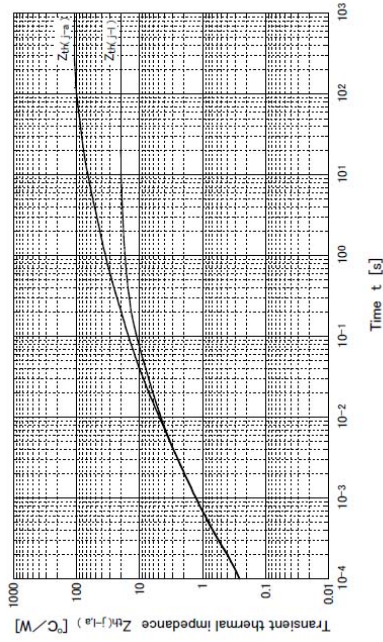
Surge forward current derating vs Junction temperature



Total capacitance



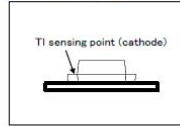
Transient thermal impedance



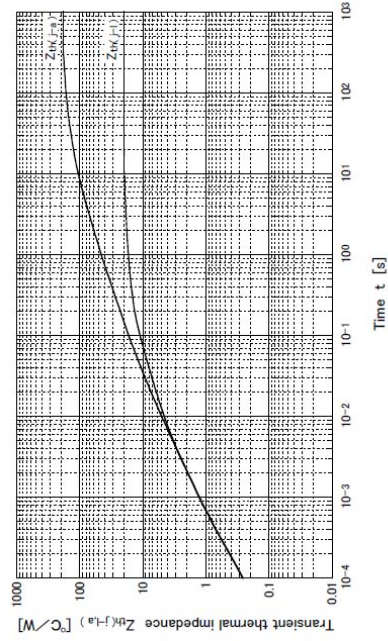
● Substrate detail

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

● TI sensing point



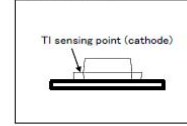
Transient thermal impedance



● Substrate detail

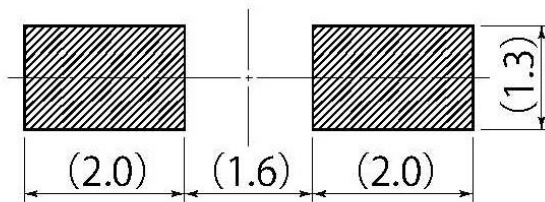
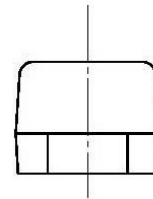
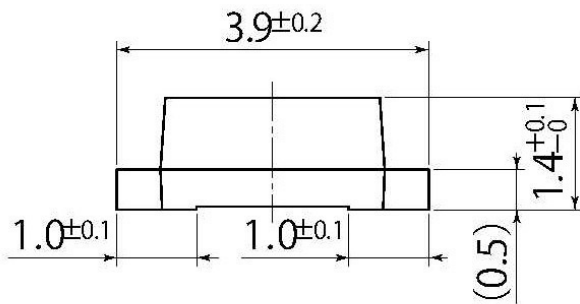
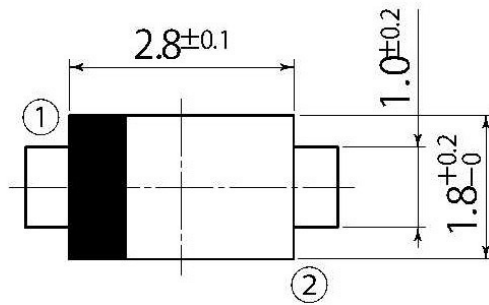
Type	Glass epoxy
Size	1 inch <sup>2</sup>
Thickness	1.6mm
Conductor thickness	35μm
Pattern area	43.4mm <sup>2</sup>

● 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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