ShinDengen

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℃)

Item	Symbol	Conditions	Ratings	Unit
Storage temperrature	Tstg		-55 to 150	℃
Junction temperature	Tj		-55 to 150	℃
Repetitive peak reverse voltage	V_{RRM}		200	V
Average forward current	I_F(AV)	50Hz sine wave, Resistance load, On alumina substrate, Ta=25℃ ※	1.1	A
Average forward current	I_F(AV)	50Hz sine wave, Resistance load, On glass-epoxy substrate, Ta=25℃ ※	0.75	A
Surge forward current	I_{FSM}	50Hz sine wave, Non-repetitive 1 cycle, Peak value, Tj=25℃	30	A

※ ：See the original Specifications

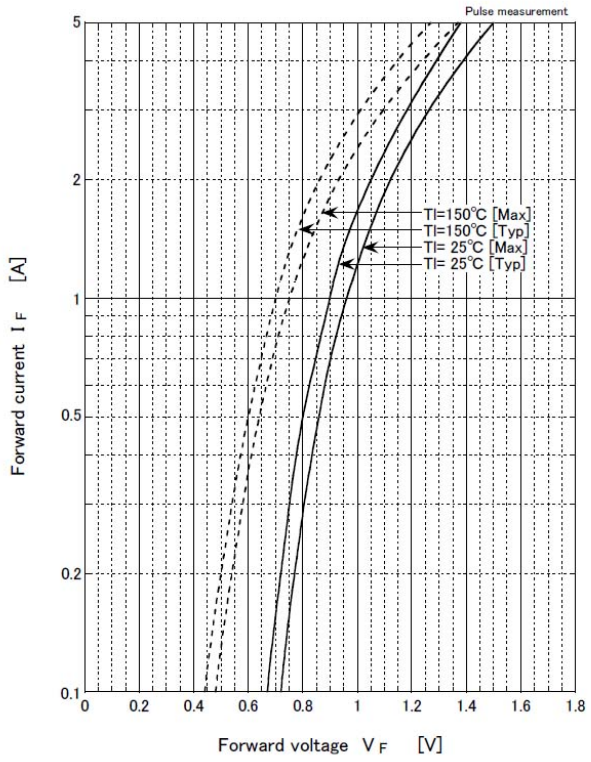
Electrical Characteristics (unless otherwise specified : Tl=25°C)

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	μA
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

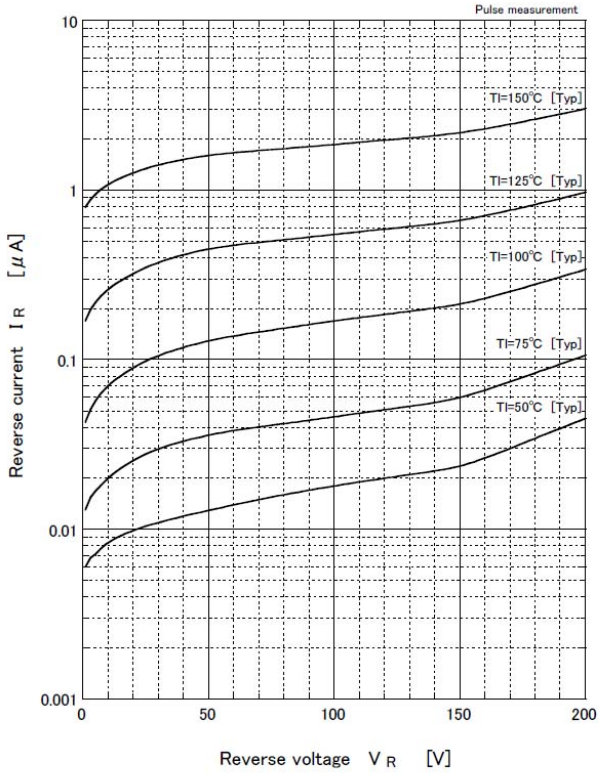
※ ：See the original Specifications

CHARACTERISTIC DIAGRAMS

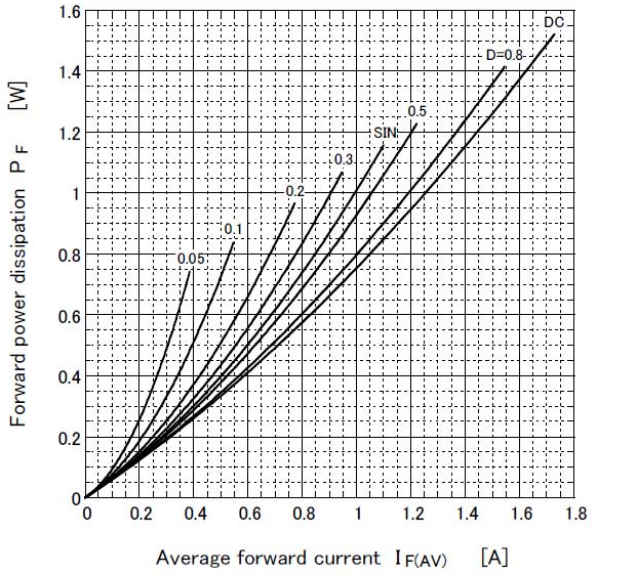
Forward voltage



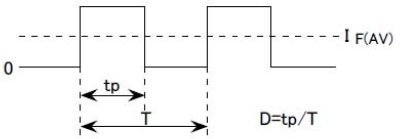
Reverse current



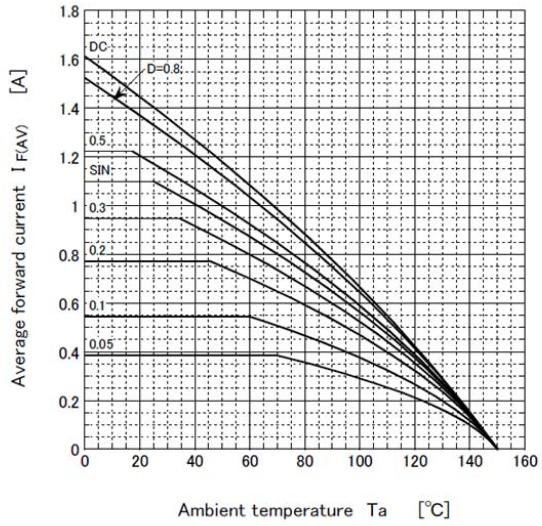
Forward power dissipation



●Tj =150℃



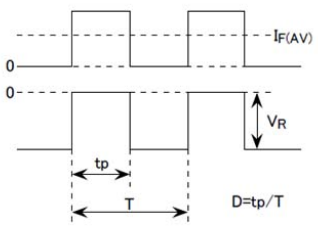
Derating curve



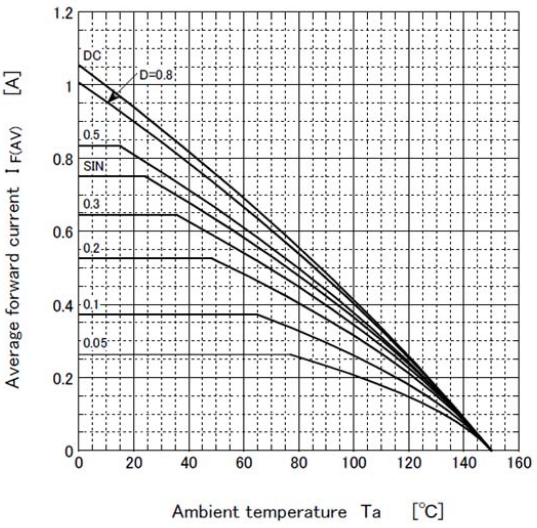
●V_R = 200V
R-load
Free in air

●Substrate detail

Type	Alumina
Size	1 inch²
Thickness	0.64mm
Conductor thickness	20μm
Pattern area	43.4mm²



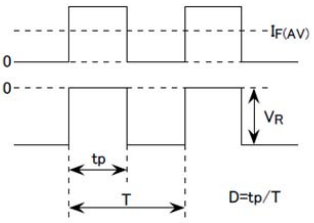
Derating curve



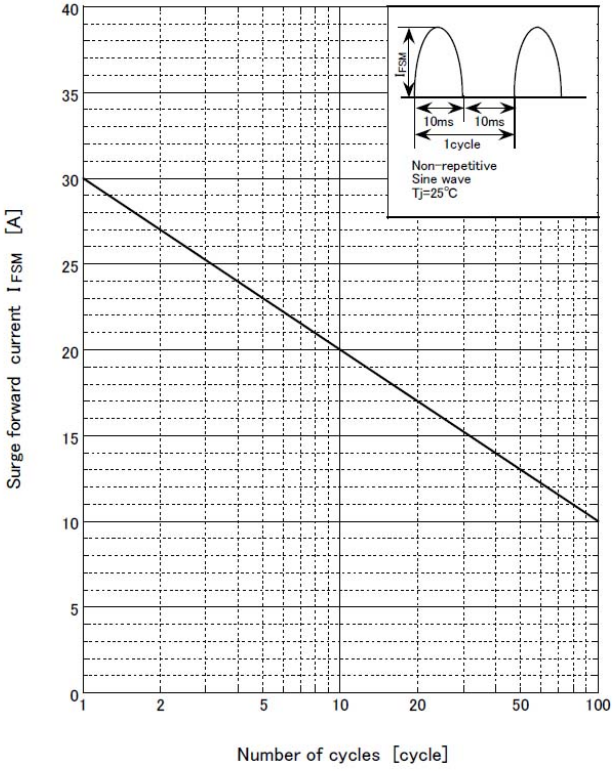
●V_R = 200V
R-load
Free in air

●Substrate detail

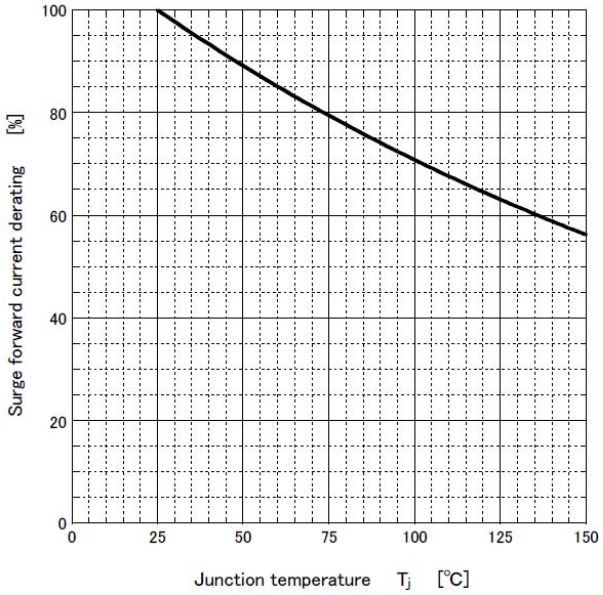
Type	Glass-epoxy
Size	1 inch²
Thickness	1.6mm
Conductor thickness	35μm
Pattern area	43.4mm²



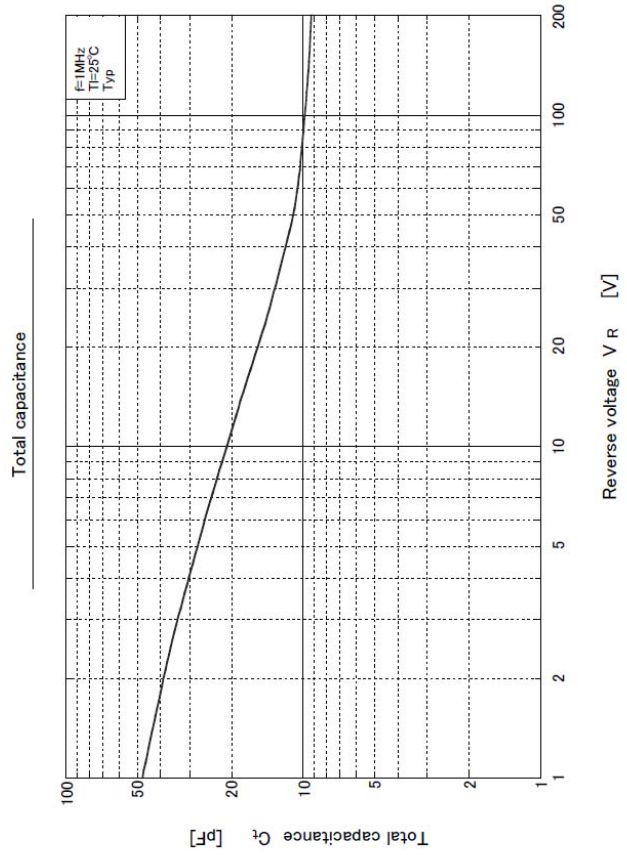
Surge forward current capability

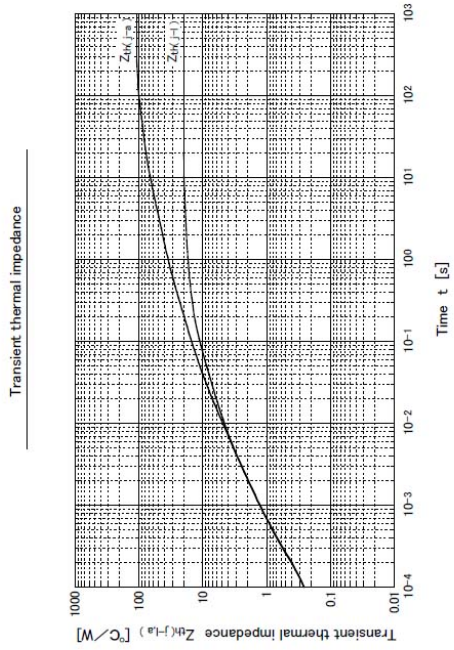


Surge forward current derating vs Junction temperature



Total capacitance

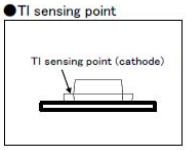


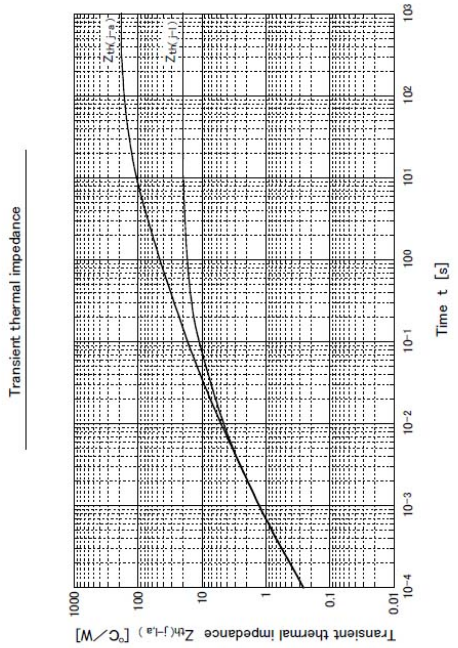


●Substrate detail

Type	Alumina
Size	1 inch²
Thickness	0.64mm
Conductor thickness	20μm
Pattern area	43.4mm²

●TI sensing point

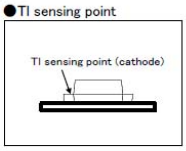




●Substrate detail

Type	Glass-epoxy
Size	1 inch²
Thickness	1.6mm
Conductor thickness	35μm
Pattern area	43.4mm²

●TI sensing point



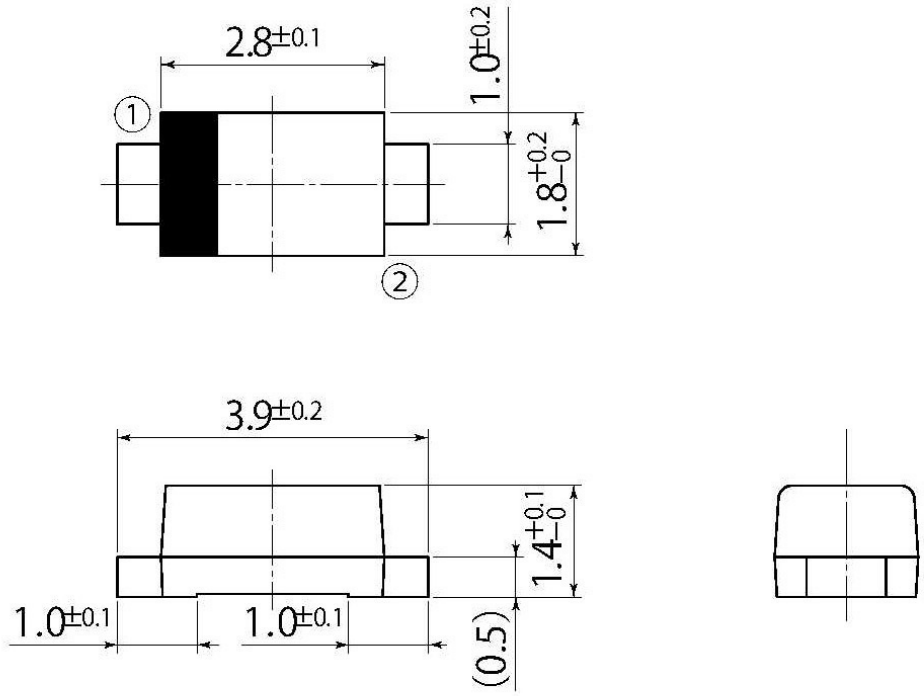
Outline Dimensions

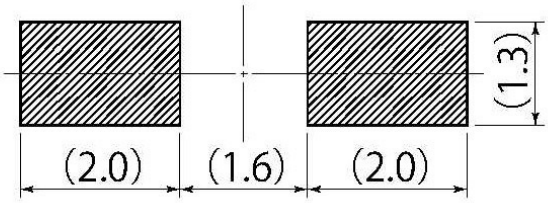
unit:mm

scale: 10/1

B2

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





Referential Soldering Pad

・Optimize soldering pad to the board design and soldering condi tion.

Notes

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