ShinDengen

M1FK60

Fast Recovery Diodes
600V, 1A

Feature

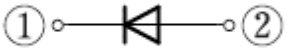
- Small SMD
- High Voltage
- High Recovery Speed
- Available for automotive use
- Pb free terminal
- RoHS:Yes

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	℃
Junction temperature	Tj		-55 to 150	℃
Repetitive peak reverse voltage	V_{RRM}		600	V
Average forward current	I_F(AV)	50Hz sine wave, Resistance load, Tl=116°C	1	A
Average forward current	I_F(AV)	50Hz sine wave, Resistance load, On alumina substrate, Ta=25°C ※	0.77	A
Average forward current	I_F(AV)	50Hz sine wave, Resistance load, On glass-epoxy substrate, Ta=25°C ※	0.51	A
Surge forward current	I_{FSM}	50Hz sine wave, Non-repetitive 1 cycle, Peak value, Tj=25°C	15	A
Surge forward current	I_{FSM1}	tp=1ms, Sine wave, Non-repetitive, Peak value, Tj=25°C	35	A

※ ：See the original Specifications

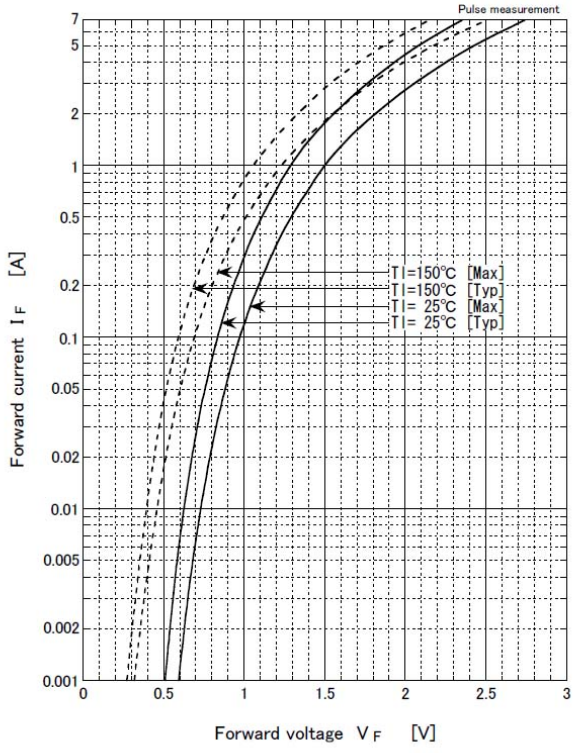
Electrical Characteristics (unless otherwise specified : Tl=25°C)

Item	Symbol	Conditions	Ratings			Unit
			MIN	TYP	MAX	
Forward voltage	V_F	IF=1A, Pulse measurement			1.5	V
Reverse current	I_R	VR=600V, Pulse measurement			10	μA
Reverse recovery time	trr	IF=0.5A, IR=1.0A, 0.25IR			75	ns
Total capacitance	Ct	f=1MHz, VR=10V		6		pF
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

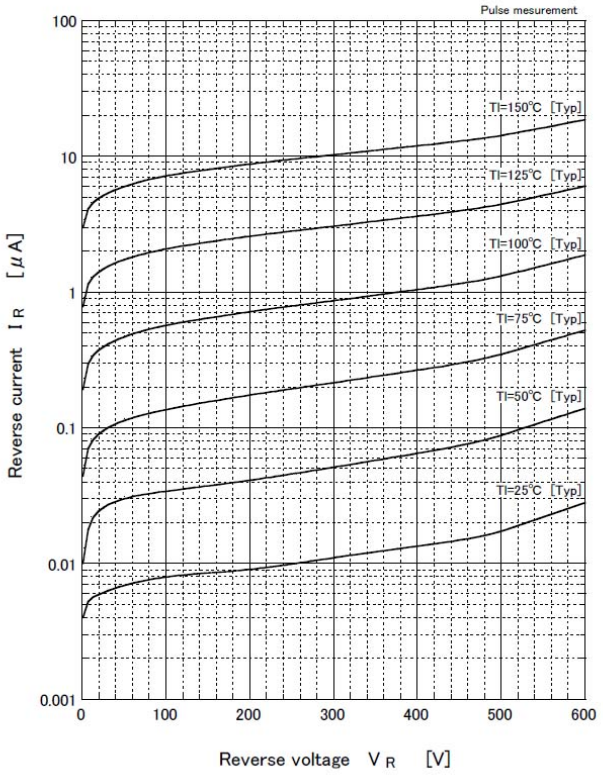
※ ：See the original Specifications

CHARACTERISTIC DIAGRAMS

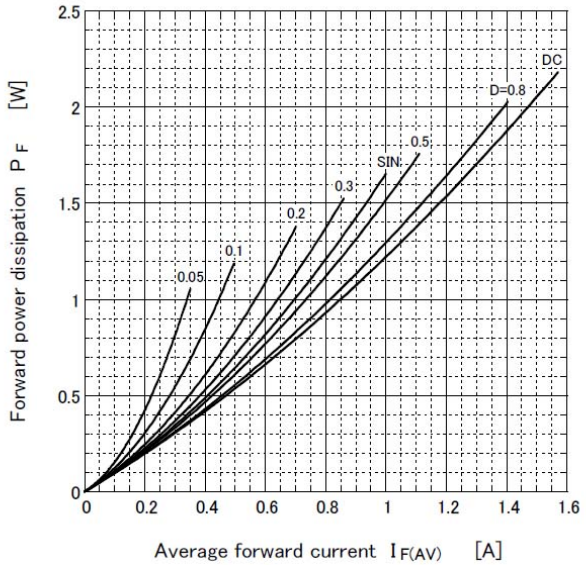
Forward voltage

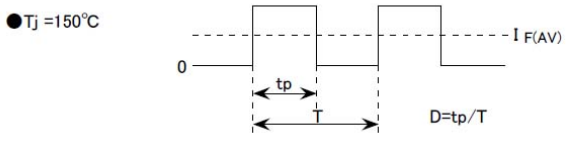


Reverse current

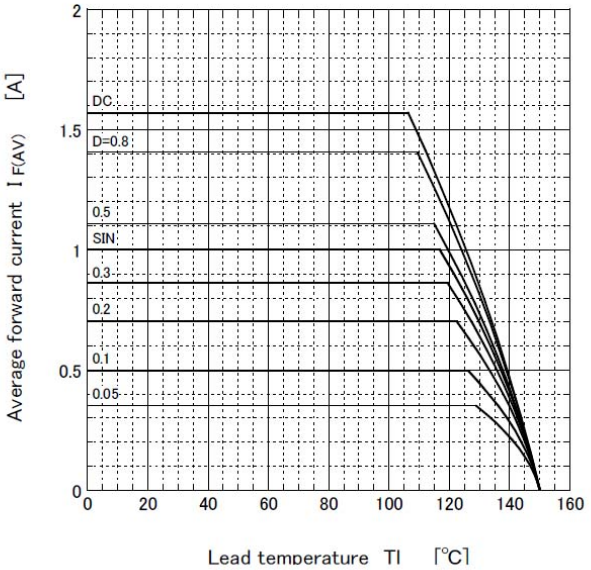


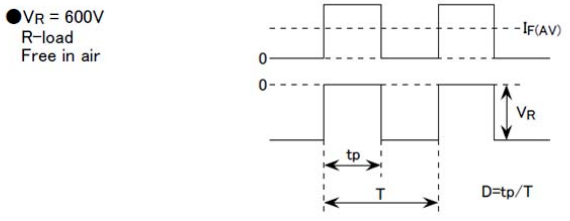
Forward power dissipation



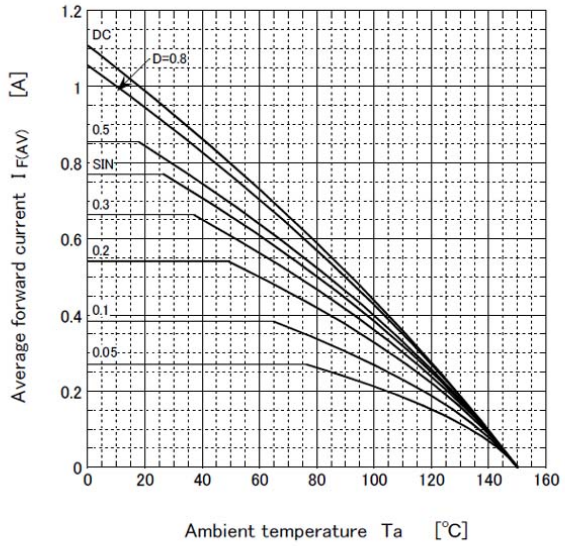


Derating curve





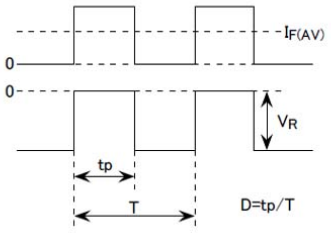
Derating curve



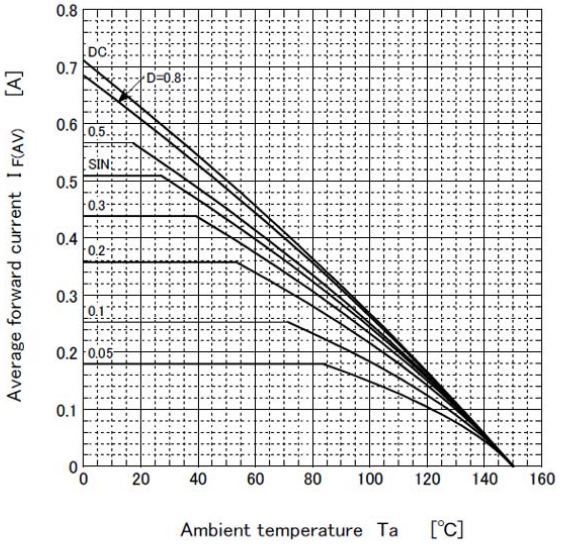
●V_R = 600V
R-load
Free in air

●Substrate detail

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



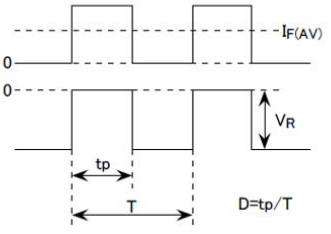
Derating curve



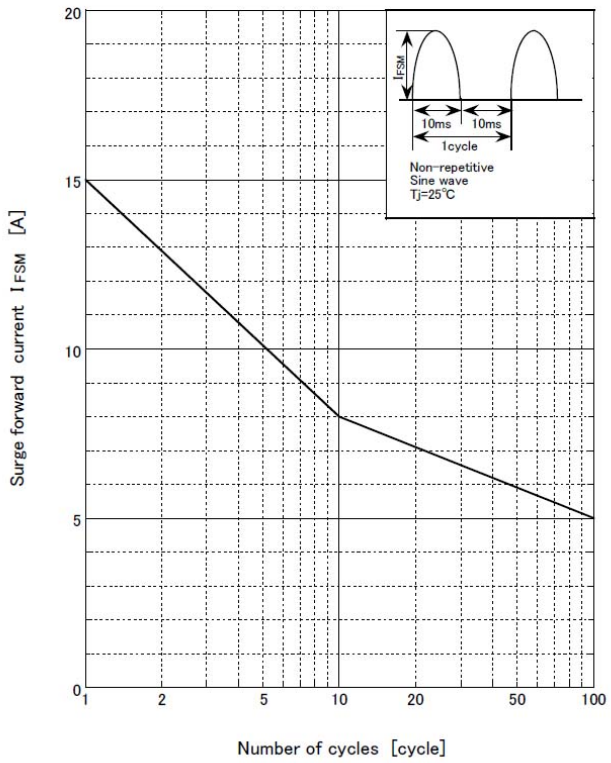
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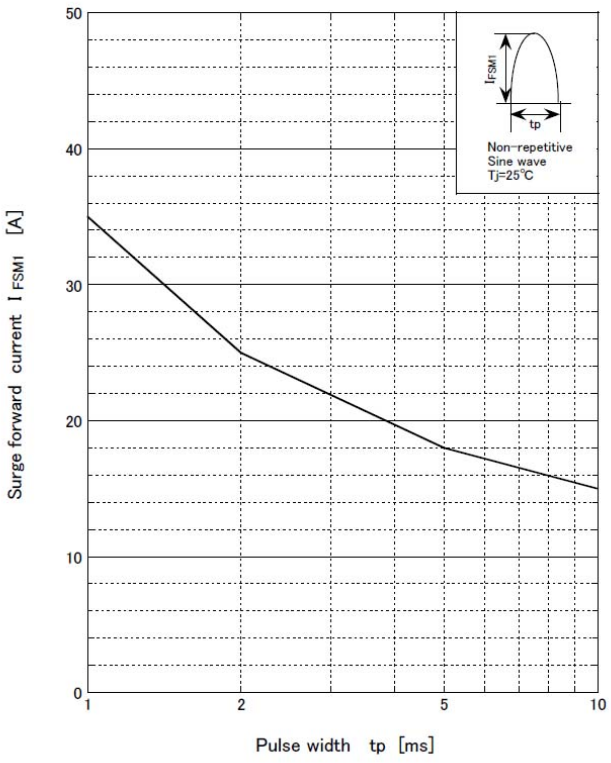
Type	Glass-epoxy
Size	1 inch²
Thickness	1.6mm
Conductor thickness	35μm
Pattern area	43.4mm²



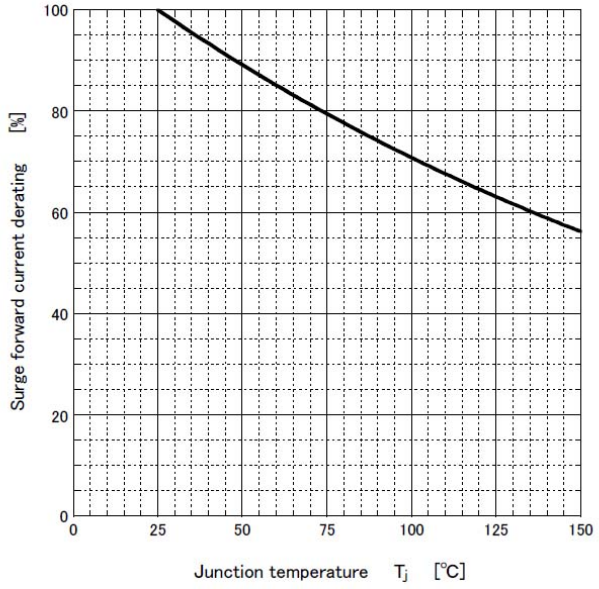
Surge forward current capability



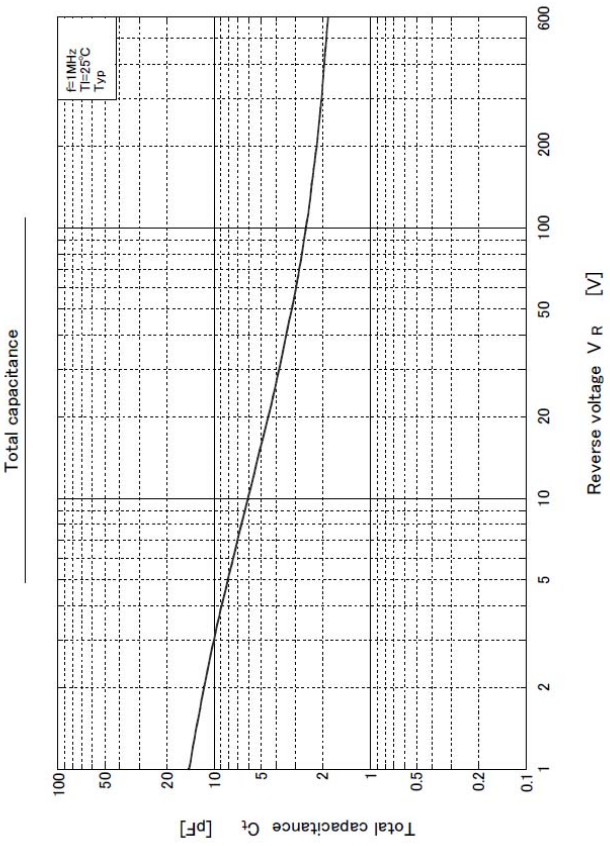
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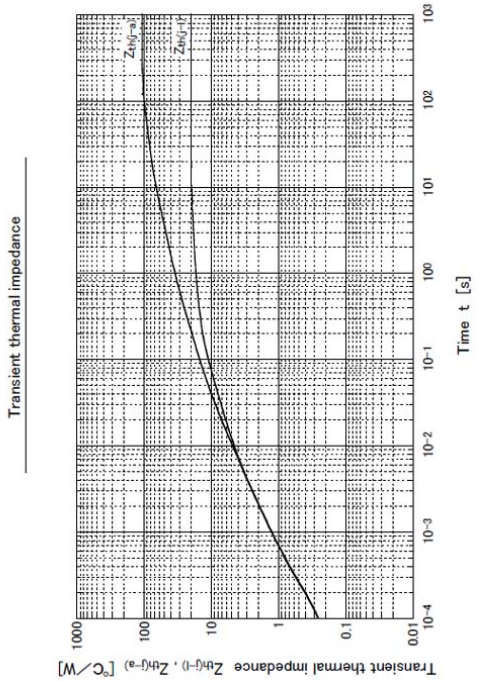
Surge forward current derating
vs Junction temperature



Total capacitance



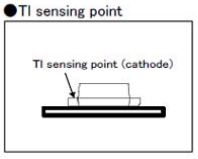
Transient thermal impedance



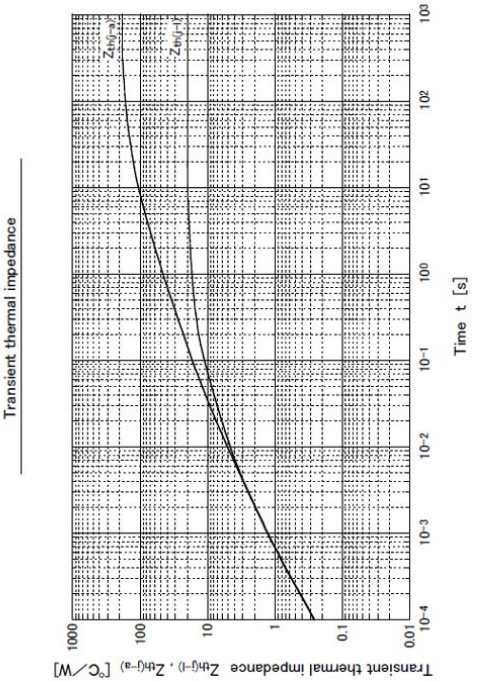
●Substrate detail

Type	Alumina
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●Tl sensing point



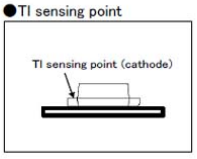
Transient thermal impedance



●Substrate detail

Type	Glass-epoxy
Size	1 inch²
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●Tl sensing point

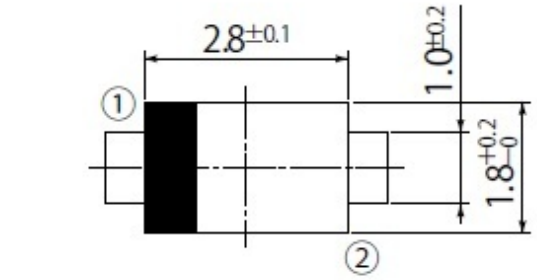


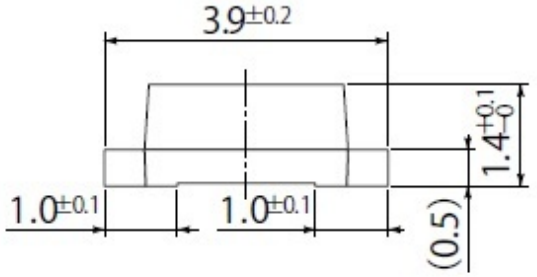
Outline Dimensions

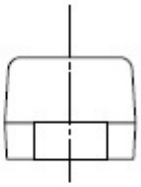
unit:mm

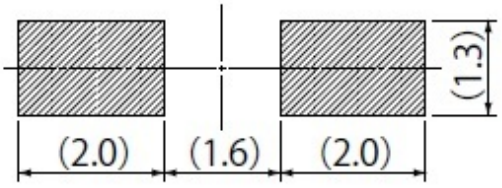
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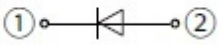
JEDEC Code	DO-219AA similar
JEITA Code	–
House Name	M1F











Referential Soldering Pad

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

・The content specified herein is subject to change for improvement without notice.
・If you wish to use any such products, please be sure to refer to the specifications.

U182-1(2026.09)

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