ShinDengen

M1FS4

Schottky Barrier Diodes
40V, 1.33A

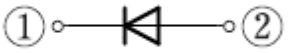
Feature

- Small SMD
- High Recovery Speed
- Low V_F
- 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 temperrature	Tstg		-55 to 150	°C
Junction temperature	Tj		-55 to 150	°C
Repetitive peak reverse voltage	V_{RRM}		40	V
Repetitive peak surge reverse voltage	V_{RRSM}	Pulse width 0.5ms, duty=1/40	45	V
Average forward current	I_F(AV)	50Hz sine wave, Resistance load, On alumina substrate, Ta=25°C ※	1.33	A
Average forward current	I_F(AV)	50Hz sine wave, Resistance load, On glass-epoxy substrate, Ta=25°C ※	0.87	A
Surge forward current	I_{FSM}	50Hz sine wave, Non-repetitive, 1cycle, Peak value, Tj=25°C	30	A
Repetitive peak surge reverse power	P_{RRSM}	Pulse width 10μs, Tj=25°C	60	W

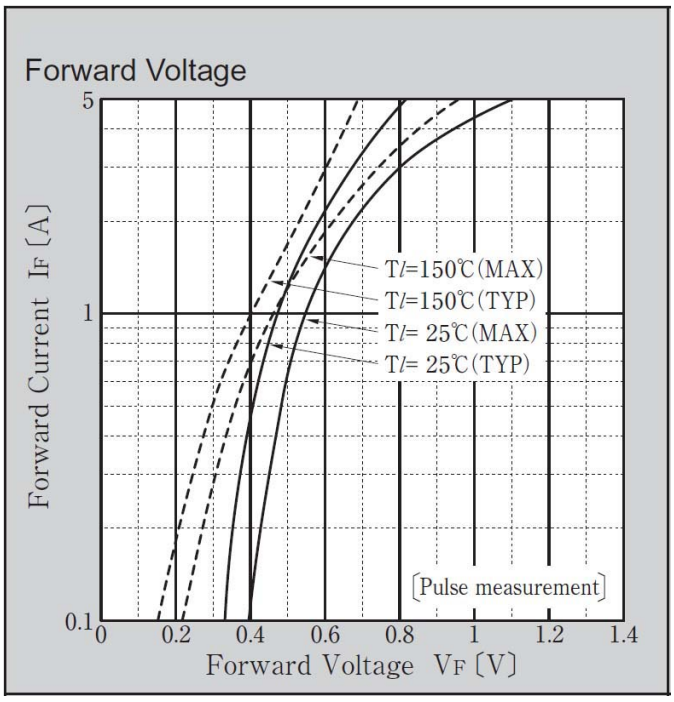
※ ：See the original Specifications

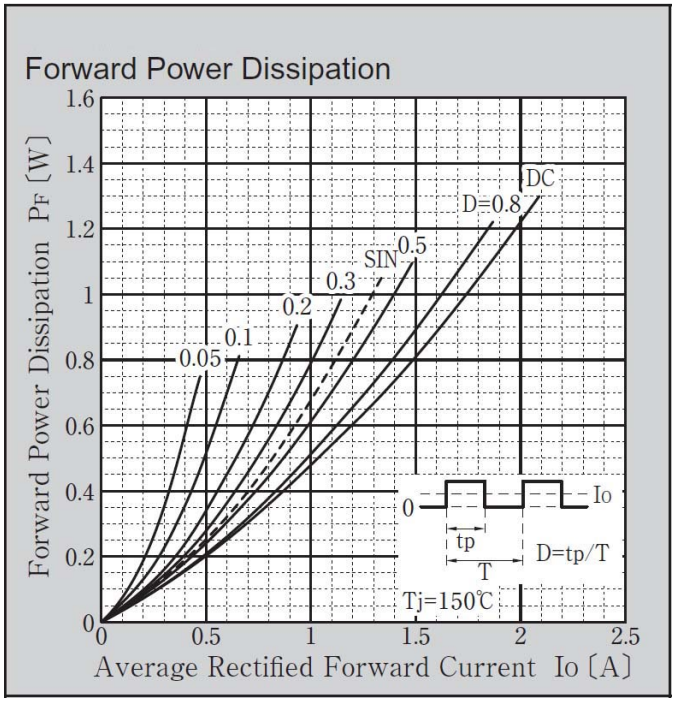
Electrical Characteristics (unless otherwise specified : Tl=25°C)

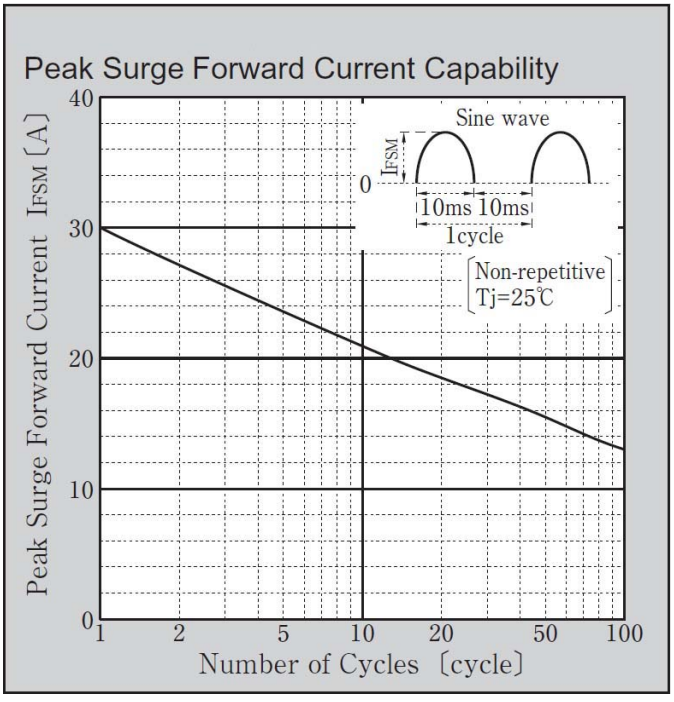
Item	Symbol	Conditions	Ratings			Unit
			MIN	TYP	MAX	
Forward voltage	V_F	IF=1.1A, Pulse measurement			0.55	V
Reverse current	I_R	VR=40V, Pulse measurement			0.8	mA
Total capacitance	Ct	f=1MHz, VR=10V		50		pF
Thermal resistance	Rth(j-l)	Junction to lead			20	°C/W
Thermal resistance	Rth(j-a)	Junction to ambient, On alumina substrate ※			108	°C/W
Thermal resistance	Rth(j-a)	Junction to ambient, On glass-epoxy substrate ※			186	°C/W

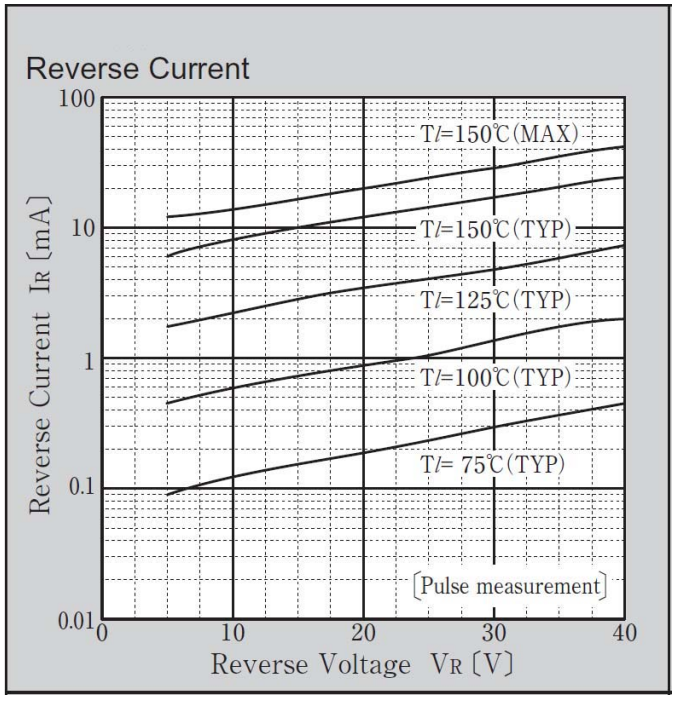
※ ：See the original Specifications

CHARACTERISTIC DIAGRAMS

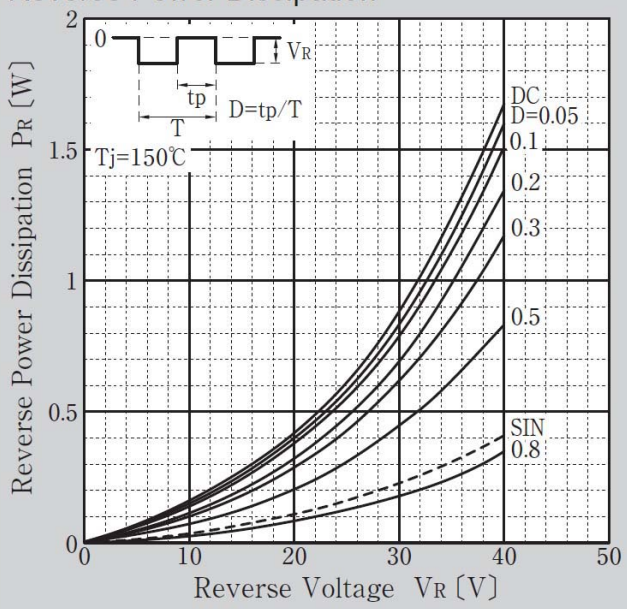




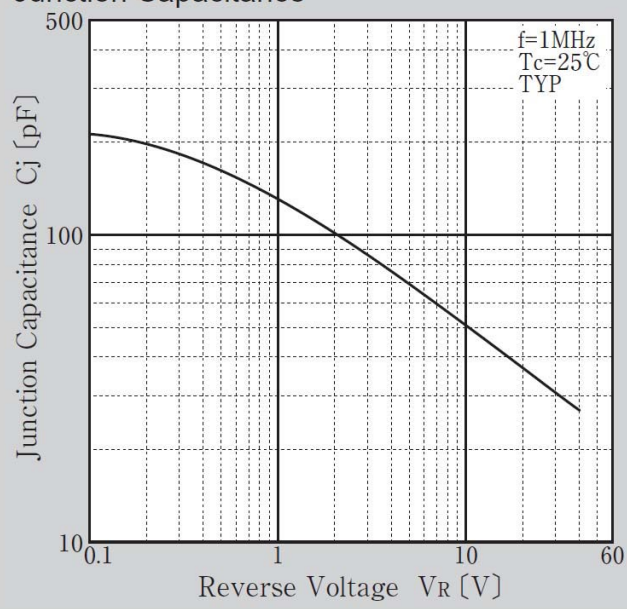




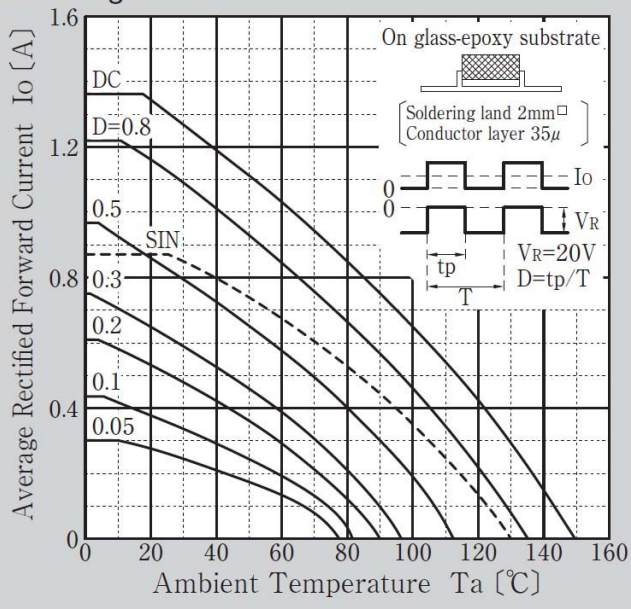
Reverse Power Dissipation



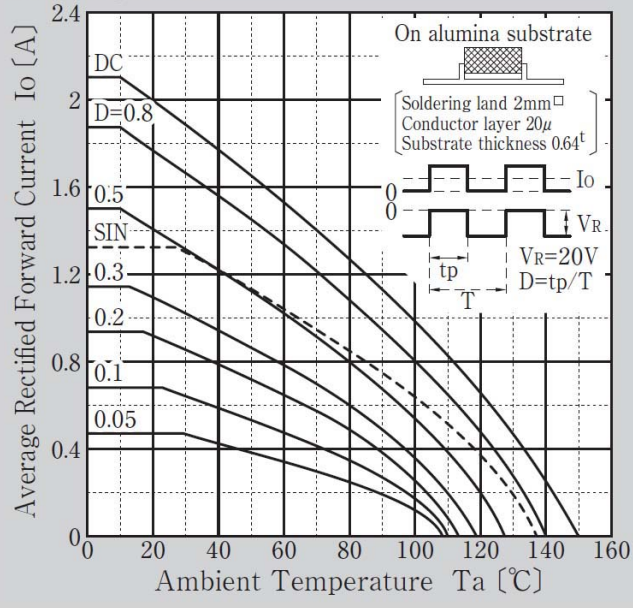
Junction Capacitance

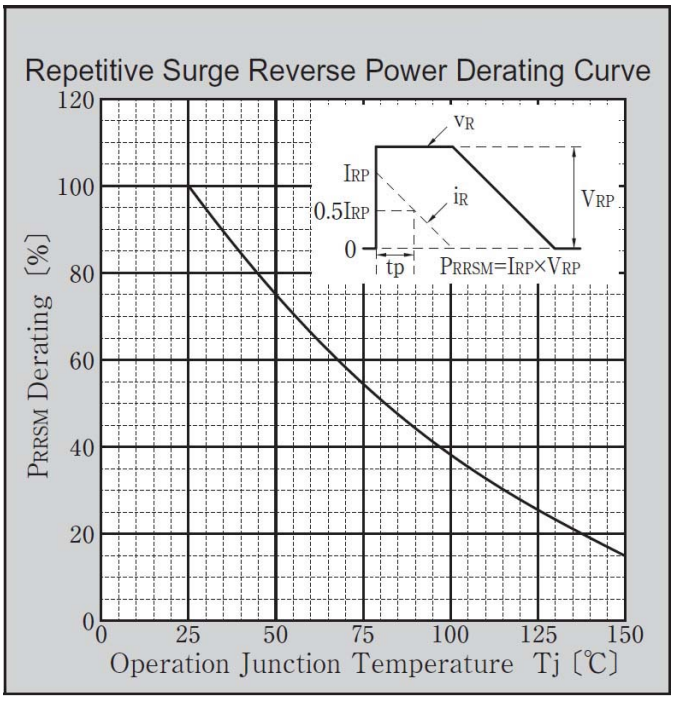


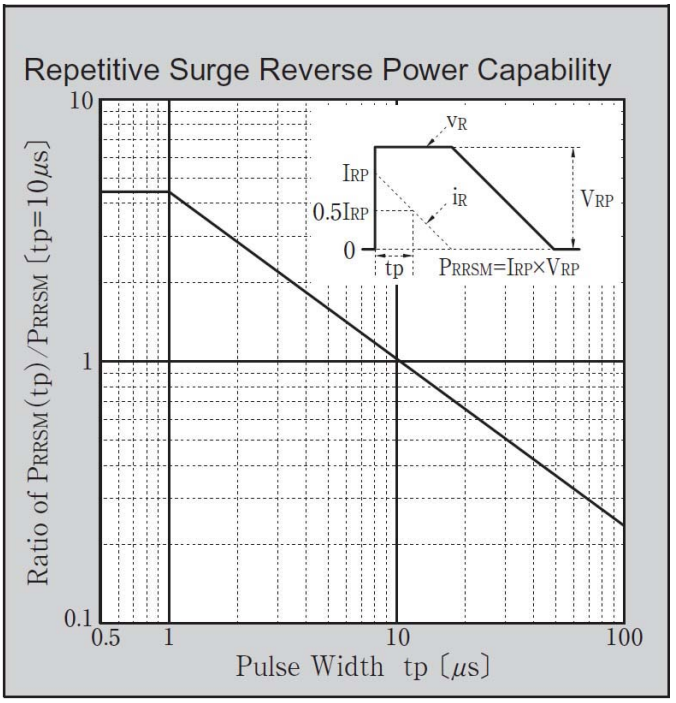
Derating Curve



Derating Curve




Repetitive Surge Reverse Power Derating Curve
PRRSM Derating 〔%〕
120
100
80
60
40
20
0
0
25
50
75
100
125
150
Operation Junction Temperature Tj 〔℃〕
VR
IRP
0.5IRP
0
iR
VRP
tp
PRRSM=IRP×VRP


Repetitive Surge Reverse Power Capability
Ratio of PRRSM(tp)/PRRSM〔tp=10μs〕
10
1
0.1
0.5
1
10
100
Pulse Width tp 〔μs〕
VR
IRP
0.5IRP
0
iR
VRP
tp
PRRSM=IRP×VRP

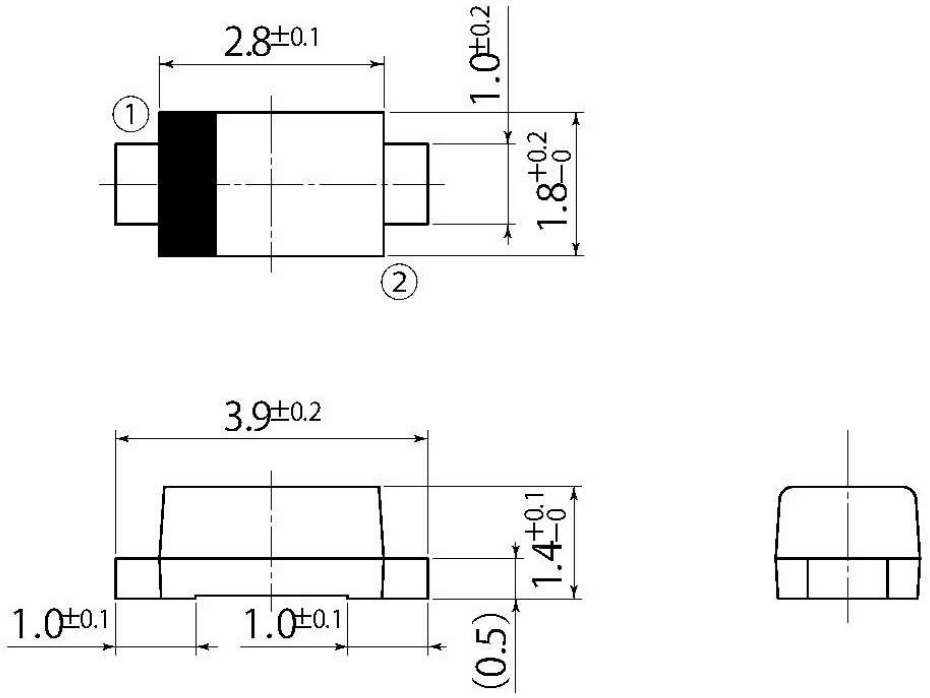
Outline Dimensions

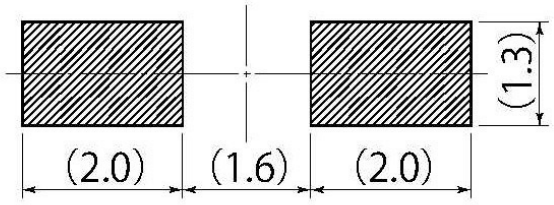
unit:mm

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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