

# 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 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>		600	V
Average forward current	I <sub>F(AV)</sub>	50Hz sine wave, Resistance load, Tl=116°C	1	A
Average forward current	I <sub>F(AV)</sub>	50Hz sine wave, Resistance load, On alumina substrate, Ta=25°C ※	0.77	A
Average forward current	I <sub>F(AV)</sub>	50Hz sine wave, Resistance load, On glass-epoxy substrate, Ta=25°C ※	0.51	A
Surge forward current	I <sub>FSM</sub>	50Hz sine wave, Non-repetitive 1 cycle, Peak value, Tj=25°C	15	A
Surge forward current	I <sub>FSM1</sub>	tp=1ms, Sine wave, Non-repetitive, Peak value, Tj=25°C	35	A

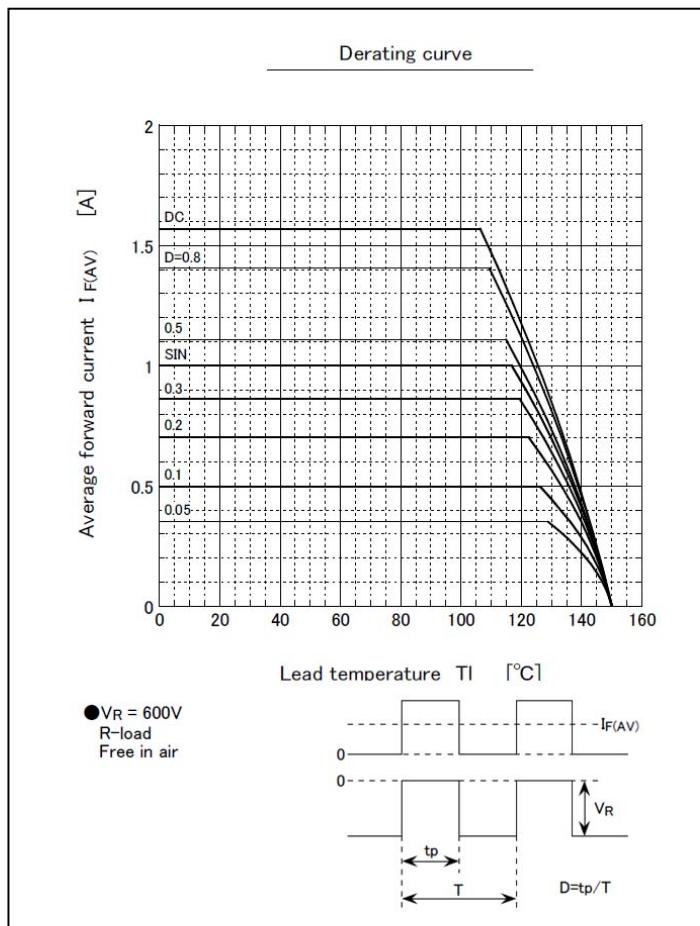
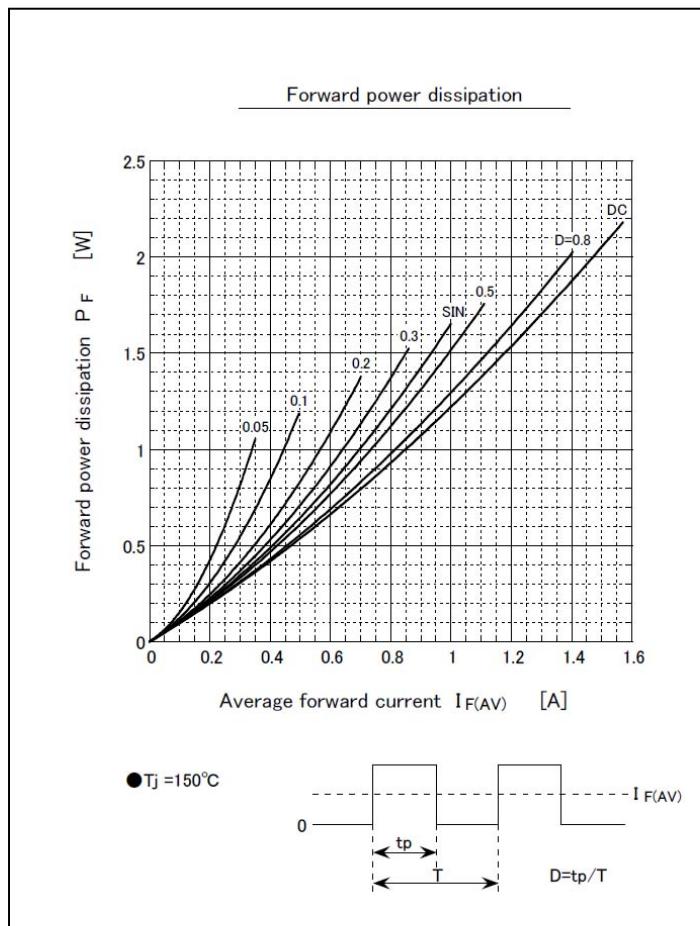
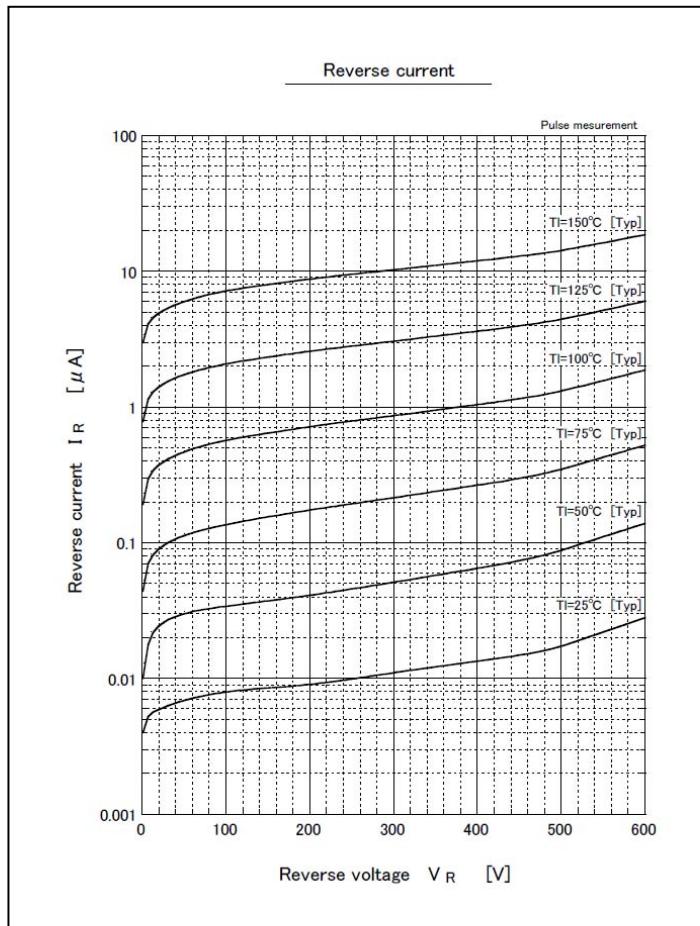
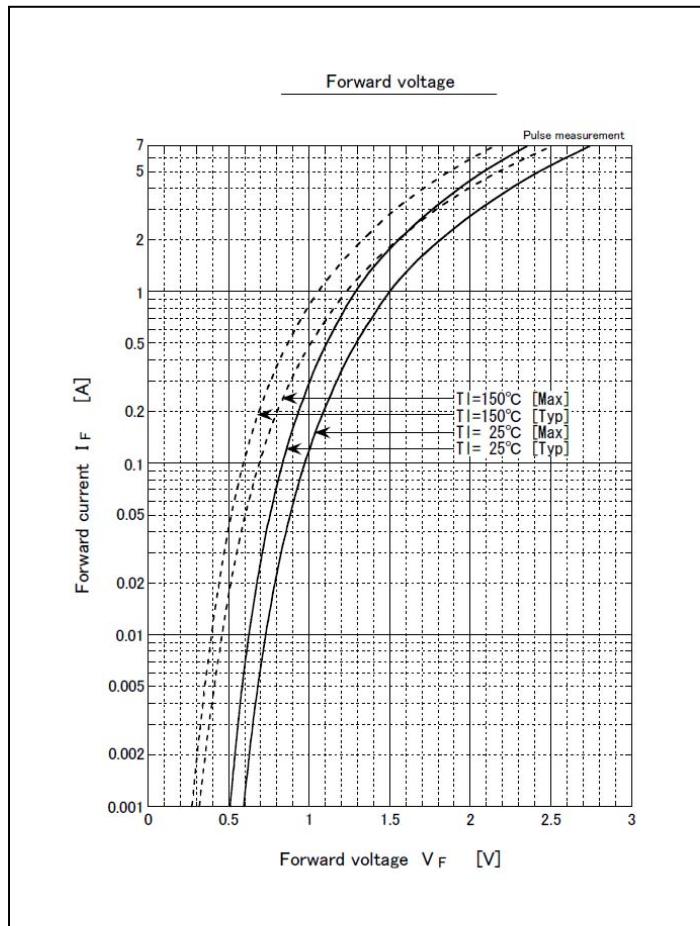
※ : See the original Specifications

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

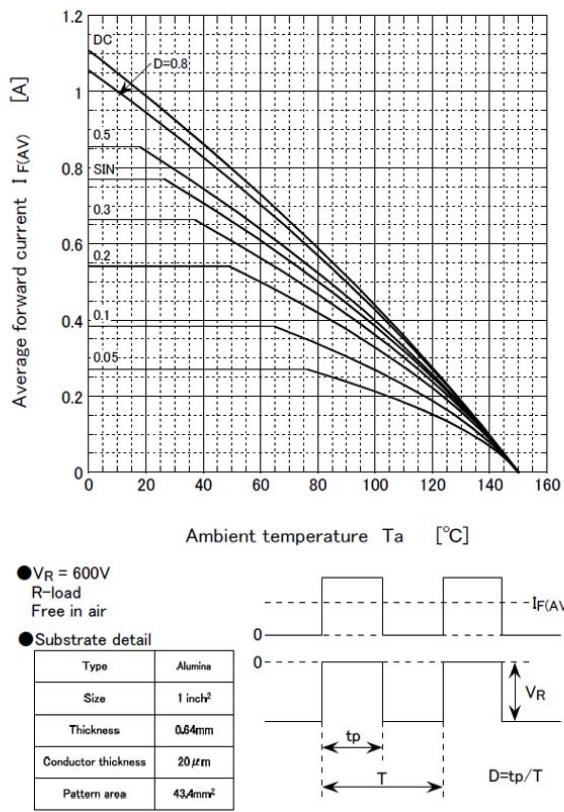
Item	Symbol	Conditions	Ratings			Unit
			MIN	TYP	MAX	
Forward voltage	$V_F$	IF=1A, Pulse measurement			1.5	V
Reverse current	$I_R$	VR=600V, Pulse measurement			10	$\mu A$
Reverse recovery time	trr	IF=0.5A, IR=1.0A, 0.25IR			75	ns
Total capacitance	Ct	f=1MHz, VR=10V		6		pF
Thermal resistance	Rth(j-l)	Junction to lead			20	$^{\circ}C/W$
Thermal resistance	Rth(j-a)	Junction to ambient, On alumina substrate	※		108	$^{\circ}C/W$
Thermal resistance	Rth(j-a)	Junction to ambient, On glass-epoxy substrate	※		186	$^{\circ}C/W$

※ :See the original Specifications

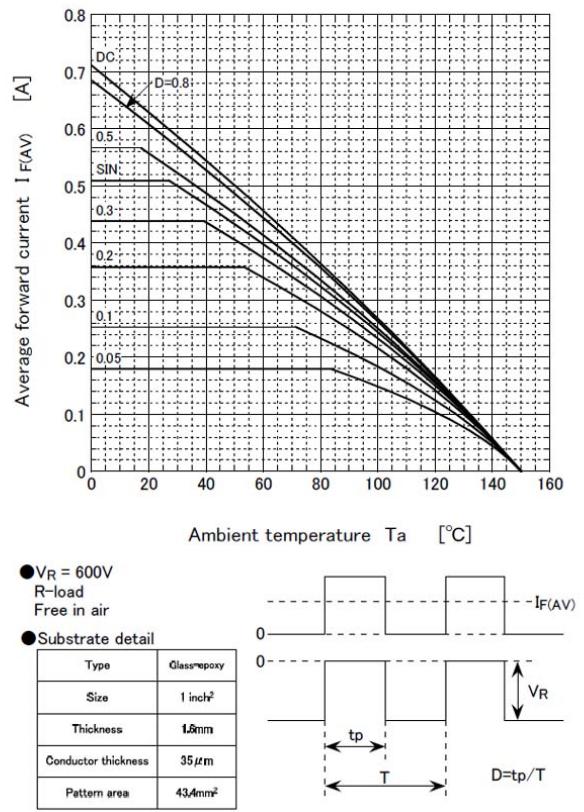
## CHARACTERISTIC DIAGRAMS



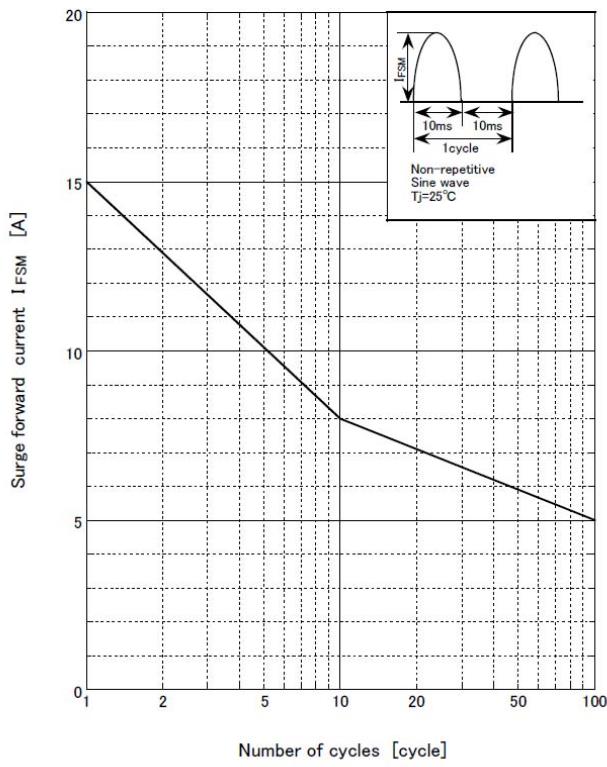
Derating curve



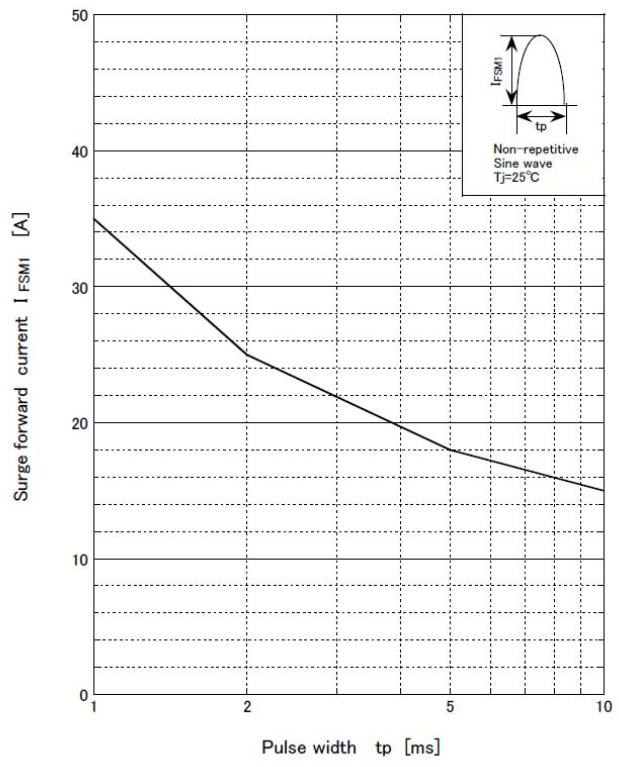
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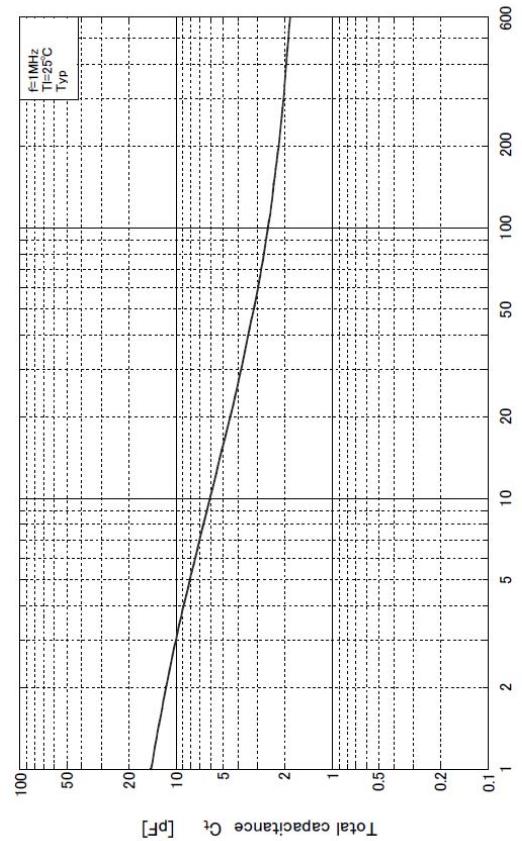
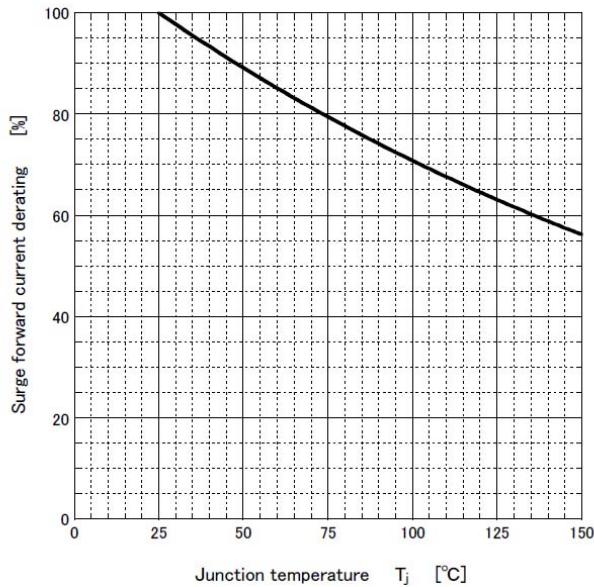
Surge forward current capability



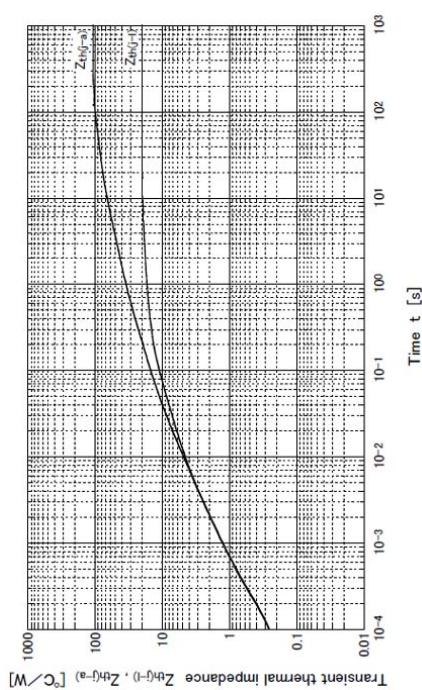
Surge forward current capability



Surge forward current derating  
vs Junction temperature



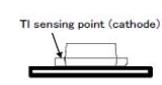
Transient thermal impedance



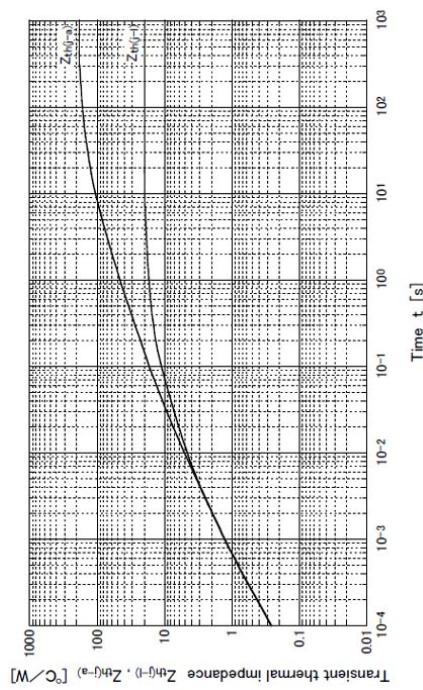
● Substrate detail

Type	Alumina
Size	1 inch <sup>2</sup>
Thickness	0.04mm
Conductor thickness	20μm
Pattern area	434mm <sup>2</sup>

● TI sensing point



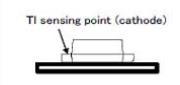
Transient thermal impedance



● Substrate detail

Type	Glass-epoxy
Size	1 inch <sup>2</sup>
Thickness	1.0mm
Conductor thickness	35μm
Pattern area	434mm <sup>2</sup>

● TI sensing point



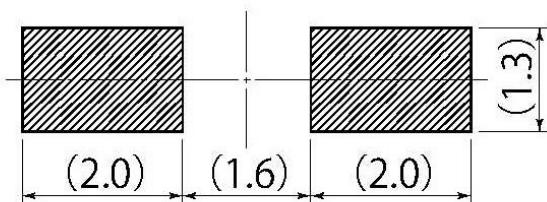
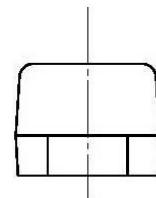
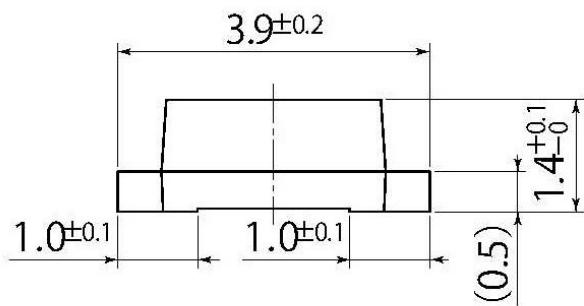
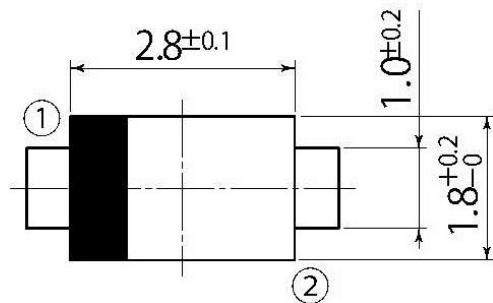
## Outline Dimensions

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 condition.

## Notes

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### 【Special applications】

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### 【Specific applications】

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