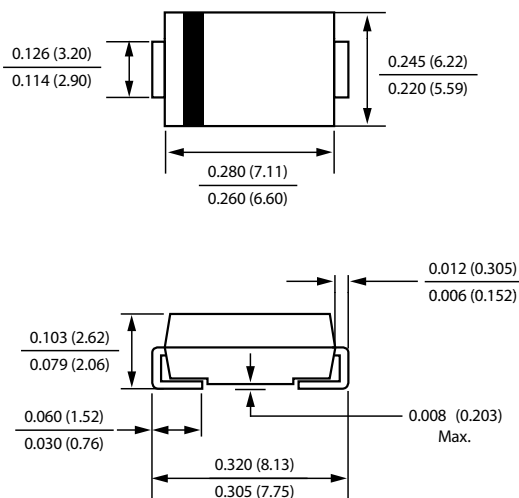


Super Fast Recovery Rectifiers Glass Passivation Junction



DO-214AB(SMC)

Dimensions in inches and (millimeters)



Ordering Information

Part Number	Remark
SFM50xC	General
SFM50xC-H	Halogen Free
SFM50xC-Q	Automotive

PRIMARY CHARACTERISTICS

I_F	5A
V_{RRM}	50~600V
I_{FSM}	100A
V_F	0.98V, 1.30V, 1.75V
$T_J \text{ max}$	150°C

Features

- High current capability
- High surge current capability
- Low reverse current
- Component in accordance to RoHS 2002/95/EC
- AEC-Q101 qualified

Mechanical Data

- Cases: DO-214AB(SMC)
- Case Material: Molded Plastic. UL Flammability Classification Rating 94V-0
- Terminals: Lead free Plating (Tin Finish)
Solderable per MIL-STD-202, Method 208
- Polarity: Cathode Band
- Weight: 0.231 grams (approximate)

MAXIMUM RATINGS (TA=25°C unless otherwise noted)

PARAMETER	SYMBOL	SFM 501C	SFM 502C	SFM 503C	SFM 504C	SFM 505C	SFM 506C	SFM 508C	UNIT
Maximum repetitive peak reverse voltage	V _{RRM}	50	100	150	200	300	400	600	V
Maximum RMS voltage	V _{RMS}	35	70	105	140	210	280	420	V
Maximum DC blocking voltage	V _{DC}	50	100	150	200	300	400	600	V
Maximum average forward rectified current	I _F	5.0							A
Peak forward surge current, 8.3ms single half sine-wave superimposed on rated load	I _{FSM}	100.0							A
Maximum Instantaneous Forward Voltage IF=5A @ 25°C	V _F	0.98				1.3		1.75	V
Maximum DC Reverse Current @ Tc=25°C at Rated DC Blocking Voltage @ Tc=100°C	I _R	5 100							uA
Typical Junction Capacitance(NOTE1)	C _j	80							pF
Maximum Reverse Recovery Time(NOTE2)	T _{rr}	35							ns
Typical Thermal Resistance(NOTE3)	R _{θJa}	60							°C/W
Operating Temperature Range	T _J	-55 to +150							°C
Storage Temperature Range	T _{STG}	-55 to +150							°C

NOTES:

1. Measured at 1.0MHZ and applied reverse voltage of 4.0V DC
2. Measured with $I_F=0.5A$, $I_R=1A$, $IRR=0.25A$
3. Device mounted on FR-4 substrate, 1"×1", 2oz, single-sided, PC boards with 0.15"×0.26" copper pad.

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FIG. 1-TYPICAL FORWARD CURRENT DERATING CURVE

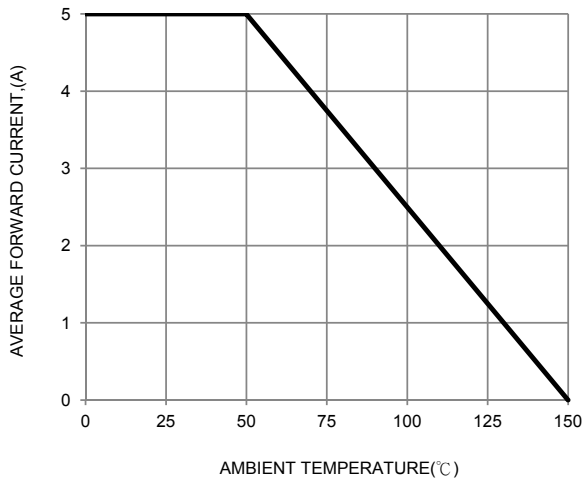


FIG. 2-TYPICAL FORWARD CHARACTERISTICS

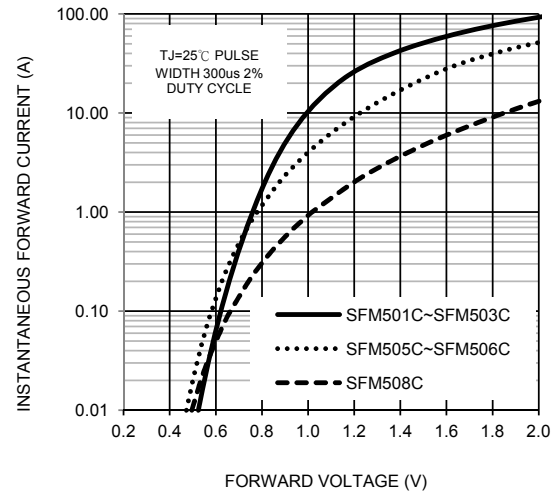


FIG. 3-MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

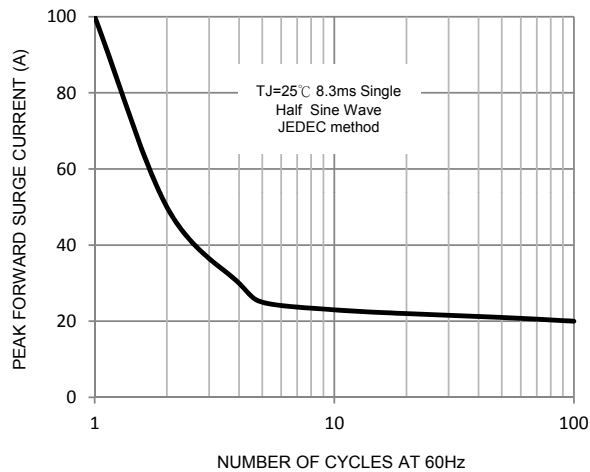


FIG. 4-TYPICAL REVERSE CHARACTERISTICS

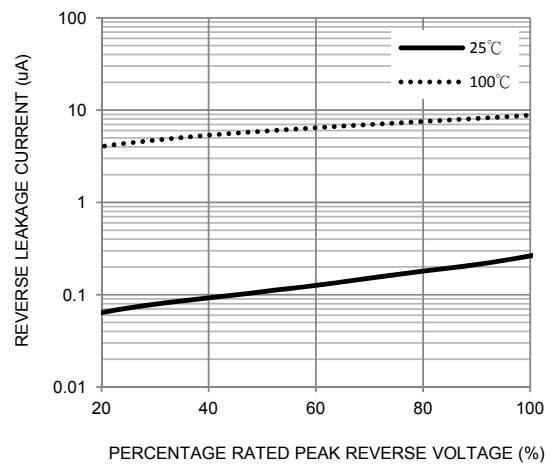


FIG. 5-TYPICAL JUNCTION CAPACITANCE

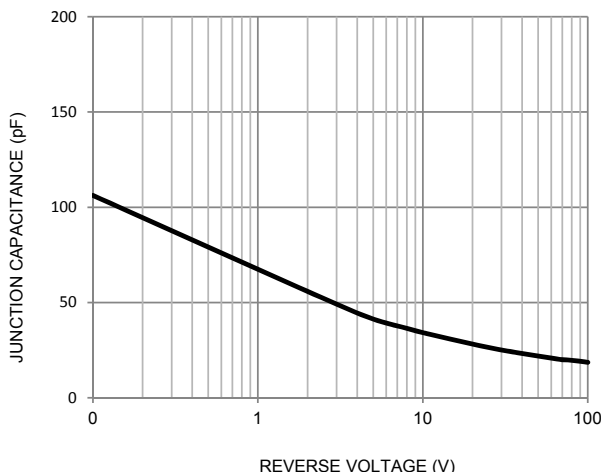


FIG. 6-Reverse Recovery Time Characteristic and Test Circuit

