FUXINSEMI
INNOVATOR IN SEMICONDUCTOR

SBRT5A50SA-13-FS

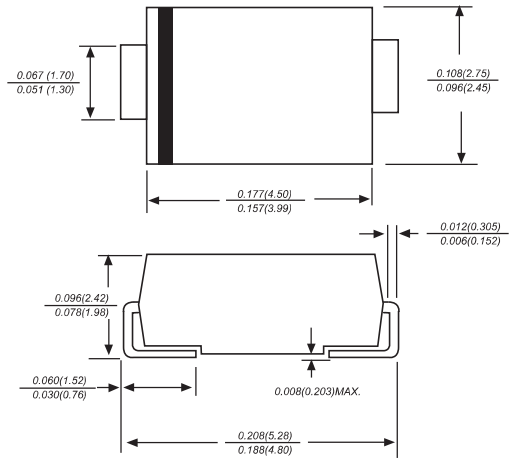
5.0A Surface Mount
Schottky Barrier Rectifiers - 50V

Features

- The plastic package carries Underwriters Laboratory Flammability Classification 94V-0
- Metal silicon junction,majority carrier conduction
- Low power loss,high efficiency
- High forward surge current capability
- High temperature soldering guaranteed: 260℃/10 seconds
- Compliant to RoHS Directive 2011/65/EU

Package outline

SMA/DO-214AC



Dimensions in inches and (millimeters)

Mechanical data

- **Case**: JEDEC SMA/DO-214AC molded plastic body
- **Terminals**: Plated axial leads, solderable per MIL-STD-750, Method 2026
- **Polarity**: Color band denotes cathode end
- **Mounting Position**: Any

Maximum ratings and Electrical Characteristics (AT T_A=25°C unless otherwise noted)

PARAMETER	*SYMBOLS*	SBRT5A50SA-13-FS	UNITS
Maximum repetitive peak reverse voltage	V_{RRM}	50	V
Maximum RMS voltage	V_{RMS}	35	V
Maximum DC blocking voltage	V_{DC}	50	V
Maximum average forward rectified current at T_L(see fig.1)	$I_{(AV)}$	5.0	A
Peak forward surge current 8.3ms single half sine-wave superimposed on rated load	I_{FSM}	120	A
Maximum instantaneous forward voltage at 5.0A	V_F	0.5	V
Maximum DC reverse current T_A=25℃	I_R	0.25	mA
at rated DC blocking voltage T_A=100℃		10.0	
Typical junction capacitance (NOTE 1)	C_J	450	pF
Typical thermal resistance (NOTE 2)	$R_{\theta JA}$	60	°C/W
Operating junction temperature range	T_J,	-55 to +150	°C
Storage temperature range	T_{STG}	-55 to +150	°C

Note:1.Measured at 1MHz and applied reverse voltage of 4.0V D.C.
2.P.C.B. mounted with 2.0x2.0″(5.0x5.0cm) copper pad areas

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Rating and characteristic curves

FIG. 1- FORWARD CURRENT DERATING CURVE

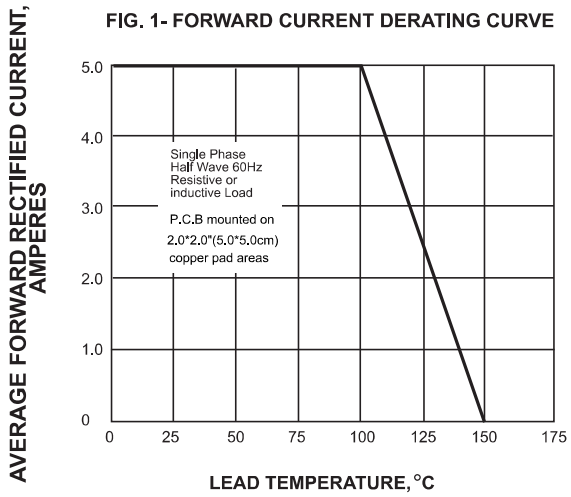


FIG. 2-MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

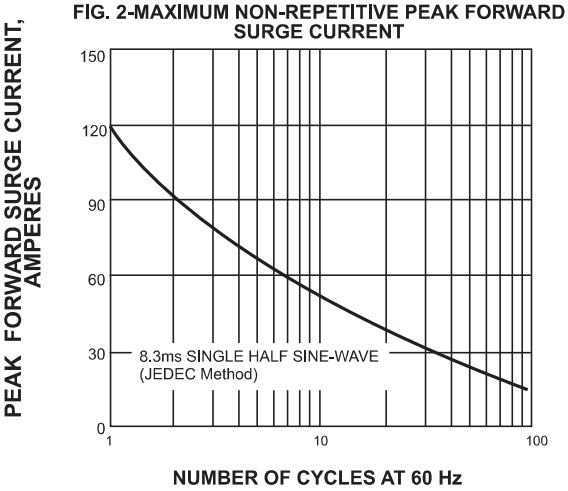


FIG. 3-TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

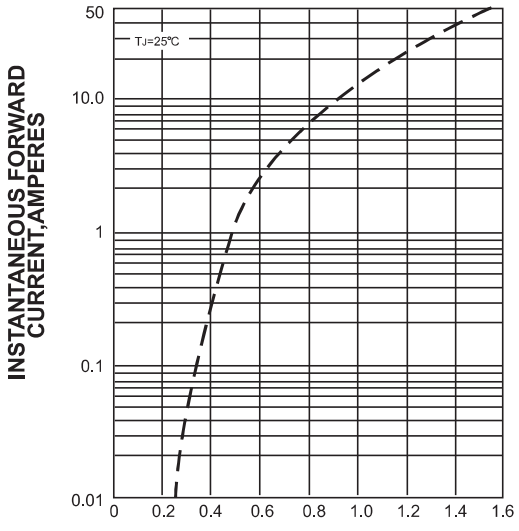


FIG. 4-TYPICAL REVERSE CHARACTERISTICS

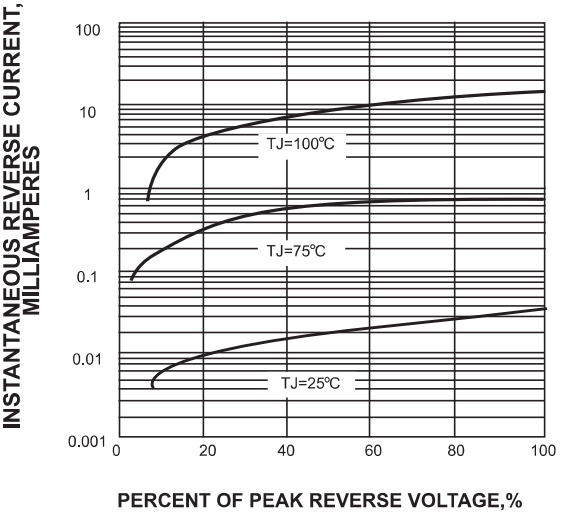


FIG. 5-TYPICAL JUNCTION CAPACITANCE

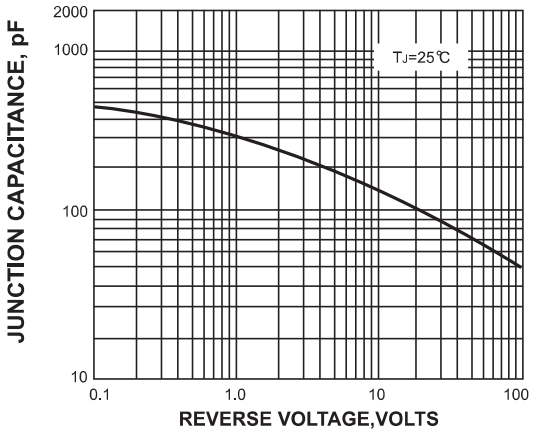
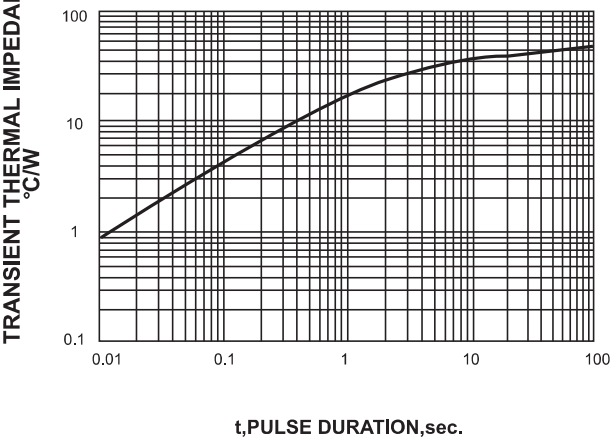


FIG. 6-TYPICAL TRANSIENT THERMAL IMPEDANCE



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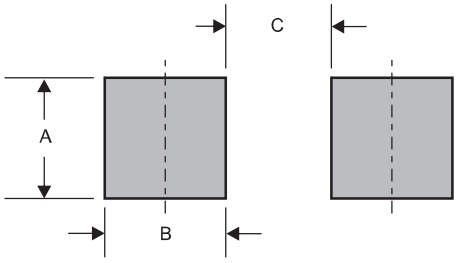
Pinning information

Pin	Simplified outline	Symbol
Pin1 cathode Pin2 anode		

Marking

Type number	Marking code
SBRT5A50SA-13-FS	TX5 FXSM

Suggested solder pad layout

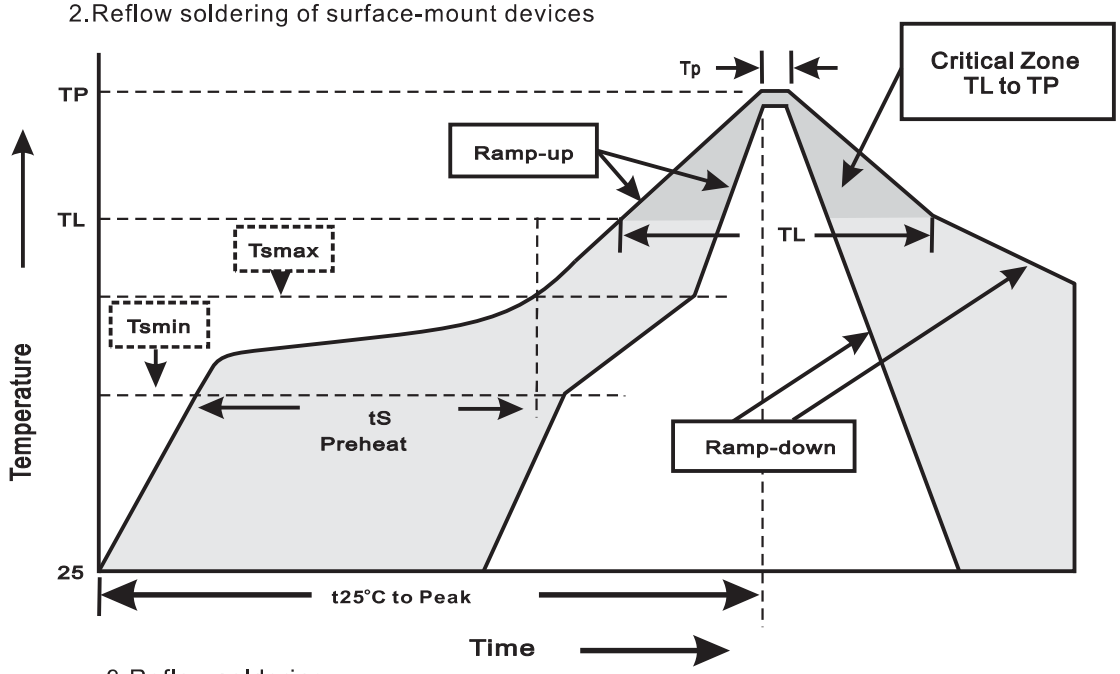


Dimensions in inches and (millimeters)

PACKAGE	A	B	C
SMA	0.110 (2.80)	0.063 (1.60)	0.087 (2.20)

Suggested thermal profiles for soldering processes

1.Storage environment: Temperature=5°C~40°C Humidity=55%±25%
2.Reflow soldering of surface-mount devices



3.Reflow soldering

Profile Feature	Soldering Condition
Average ramp-up rate(T_L to T_P)	<3°C/sec
Preheat -Temperature Min(Tsmin) -Temperature Max(Tsmax) -Time(min to max)(t_s)	 150°C 200°C 60~120sec
Tsmax to T_L -Ramp-upRate	 <3°C/sec
Time maintained above: -Temperature(T_L) -Time(t_L)	 217°C 60~260sec
Peak Temperature(T_P)	255°C-0/+5°C
Time within 5°C of actual Peak Temperature(t_P)	10~30sec
Ramp-down Rate	<6°C/sec
Time 25°C to Peak Temperature	<6minutes