

10.0A Surface Mount Schottky Barrier Rectifiers - 20V-200V

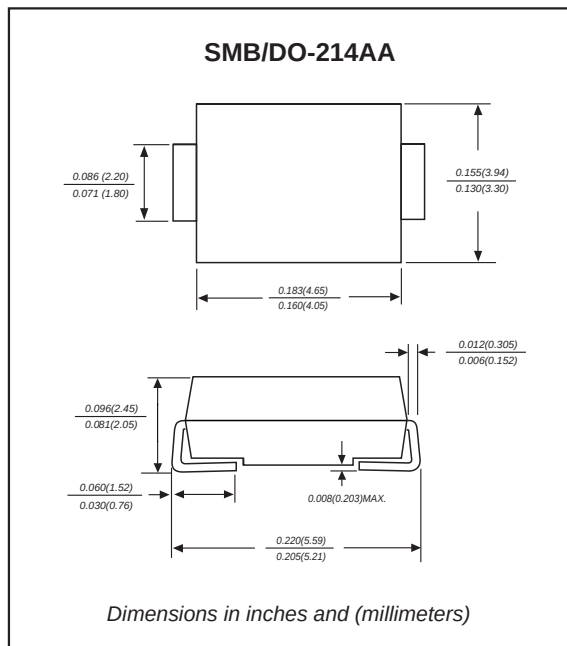
Features

- ◆ The plastic package carries Underwriters Laboratory Flammability Classification 94V-0
- ◆ For surface mounted applications
- ◆ Metal silicon junction, majority carrier conduction
- ◆ Low power loss, high efficiency
- ◆ Built-in strain relief, ideal for automated placement
- ◆ High forward surge current capability
- ◆ High temperature soldering guaranteed: 250°C/10 seconds at terminals
- ◆ Compliant to RoHS Directive 2011/65/EU
- ◆ Compliant to Halogen-free
- ◆ Suffix "-Q1" for AEC-Q101

Mechanical data

- ◆ **Case:** JEDEC DO-214AA molded plastic body
- ◆ **Terminals:** Solder plated, solderable per MIL-STD-750, Method 2026
- ◆ **Polarity:** Color band denotes cathode end
- ◆ **Mounting Position:** Any

Package outline



Maximum ratings and Electrical Characteristics (AT $T_A=25^\circ\text{C}$ unless otherwise noted)

PARAMETER	CONDITIONS	Symbol	MIN.	TYP.	MAX.	UNIT
Forward rectified current	See Fig.1	I_O			10.0	A
Forward surge current	8.3ms single half sine-wave (JEDEC methode)	I_{FSM}			200	A
Reverse current	$T_A = 25^\circ\text{C}$	$V_R = 20\text{V} - 60\text{V}$			0.5	mA
		$V_R = 80\text{V} - 200\text{V}$			0.1	
Reverse current	$T_A = 100^\circ\text{C}$	$V_R = 20\text{V} - 60\text{V}$			10	mA
		$V_R = 80\text{V} - 200\text{V}$			5	
Thermal resistance	Junction to case NOTE 1	$R_{\theta JC}$		2.0		$^\circ\text{C/W}$
Diode junction capacitance	f=1MHz and applied 4V DC reverse voltage	C_J		550		pF
Storage temperature		T_{STG}	-65		+150	$^\circ\text{C}$

Note: 1.P.C.B. mounted with 0.6x0.6" (16x16mm) copper pad areas

SYMBOLS	V _{RRM} ^{*1} (V)	V _{RMS} ^{*2} (V)	V _R ^{*3} (V)	V _F ^{*4} (V)	Operating temperature T _J , (°C)
SS1020-B-Q1	20	14	20	0.55	-55 to +150
SS1030-B-Q1	30	21	30		
SS1040-B-Q1	40	28	40		
SS1045-B-Q1	45	32	45		
SS1060-B-Q1	60	42	60	0.70	
SS1080-B-Q1	80	56	80	0.85	
SS10A0-B-Q1	100	70	100		
SS1015-B-Q1	150	105	150		
SS10B0-B-Q1	200	140	200	0.90	

*1 Repetitive peak reverse voltage

*2 RMS voltage

*3 Continuous reverse voltage

*4 Maximum forward voltage@ $I_F=10.0\text{A}$

Rating and characteristic curves

FIG. 1- FORWARD CURRENT DERATING CURVE

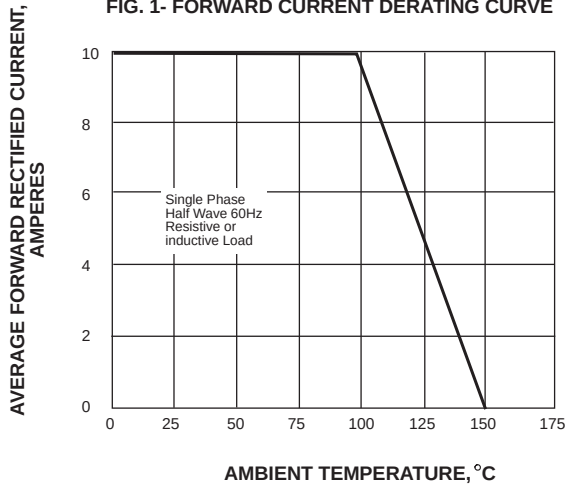


FIG. 2-MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

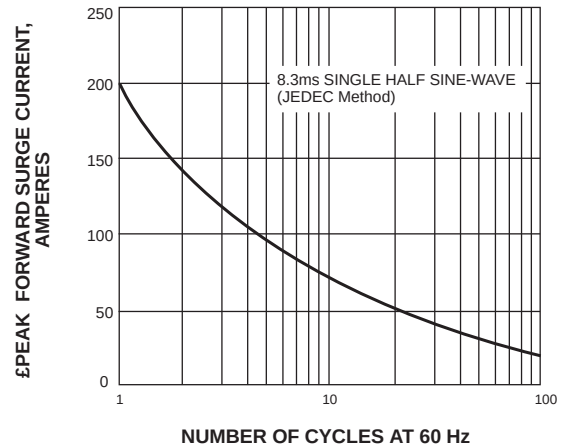


FIG. 3-TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

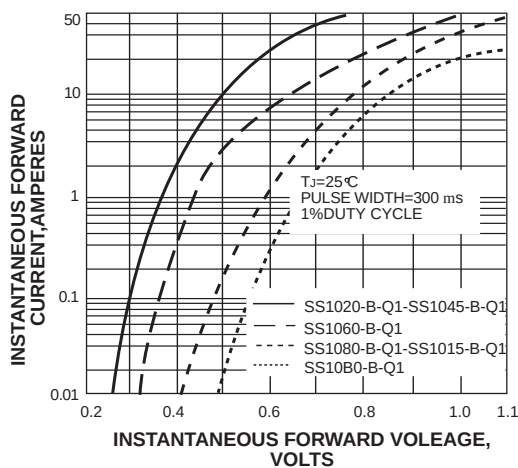


FIG. 4-TYPICAL REVERSE CHARACTERISTICS

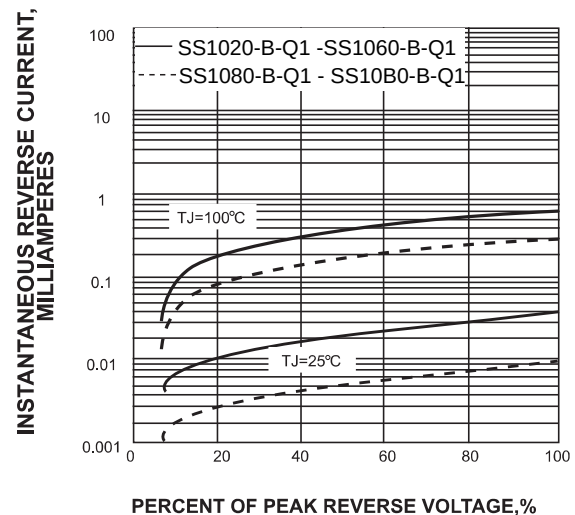


FIG. 5-TYPICAL JUNCTION CAPACITANCE

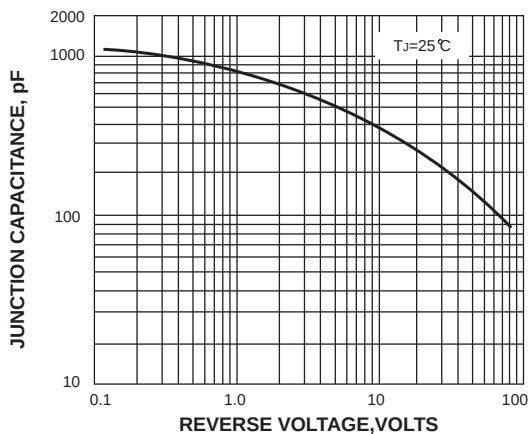
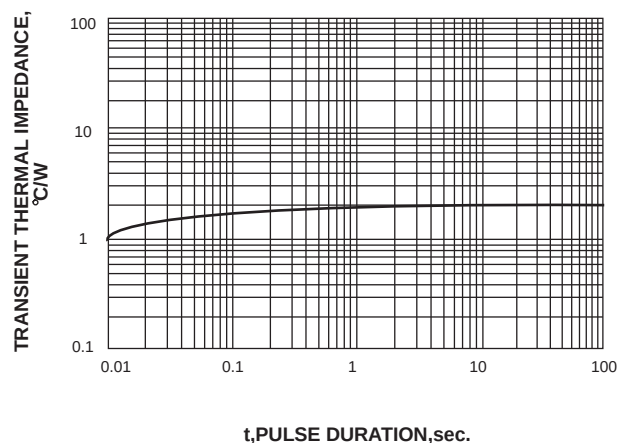


FIG. 6-TYPICAL TRANSIENT THERMAL IMPEDANCE



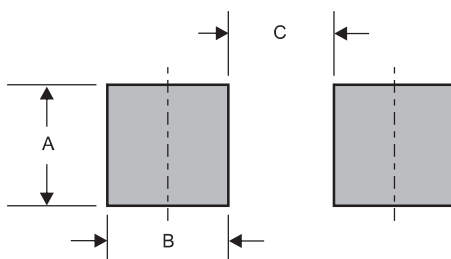
Pinning information

Pin	Simplified outline	Symbol
Pin1 cathode Pin2 anode		

Marking

Type number	Marking code
SS1020-B-Q1	SS1020
SS1030-B-Q1	SS1030
SS1040-B-Q1	SS1040
SS1045-B-Q1	SS1045
SS1060-B-Q1	SS1060
SS1080-B-Q1	SS1080
SS10A0-B-Q1	SS10A0
SS1015-B-Q1	SS1015
SS10B0-B-Q1	SS10B0

Suggested solder pad layout



Dimensions in inches and (millimeters)

PACKAGE	A	B	C
SMB	0.090(2.30)	0.098(2.50)	0.070(1.80)