

Surface Mount Schottky Barrier Diode

Features

- Guardring for overvoltage protection
- Low power loss
- Extremely fast switching
- High forward surge capability
- High frequency operation
- AEC-Q101 qualified
- Solder dip 260 °C max. 10 s, per JESD 22-B106

Mechanical Data

- Package: SMB/DO-214AA
- Terminals: Tin plated leads, solderable per J-STD-002
- Polarity: Cathode line denotes the cathode end

Maximum Ratings ($T_A=25^{\circ}\text{C}$ unless otherwise noted)

Parameter	Symbol	Unit	SS82BQ	SS84BQ	SS86BQ	SS810BQ	SS815BQ	SS820BQ
Repetitive Peak Reverse Voltage	VRRM	V	20	40	60	100	150	200
Average Rectified Output Current @60Hz sine wave, Resistance load, T_a (FIG.1)	IO	A	8.0					
Surge(Non-repetitive)Forward Current @60Hz Half-sine wave, 1 cycle, $T_a=25^{\circ}\text{C}$	IFSM	A	180					
Storage Temperature	Tstg	$^{\circ}\text{C}$	-55 ~+150					
Junction Temperature	Tj	$^{\circ}\text{C}$	-55 ~+150			-55 ~+175		

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

Parameter	Symbol	Unit	Test Conditions	SS82BQ	SS84BQ	SS86BQ	SS810BQ	SS815BQ	SS820BQ
Maximum instantaneous forward voltage drop per diode	V _F	V	I _{FM} =8.0A	0.55		0.70	0.85	0.95	
Maximum DC reverse current at rated DC blocking voltage per diode	I _R	mA	Ta=25℃	0.2			0.1		
			Ta=100℃	20			5.0		
Typical junction capacitance	C _j	pF	Measured at 1MHz and Applied Reverse Voltage of 4.0 V.D.C.	450		350	270	180	



Thermal Characteristics (T_A=25°C unless otherwise noted)

Parameter		Symbol	Unit	SS82BQ	SS84BQ	SS86BQ	SS810BQ	SS815BQ	SS820BQ
Thermal Resistance	Between junction and ambient	R _{θJ-A}	°C/W	45 ⁽¹⁾					
	Between junction and lead	R _{θJ-L}		12 ⁽¹⁾					

Note (1)
Thermal resistance from junction to ambient and from junction to lead mounted on P.C.B. with 0.6" x 0.6" (16 mm x 16 mm) copper pad areas

Characteristics (Typical)

FIG.1: Io-TL Curve

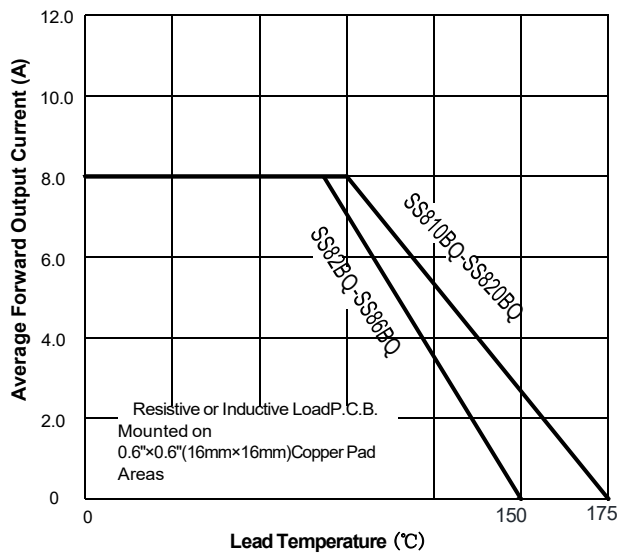


FIG.2: Forward Surge Current Capability

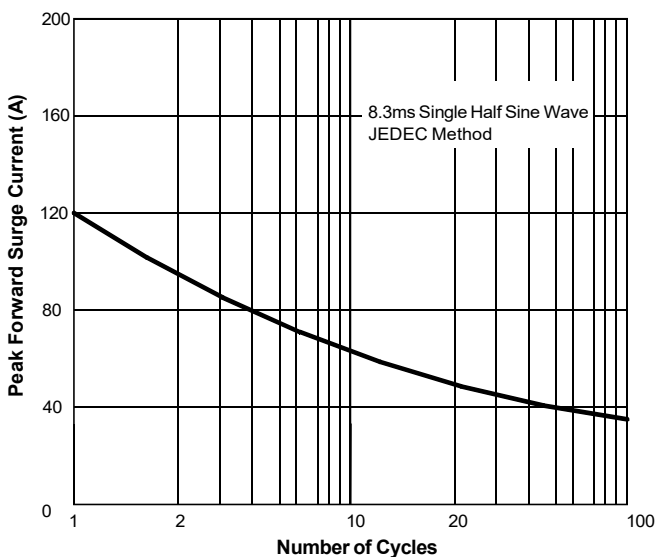


FIG.3: Forward Voltage

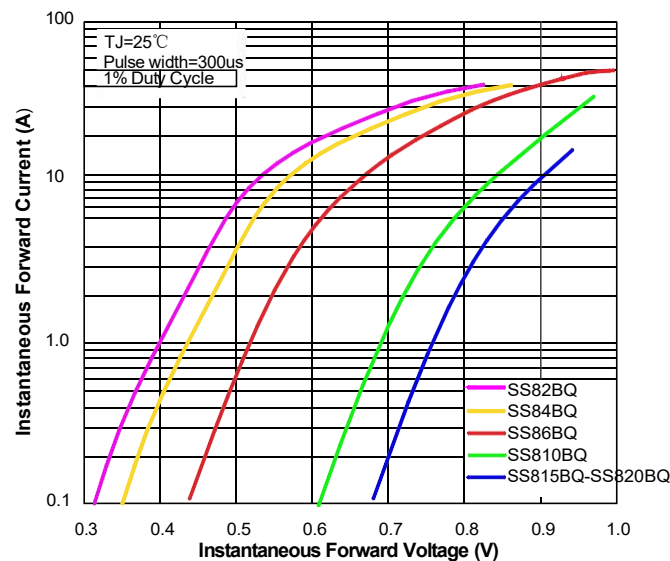
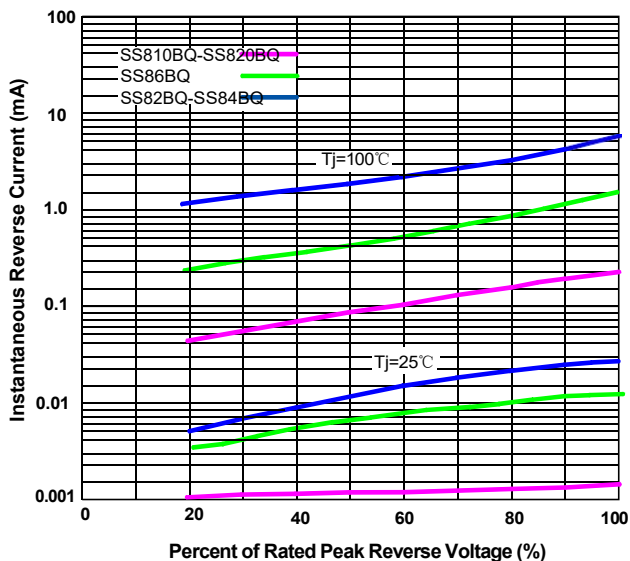


FIG.4: Typical Reverse Characteristics



Dimensions (SMB/DO-214AA)

Dim	Inches		Millimeters	
	Min	Max	Min	Max
A	0.205	0.217	5.21	5.51
B	0.167	0.187	4.25	4.75
C	0.137	0.147	3.48	3.73
D	0.076	0.083	1.93	2.10
E	0.078	0.103	1.99	2.61
F	0.035	0.055	0.90	1.40
G	0.000	0.008	0.00	0.20

