Pb Free Plating Product

SK102 thru SK1020

10.0 Ampere Surface Mount Schottky Barrier Rectifier

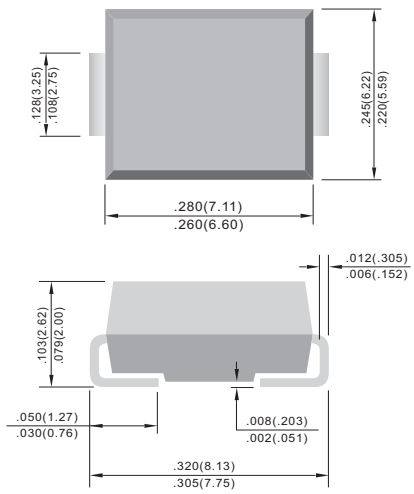
Features

- ✧ For surface mounted application
- ✧ Metal to silicon rectifier, majority carrier conduction
- ✧ Low forward voltage drop
- ✧ Easy pick and place
- ✧ High surge current capability
- ✧ Plastic material used carriers Underwriters Laboratory Classification 94V-0
- ✧ Epitaxial construction
- ✧ High temperature soldering: 260°C / 10 seconds at terminals

Mechanical Data

- ✧ Case: Molded plastic
- ✧ Terminals: Pure tin plated, lead free.
- ✧ Polarity: Indicated by cathode band
- ✧ Packaging: 16mm tape per EIA STD RS-481
- ✧ Weight: 0.1 gram

SMC/DO-214AB Unit: inch (mm)



Maximum Ratings and Electrical Characteristics

Rating at 25°C ambient temperature unless otherwise specified.
Single phase, half wave, 60 Hz, resistive or inductive load.
For capacitive load, derate current by 20%

Type Number	Symbol	SK 102	SK 103	SK 104	SK 105	SK 106	SK 109	SK 1010	SK 1020	Units
Maximum Recurrent Peak Reverse Voltage	V_{RRM}	20	30	40	50	60	90	100	200	V
Maximum RMS Voltage	V_{RMS}	14	21	28	35	42	63	70	140	V
Maximum DC Blocking Voltage	V_{DC}	20	30	40	50	60	90	100	200	V
Maximum Average Forward Rectified Current See Fig. 1	$I_{(AV)}$	10.0								A
Peak Forward Surge Current, 8.3 ms Single Half Sine-wave Superimposed on Rated Load (JEDEC method)	I_{FSM}	150								A
Maximum Instantaneous Forward Voltage @10A	V_F	0.55			0.7		0.85		0.95	V
Maximum D.C. Reverse Current @ Tc=25°C	I_R	0.5					0.1			mA
at Rated DC Blocking Voltage @ Tc=125°C		15			10		5.0			mA
Typical Junction Capacitance (Note 2)	Cj	400			300				250	pF
Typical Thermal Resistance (Note 1)	$R_{\theta JC}$	4.0								°C/W
Operating Junction Temperature Range	T_J	-65 to +125				-65 to +150				°C
Storage Temperature Range	TSTG	-65 to +150								°C

Notes: 1. Thermal Resistance from Junction to Case Per Leg WITH Heat sink (2”x3”x0.25”) Al-plate.
2. Measured at 1MHz and Applied Reverse Voltage of 4.0V D.C.

RATINGS AND CHARACTERISTIC CURVES(SK102 thru SK1020)

FIG.1- MAXIMUM FORWARD CURRENT DERATING CURVE

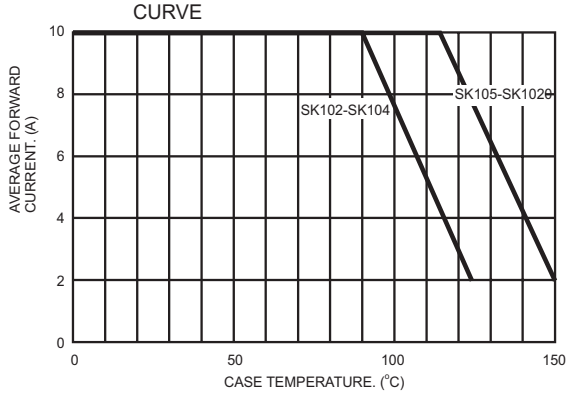


FIG.2- MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

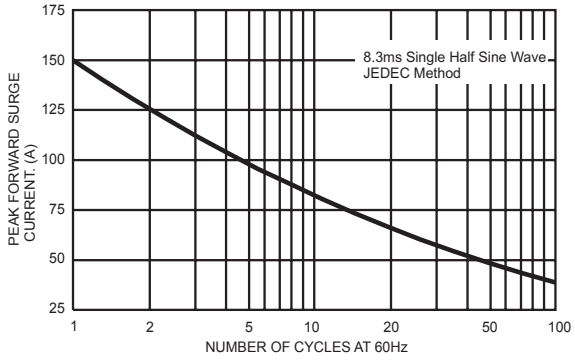


FIG.3- TYPICAL FORWARD CHARACTERISTICS

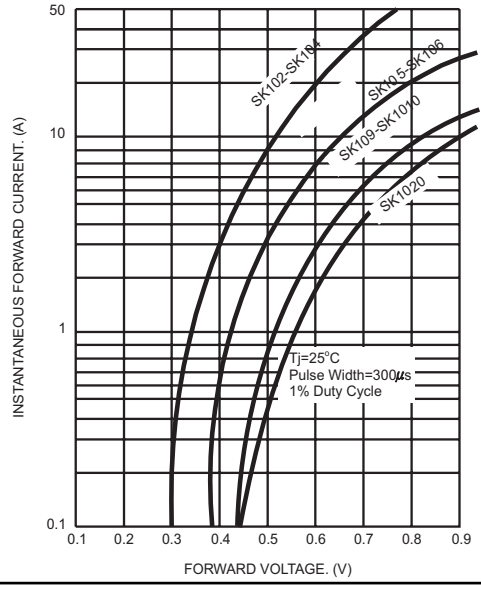


FIG.4- TYPICAL REVERSE CHARACTERISTICS

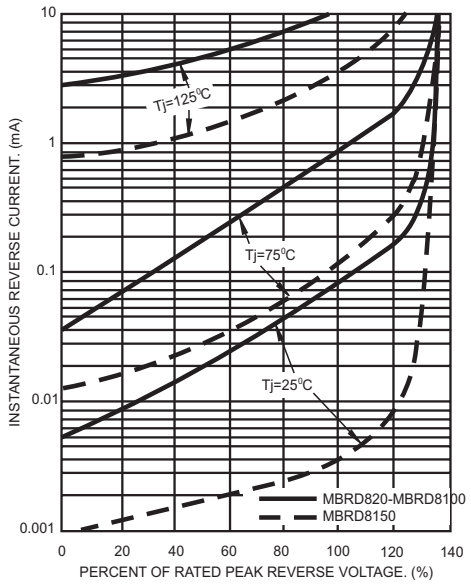


FIG.5- TYPICAL JUNCTION CAPACITANCE

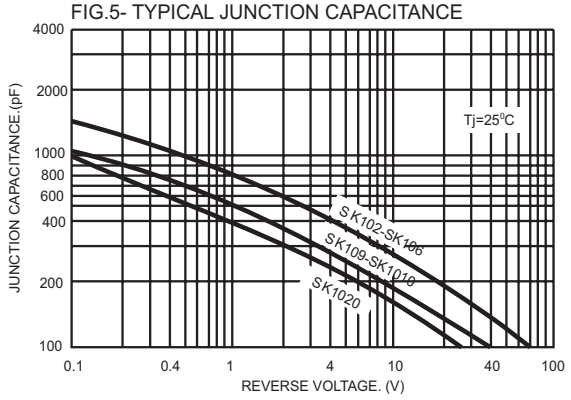


FIG.6- TYPICAL TRANSIENT THERMAL CHARACTERISTICS