

SURFACE MOUNT SCHOTTKY BARRIER RECTIFIER

Features

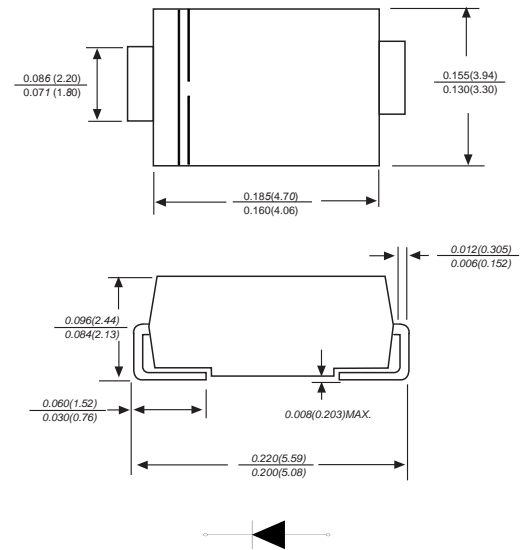
- ◆ The plastic package carries Underwriters Laboratory Flammability Classification 94V-0
- ◆ For surface mounted applications
- ◆ Metal silicon junction, majority carrier conduction
- ◆ Low power loss, high efficiency
- ◆ Built-in strain relief, ideal for automated placement
- ◆ High forward surge current capability
- ◆ High temperature soldering guaranteed:
250 °C/10 seconds at terminals

Mechanical Data

Case : JEDEC DO-214AA/SMB molded plastic body
 Terminals : Solderable per MIL-STD-750, Method 2026
 Polarity : Color band denotes cathode end Mounting
 Position : Any
 Weight : 0.002 ounce, 0.07 grams

DO-214AA/SMB

ROHS COMPLIANT



Dimensions in inches and (millimeters)

Maximum Ratings And Electrical Characteristics

Ratings at 25°C ambient temperature unless otherwise specified.

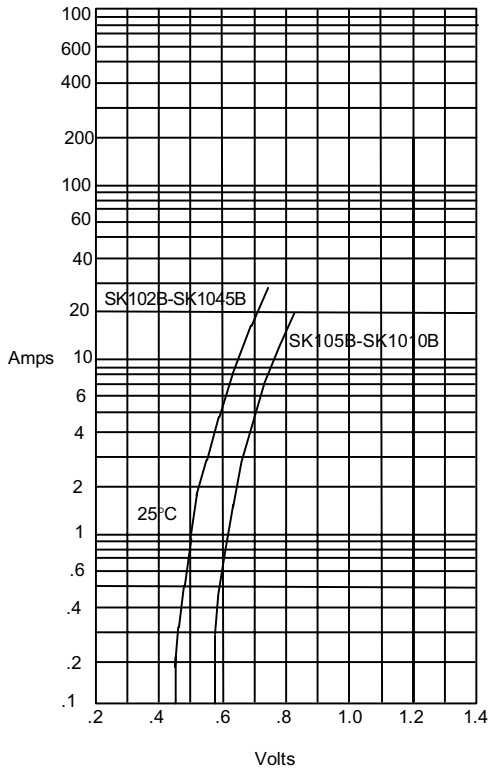
Single phase half-wave 60Hz, resistive or inductive load, for capacitive load current derate by 20%.

Parameter	SYMBOLS	MDD SK102B	MDD SK103B	MDD SK1035B	MDD SK104B	MDD SK1045B	MDD SK106B	MDD SK108B	MDD SK1010B	UNITS
Marking Code										
Maximum repetitive peak reverse voltage	V_{RRM}	20	30	35	40	45	60	80	100	V
Maximum RMS voltage	V_{RMS}	14	21	24.5	28	31.5	42	56	70	V
Maximum DC blocking voltage	V_{DC}	20	30	35	40	45	60	80	100	V
Maximum average forward rectified current at TL (see fig.1)	I_{AV}	10.0								A
Peak forward surge current 8.3ms single half sine-wave superimposed on rated load (JEDEC Method)	I_{FSM}	250								A
Maximum instantaneous forward voltage at 10.0A	V_F	0.55			0.65		0.85			V
Maximum DC reverse current at rated DC blocking voltage $T_A=25^\circ\text{C}$ $T_A=100^\circ\text{C}$	I_R	1.0								mA
		20.0								
Typical junction capacitance (NOTE 1)	C_J	500								pF
Typical thermal resistance (NOTE 2)	$R_{\theta JA}$	18.0								$^\circ\text{C}/\text{W}$
Operating junction temperature range	T_J	-50 to +150								$^\circ\text{C}$
Storage temperature range	T_{STG}	-50 to +150								$^\circ\text{C}$

Note: 1. Measured at 1MHz and applied reverse voltage of 4.0V D.C.
 2. P.C.B. mounted with 0.2x0.2" (5.0x5.0mm) copper pad areas

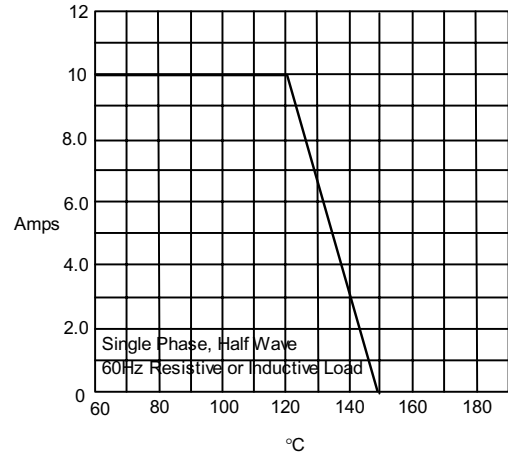
Typical Characteristics

Figure 1
Typical Forward Characteristics



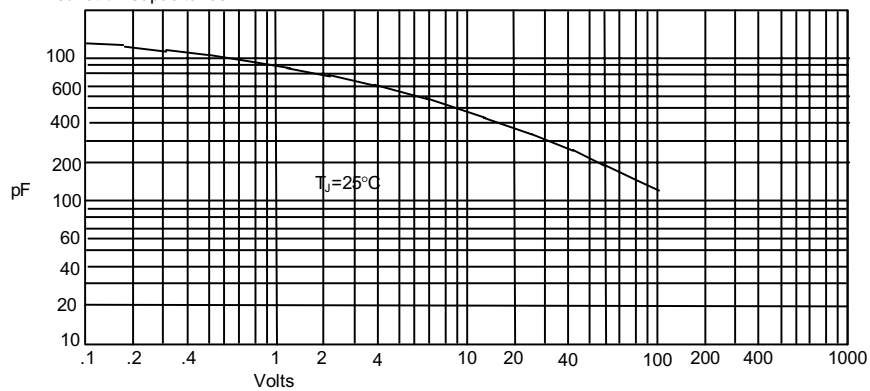
Instantaneous Forward Current - Amperes versus Instantaneous Forward Voltage - Volts

Figure 2
Forward Derating Curve



Average Forward Rectified Current - Amperes versus Lead Temperature - C

Figure 3
Junction Capacitance

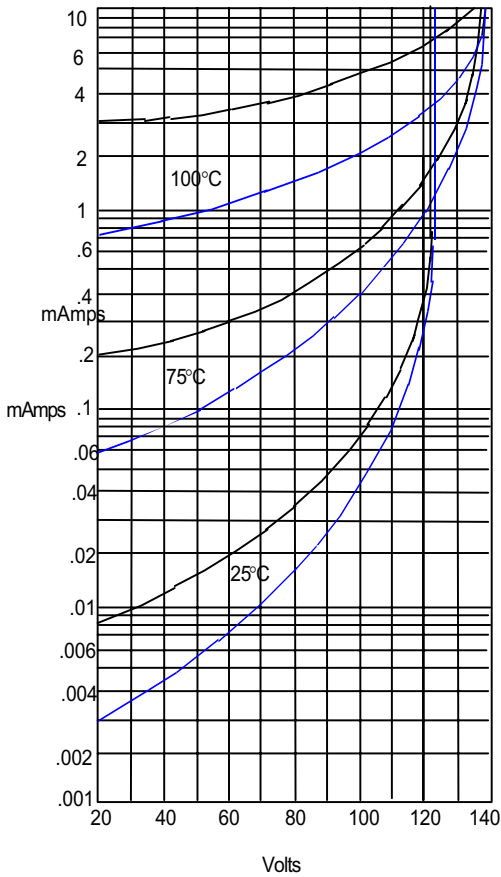


Junction Capacitance - pF versus Reverse Voltage - Volts

The curve above is for reference only.

Typical Characteristics

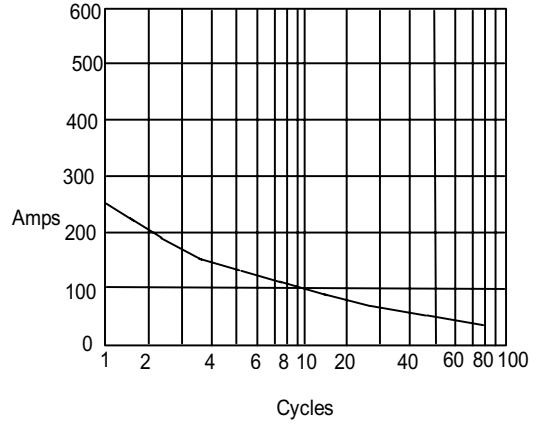
Figure 4
Typical Reverse Characteristics



Instantaneous Reverse Leakage Current - MicroAmperes versus Percent Of Rated Peak Reverse Voltage - Volts

SK102-SK1045 ———
SK105-SK1010 ———

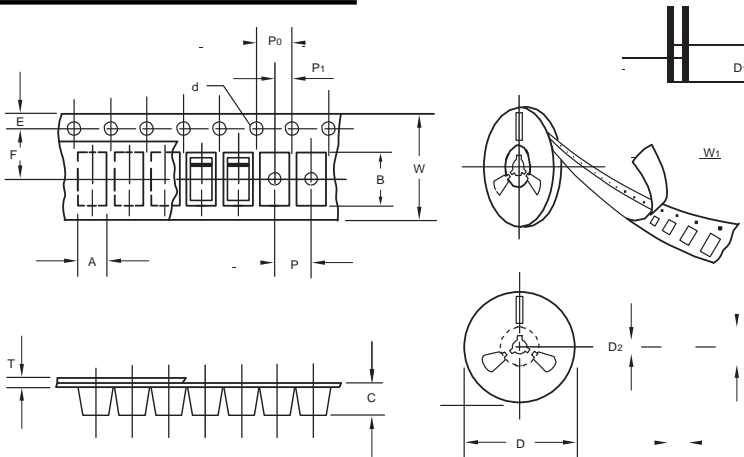
Figure 5
Peak Forward Surge Current



Peak Forward Surge Current - Amperes versus Number Of Cycles At 60Hz - Cycles

The curve above is for reference only.

Packing information



unit:mm

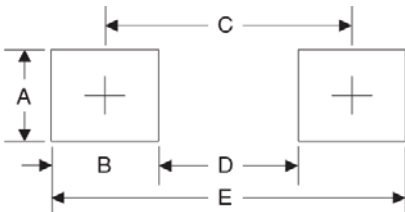
Item	Symbol	Tolerance	SMA
Carrier width	A	0.1	2.80
Carrier length	B	0.1	5.33
Carrier depth	C	0.1	2.36
Sprocket hole	d	0.05	1.50
13" Reel outside diameter	D	2.0	330.00
13" Reel inner diameter	D1	min	50.00
7" Reel outside diameter	D	2.0	178.00
7" Reel inner diameter	D1	min	62.00
Feed hole diameter	D2	0.5	13.00
Sprocket hole position	E	0.1	1.75
Punch hole position	F	0.1	5.50
Punch hole pitch	P	0.1	4.00
Sprocket hole pitch	P0	0.1	4.00
Embossment center	P1	0.1	2.00
Overall tape thickness	T	0.1	0.28
Tape width	W	0.3	12.00
Reel width	W1	1.0	18.00

Note: Devices are packed in accordance with EIA standard RS-481-A and specifications listed above.

Reel packing

PACKAGE	REEL SIZE	REEL (pcs)	COMPONENT SPACING (mm)	BOX (pcs)	INNER BOX (mm)	REEL DIA, (mm)	CARTON SIZE (mm)	CARTON (pcs)	APPROX. GROSS WEIGHT (kg)
SMB	13"	3,000	4.0	6,000	190*190*41	330	365*365*360	48,000	14.0

Suggested Pad Layout



Symbol	Unit (mm)	Unit (inch)
A	1.68	0.066
B	1.52	0.060
C	3.93	0.154
D	2.41	0.095
E	5.45	0.215