



# SK102 THRU SK1010

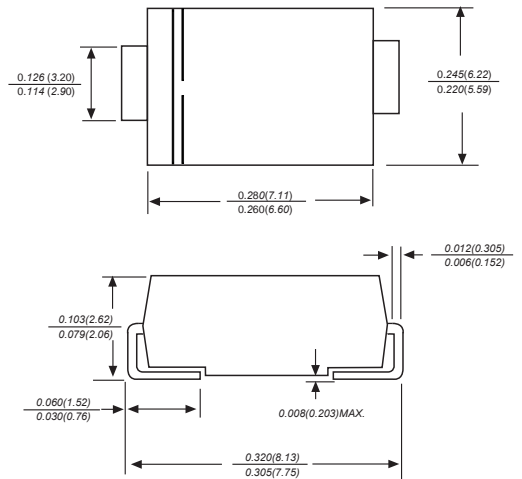
Reverse Voltage - 20 to 100 Volts Forward Current - 10.0 Ampere

## 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

DO-214AB/SMC **RoHS COMPLIANT**



Dimensions in inches and (millimeters)

### Mechanical Data

Case: JEDEC DO-214AB/SMC molded plastic body  
 Terminals: Solderable per MIL-STD-750, Method 2026  
 Polarity: Color band denotes cathode end Mounting  
 Position: Any  
 Weight: 0.007 ounce, 0.25 grams

### 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 SK102	MDD SK103	MDD SK1035	MDD SK104	MDD SK1045	MDD SK106	MDD SK108	MDD SK1010	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	$V_F$	0.65						0.85		V
Maximum DC reverse current $T_A=25^\circ\text{C}$ at rated DC blocking voltage $T_A=125^\circ\text{C}$	$I_R$	1.0								mA
		20								
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

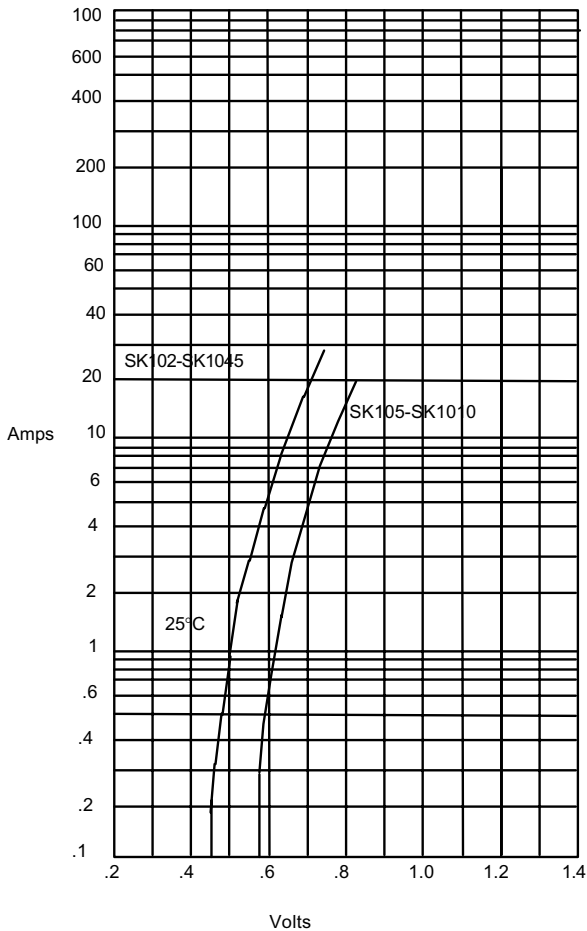


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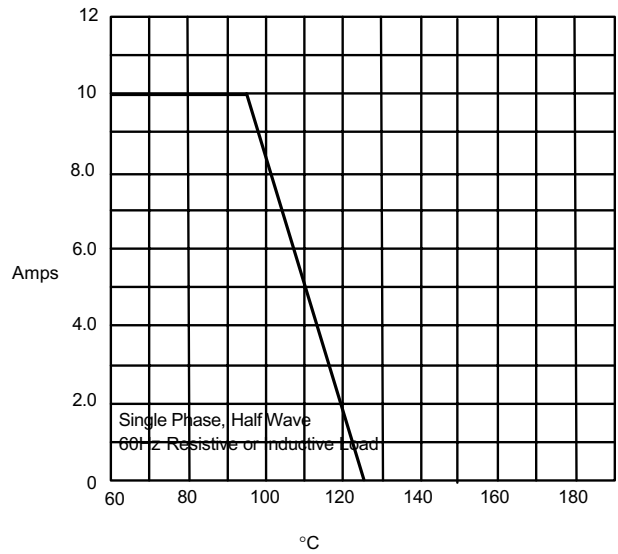
## Typical Characteristics

Figure 1  
Typical Forward Characteristics



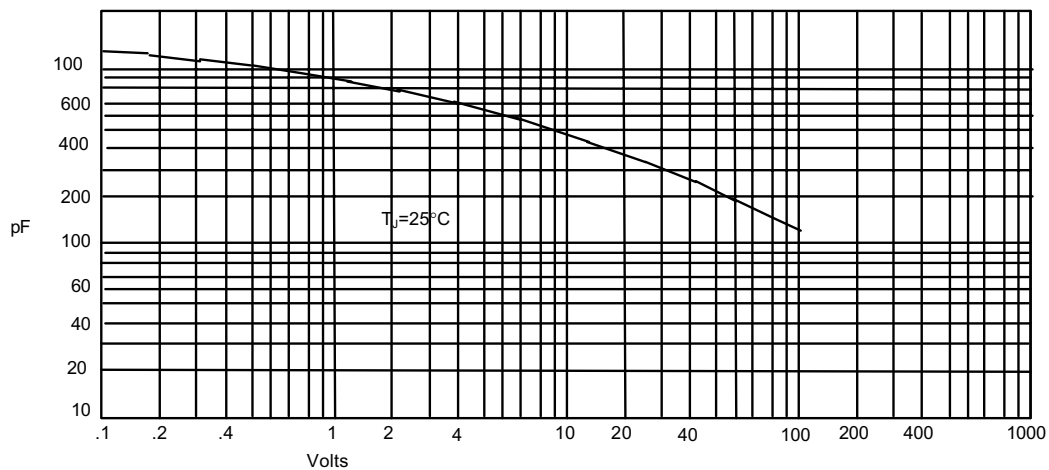
Instantaneous Forward Current - Amperes versus  
Instantaneous Forward Voltage - Volts

Figure 2  
Forward Derating Curve



Average Forward Rectified Current - Amperes versus  
Lead Temperature - C

Figure 3  
Junction Capacitance



Junction Capacitance - pF versus

The curve above is for reference only.

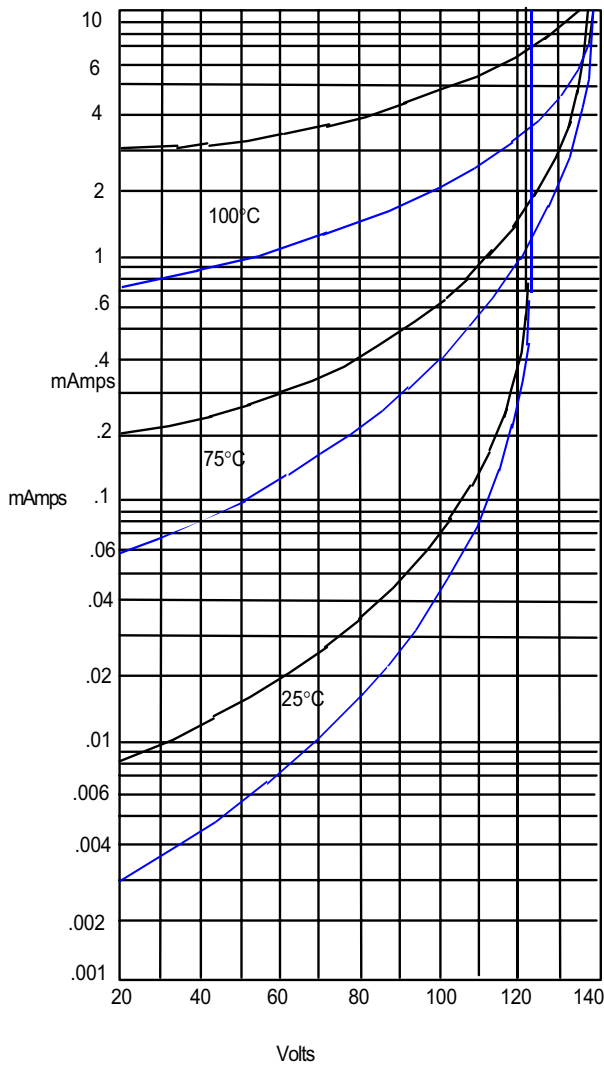


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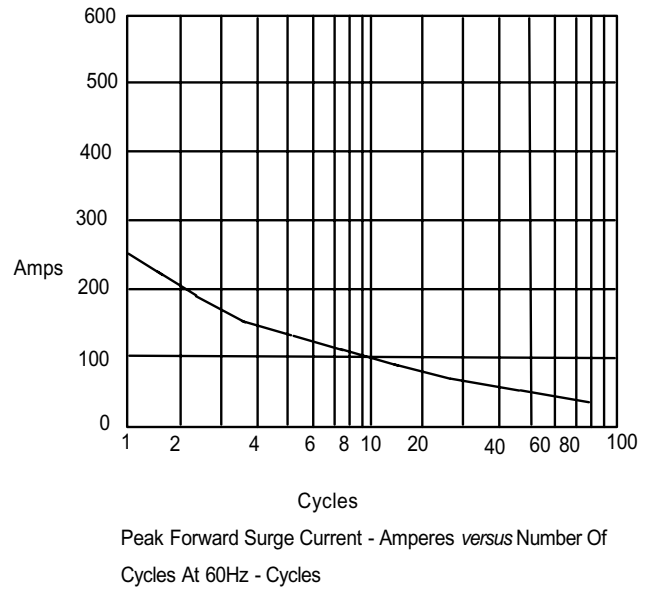
## Typical Characteristics

Figure 4  
Typical Reverse Characteristics



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

Figure 5  
Peak Forward Surge Current



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

SK102-SK1045 ———  
SK105-SK1010 ———

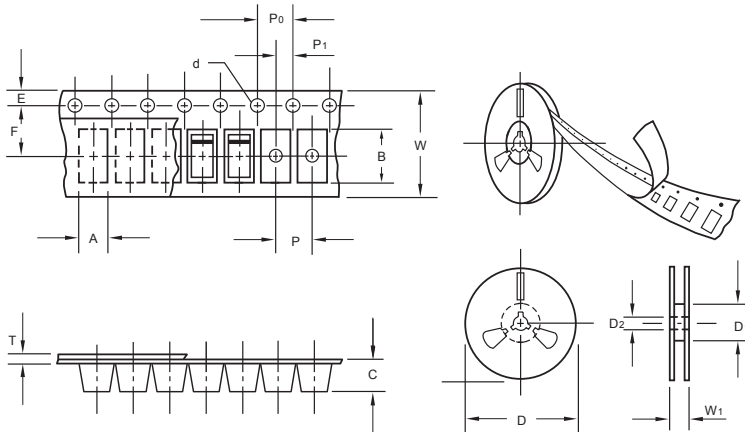
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## Packing information



unit:mm

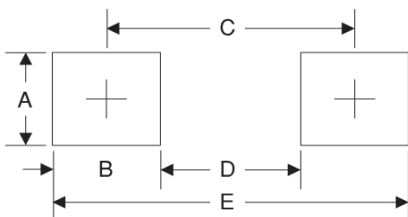
Item	Symbol	Tolerance	SMC
Carrier width	A	0.1	6.15
Carrier length	B	0.1	8.41
Carrier depth	C	0.1	2.42
Sprocket hole	d	0.05	1.50
13" Reel outside diameter	D	2.0	330.00
13" Reel inner diameter	D <sub>1</sub>	min	50.00
Feed hole diameter	D <sub>2</sub>	0.5	13.00
Sprocket hole position	E	0.1	1.75
Punch hole position	F	0.1	7.50
Punch hole pitch	P	0.1	8.00
Sprocket hole pitch	P <sub>0</sub>	0.1	4.00
Embossment center	P <sub>1</sub>	0.1	2.00
Overall tape thickness	T	0.1	0.25
Tape width	W	0.3	16.00
Reel width	W <sub>1</sub>	1.0	16.50

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)
SMC	13"	3,000	4.0	6000	190*190*41	330	365*365*340	42000	14.0

## Suggested Pad Layout



Symbol	Unit (mm)	Unit (inch)
A	4.3	0.170
B	4.1	0.160
C	7.9	0.311
D	3.8	0.150
E	12	0.472

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