

## FEATURES

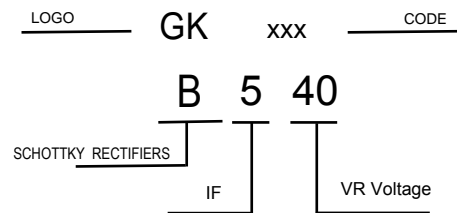
- \* Ideal for surface mount applications
- \* Easy pick and place
- \* Built-in strain relief
- \* Low forward voltage drop

## MECHANICAL DATA

- \* Case: Molded plastic
- \* Epoxy: UL 94V-0 rate flame retardant
- \* Metallurgically bonded construction
- \* Polarity: Color band denotes cathode end
- \* Mounting position: Any

## VOLTAGE RANGE

40 Volts  
**CURRENT**  
5.0 Ampere



## MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

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

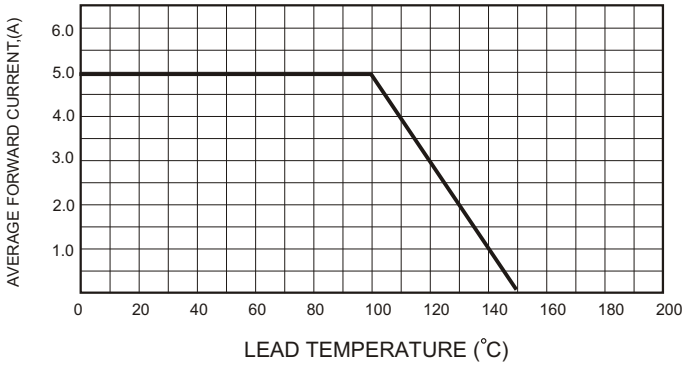
TYPE NUMBER	MBRS540T3G	UNITS
Maximum Recurrent Peak Reverse Voltage	40	V
Maximum RMS Voltage	28	V
Maximum DC Blocking Voltage	40	V
Maximum Average Forward Rectified Current	5.0	A
Peak Forward Surge Current, 8.3 ms single half sine-wave superimposed on rated load (JEDEC method)	190	A
Maximum Instantaneous Forward Voltage at 5.0A	0.5	V
Maximum DC Reverse Current Ta=25°C	0.1	mA
at Rated DC Blocking Voltage Ta=100°C	5	mA
Typical Junction Capacitance (Note1)	300	pF
Typical Thermal Resistance R <sub>JL</sub> (Note 2)	10	°C/W
Operating Temperature Range T <sub>J</sub>	-65 — +150	°C
Storage Temperature Range T <sub>STG</sub>	-65 — +150	°C

### NOTES:

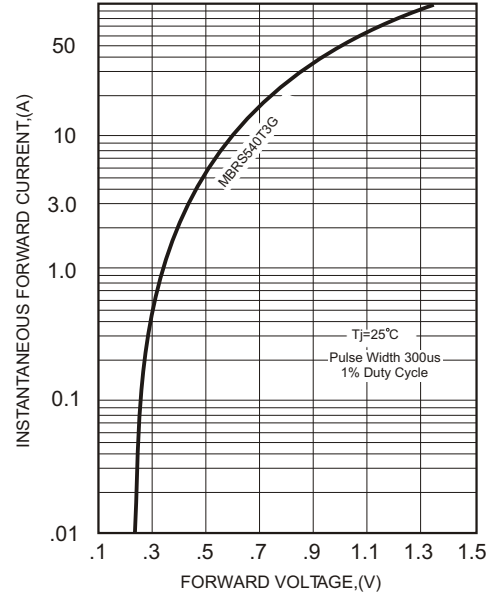
1. Measured at 1MHz and applied reverse voltage of 4.0V D.C.
2. Thermal Resistance Junction to Lead.

**RATING AND CHARACTERISTIC CURVES**

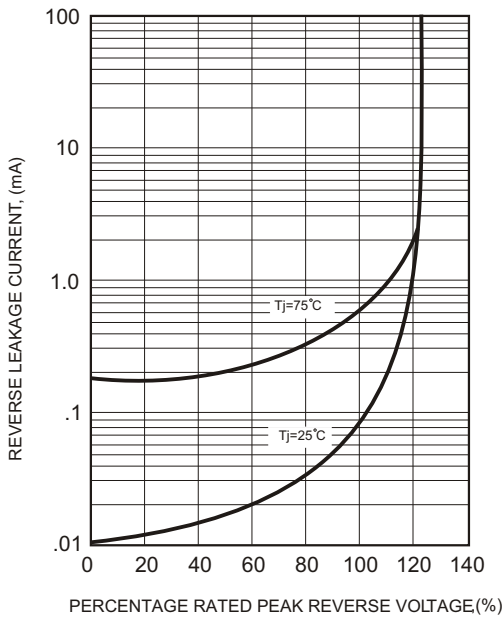
**FIG.1-TYPICAL FORWARD CURRENT DERATING CURVE**



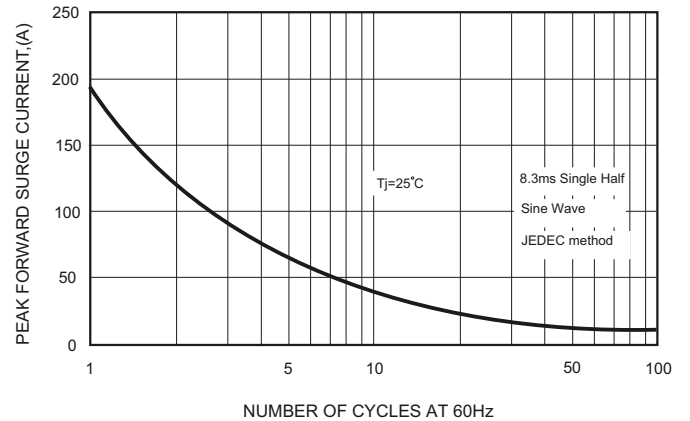
**FIG.2-TYPICAL FORWARD CHARACTERISTICS**



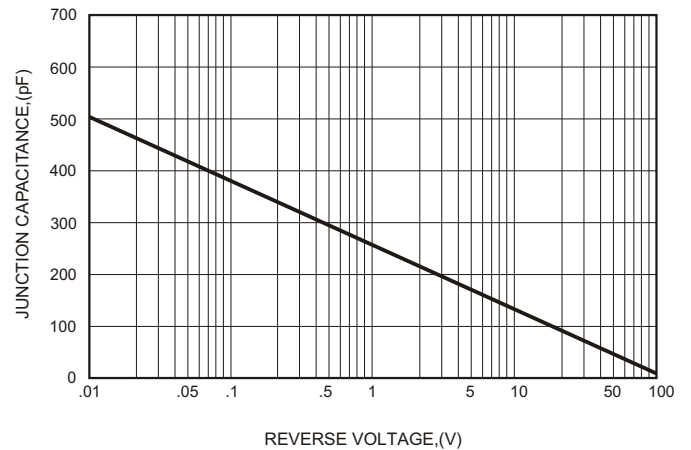
**FIG.3 - TYPICAL REVERSE CHARACTERISTICS**



**FIG.4-MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT**



**FIG.5-TYPICAL JUNCTION CAPACITANCE**

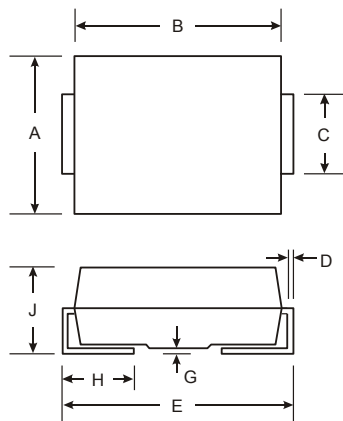


Soldering parameters

Reflow Condition		Pb-Free assembly (see as below)
Pre Heat	-Temperature Min ( $T_{s(min)}$ )	+150°C
	-Temperature Max( $T_{s(max)}$ )	+200°C
	-Time (Min to Max) (ts)	60-180 secs.
Average ramp up rate (Liquid us Temp ( $T_L$ ) to peak)		3°C/sec. Max
$T_{s(max)}$ to $T_L$ - Ramp-up Rate		3°C/sec. Max
Reflow	-Temperature( $T_L$ )(Liquid us)	+217°C
	-Temperature( $t_L$ )	60-150 secs.
Peak Temp ( $T_P$ )		+260(+0/-5)°C
Time within 5°C of actual Peak Temp ( $t_p$ )		30 secs. Max
Ramp-down Rate		6°C/sec. Max
Time 25°C to Peak Temp ( $T_P$ )		8 min. Max
Do not exceed		+260°C

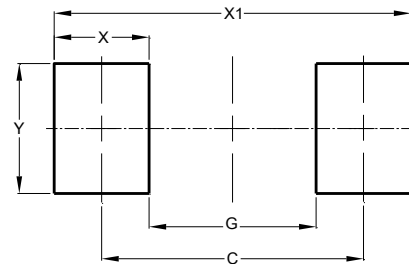


Package Dimensions & Suggested Pad Layout



SMC		
Dim	Min	Max
A	5.59	6.22
B	6.60	7.11
C	2.75	3.15
D	0.15	0.31
E	7.75	8.13
G		0.20
H	0.76	1.52
J	2.00	2.62
All Dimensions in mm		

SMC



Dimensions	Value (in mm)
C	7.60
G	4.10
X	3.50
X1	11.10
Y	4.50

**Tape & reel specification**

Tape		Symbol	Dimension (mm)		
<p>SECTION : A-A</p> <p>SECTION : B-B</p>		P0	4.00±0.20		
		P1	8.00±0.20		
		P2	2.00±0.20		
		D0	1.60±0.20		
		D1	1.60±0.20		
		E	1.75±0.20		
		F	7.50±0.20		
		W	16.00±0.20		
		A0	6.30±0.20		
		B0	8.20±0.20		
		K0	2.60±0.20		
		T	0.23±0.10		
		<p>13" Reel</p>		D2	330.0±5.0
				D3	73Min.
				D4	16.0±2.5
W1	20.0±2.0				
		Quantity: 3000PCS			