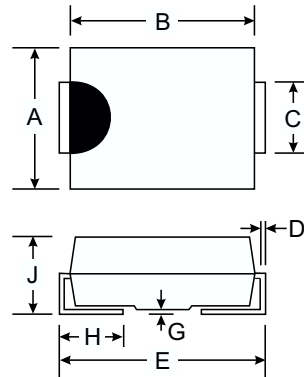


### Features

- Ultra-low Leakage Current
- Guard Ring Die Construction for Transient Protection
- Ideally Suited for Automatic Assembly
- Low Power Loss, High Efficiency
- Surge Overload Rating to 45A Peak
- Plastic Material: UL Flammability Classification Rating 94V-0



SMB		
Dim	Min	Max
A	3.30	3.94
B	4.06	4.57
C	1.96	2.21
D	0.15	0.31
E	5.00	5.59
G	0.10	0.20
H	0.76	1.52
J	2.00	2.62
All Dimensions in mm		

### Mechanical Data

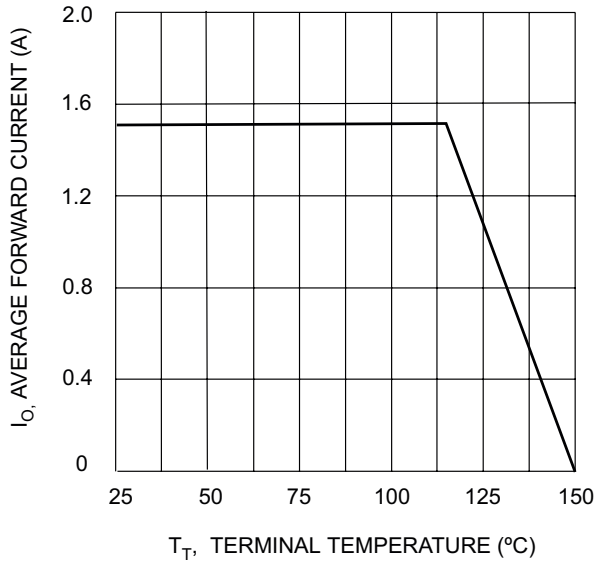
- Case: Molded Plastic
- Terminals: Solder Plated Terminal - Solderable per MIL-STD-202, Method 208
- Marking: Type Number
- Polarity: Cathode Band or Cathode Notch
- Weight: 0.093 grams (approx.)
- Mounting Position: Any

### Maximum Ratings and Electrical Characteristics @ $T_A = 25^\circ\text{C}$ unless otherwise specified

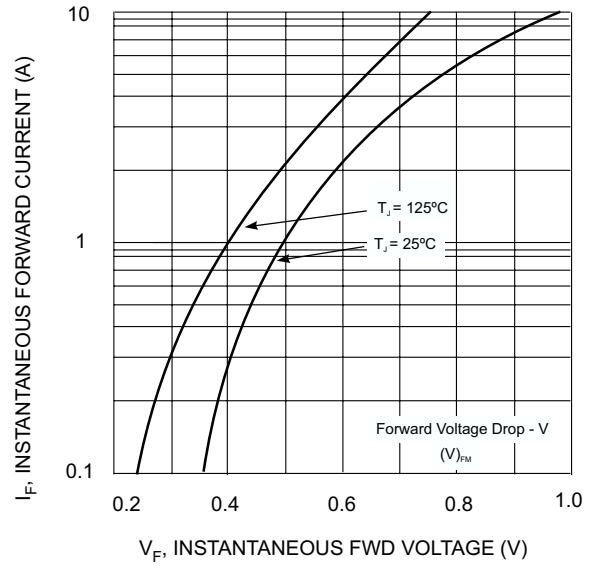
Single phase, half wave, 60Hz, resistive or inductive load.  
For capacitive load, derate current by 20%.

Characteristic	Symbol	B140HB	Unit
Peak Repetitive Reverse Voltage	$V_{RRM}$	40	V
Working Peak Reverse Voltage	$V_{RWM}$		
DC Blocking Voltage @ $I_R = 0.1\text{mA}$	$V_R$		
RMS Reverse Voltage	$V_{R(RMS)}$	28	V
Average Rectified Output Current @ $T_J = 115^\circ\text{C}$	$I_O$	1.0	A
Non-Repetitive Peak Forward Surge Current 8.3ms Single half sine-wave superimposed on rated load	$I_{FSM}$	45	A
Non-Repetitive Peak Forward Surge Current 5 $\mu\text{s}$ Single half sine-wave	$I_{FSM}$	430	A
Forward Voltage @ $I_F = 1.0\text{A}$ , @ $T_J = 25^\circ\text{C}$	$V_{FM}$	0.53	V
@ $I_F = 2.0\text{A}$ , @ $T_J = 25^\circ\text{C}$		0.70	
@ $I_F = 1.0\text{A}$ , @ $T_J = 125^\circ\text{C}$		0.49	
@ $I_F = 2.0\text{A}$ , @ $T_J = 125^\circ\text{C}$		0.64	
Peak Reverse Current @ $T_A = 25^\circ\text{C}$ at Rated DC Blocking Voltage @ $T_A = 125^\circ\text{C}$	$I_{RM}$	0.1 4.0	mA
Typical Junction Capacitance (Note 2)	$C_j$	80	pF
Max. Voltage Rate of Change @ Rated $V_R$	$dv/dt$	5300	V/ $\mu\text{s}$
Typical Thermal Resistance Junction to Terminal (Note 1)	$R_{\theta JT}$	36	K/W
Operating and Storage Temperature Range	$T_J, T_{STG}$	-55 to +150	$^\circ\text{C}$

- Notes: 1. Thermal Resistance: Junction to terminal, unit mounted on PC board with 5.0 mm<sup>2</sup> (0.013 mm thick) copper pads as heat sink.  
2. Measured at 1.0MHz and applied reverse voltage of 5.0V DC.



$T_T$ , TERMINAL TEMPERATURE (°C)  
Fig. 1 Forward Current Derating Curve



$V_F$ , INSTANTANEOUS FWD VOLTAGE (V)  
Fig. 2 Typ. Forward Characteristics

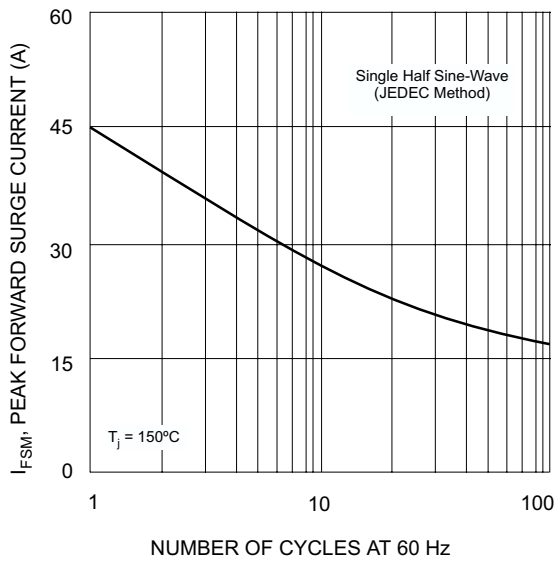
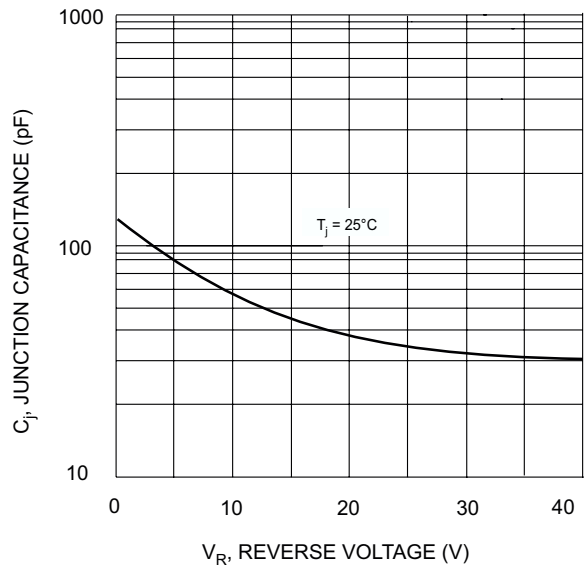
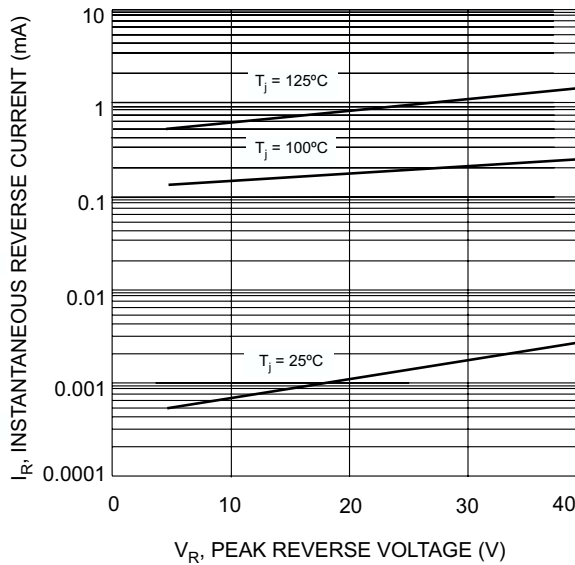


Fig. 3 Max Non-Repetitive Peak Fwd Surge Current



$V_R$ , REVERSE VOLTAGE (V)  
Fig. 4 Typical Junction Capacitance



$V_R$ , PEAK REVERSE VOLTAGE (V)  
Fig. 5 Typical Reverse Characteristics