Pb Free Plating Product

SBL1640CG

16.0 Ampere,45Volt PhotoVoltaic Common Cathode Schottky Barrier Rectifier Diodes

Features

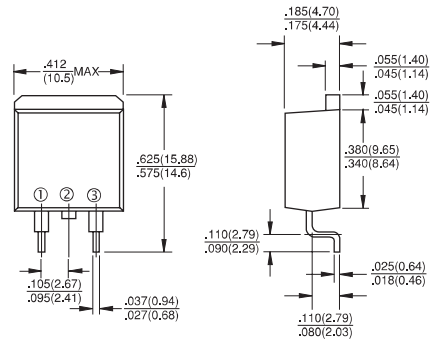
- ThinkiSemi Planar NMBR Technology
- Guardring for overvoltage protection
- Ideally Suited for Automatic Assembly
- Low Forward Voltage
- High Surge Current Capability
- Low Leakage Current

Applications

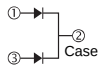
- Freewheeling, Snubber, Clamp
- Solar Junction Box Application
- PFC
- Plating Power Supply
- Ultrasonic Cleaner and Welder
- Converter & Chopper
- UPS/LED SMPS/HID

D2PAK/TO-263AB

Unit : inch (mm)



Internal Configuration



Positive
Common Cathode

Maximum Ratings (T_C = 25°C unless otherwise noted)

Parameter	Symbol	SBL1640CG	Unit
Maximum repetitive peak reverse voltage	V_{RRM}	45V(Typical>50V)	V
Working peak reverse voltage	V_{RWM}	32	V
Maximum DC blocking voltage	V_{DC}	45V(Typical>50V)	V
Maximum average forward rectified current *Total device* / *Per leg* at T_C = 95°C	$I_{F(AV)}$	16 / 8.0	A
Peak forward surge current 8.3ms single half sine-wave superimposed on rated load (JEDEC Method) per leg	I_{FSM}	250	A
Operating junction and storage temperature range	T_J, T_{STG}	–40 to +125	°C
RMS Isolation voltage (SBLF type only) from terminals to heatsink with t = 1.0 second, RH ≤ 30%	V_{ISOL}	4500 (NOTE 1) 3500 (NOTE 2) 1500 (NOTE 3)	V

Electrical Characteristics (T_C = 25°C unless otherwise noted)

Parameter	Symbol	Value	Unit
Maximum instantaneous forward voltage per leg at 10.0 A (Note 4)	V_F	0.49V	V
Maximum instantaneous reverse current at rated DC blocking voltage per leg (Note 4) T_C = 25°C / T_C = 100°C	I_R	0.5 / 50	mA

Thermal Characteristics (T_C = 25°C unless otherwise noted)

Parameter	Symbol	SBL1640CG	Unit
Typical thermal resistance from junction to case per leg	$R_{\Theta JC}$	1.50	°C/W

Notes:
(1) Clip mounting (on case), where lead does not overlap heatsink with 0.110" offset
(2) Clip mounting (on case), where leads do overlap heatsink
(3) Screw mounting with 4-40 screw, where washer diameter is ≤ 4.9 mm (0.19")
(4) Pulse test: 300μs pulse width, 1% duty cycle

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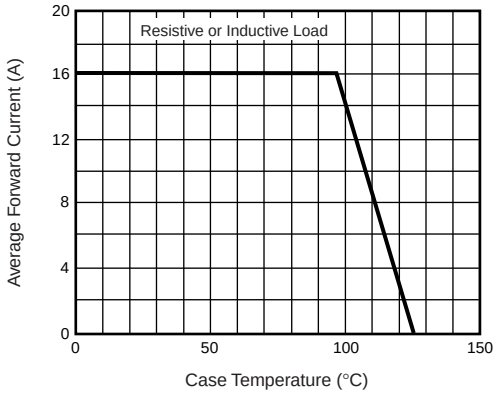
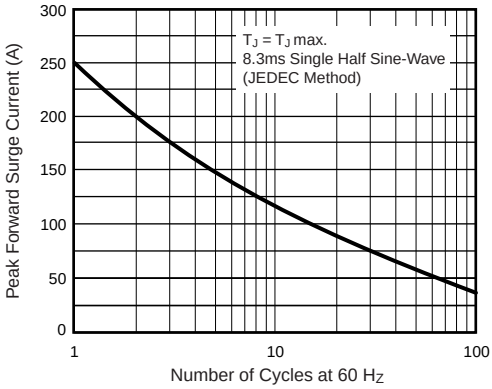
Ratings and Characteristic Curves (T_A = 25°C unless otherwise noted)

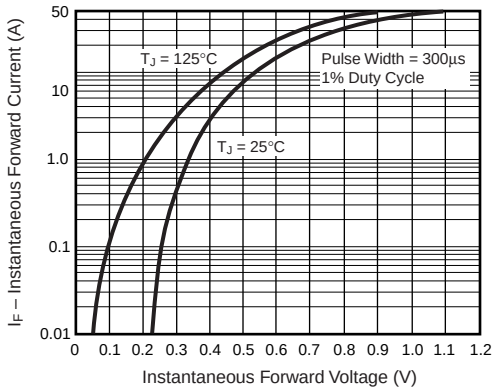
Forward Current Derating Curve



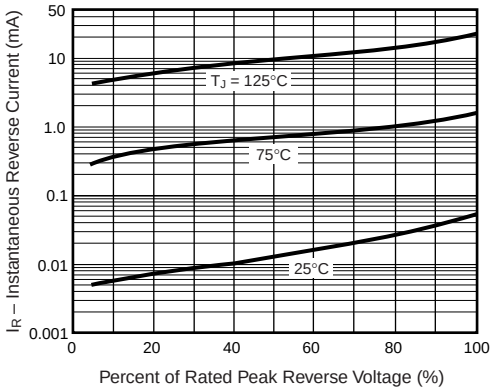
Maximum Non-Repetitive Peak Forward Surge Current Per Leg



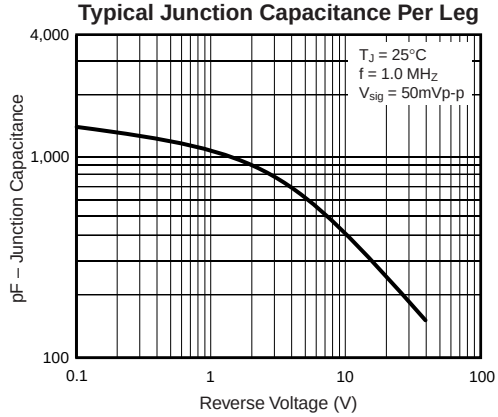
Typical Instantaneous Forward Characteristics Per Leg



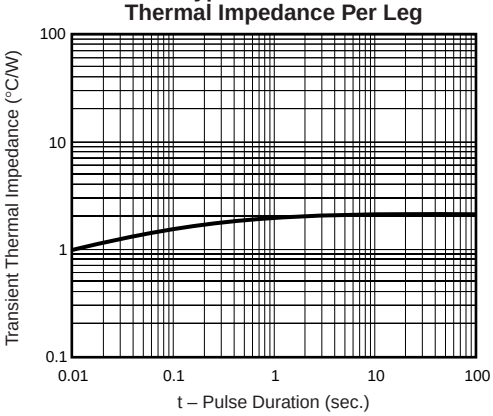
Typical Reverse Characteristics Per Leg



Typical Junction Capacitance Per Leg



Typical Transient Thermal Impedance Per Leg



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