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[SBLB2030CT-E3/81](#)

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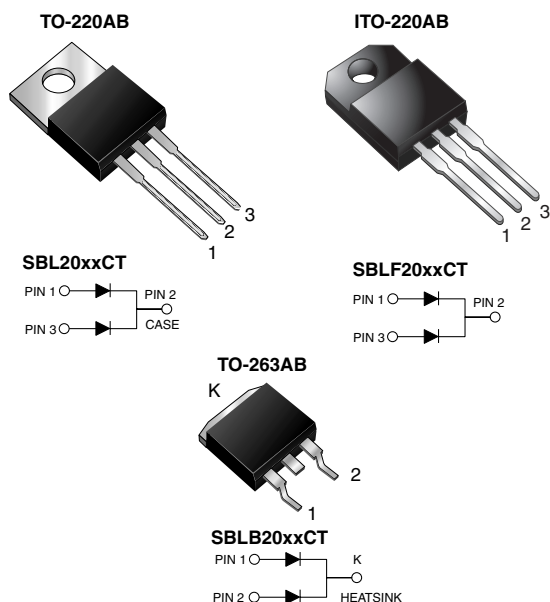
sales@integrated-circuit.com



SBL(F,B)2030CT & SBL(F,B)2040CT

Vishay General Semiconductor

Dual Common-Cathode Schottky Rectifier



FEATURES

- Guardring for overvoltage protection
- Lower power losses, high efficiency
- Low forward voltage drop
- High forward surge capability
- High frequency operation
- Meets MSL level 1, per J-STD-020, LF maximum peak of 245 °C (for TO-263AB package)
- Solder dip 260 °C, 40 s (for TO-220AB and ITO-220AB package)
- Component in accordance to RoHS 2002/95/EC and WEEE 2002/96/EC



RoHS
COMPLIANT

TYPICAL APPLICATIONS

For use in low voltage, high frequency rectifier of switching mode power supplies, freewheeling diodes, dc-to-dc converters and polarity protection application.

MECHANICAL DATA

Case: TO-220AB, ITO-220AB, TO-263AB

Epoxy meets UL 94V-0 flammability rating

Terminals: Matte tin plated leads, solderable per J-STD-002 and JESD22-B102

E3 suffix for consumer grade, meets JESD 201 class 1A whisker test, HE3 suffix for high reliability grade (AEC Q101 qualified), meets JESD 201 class 2 whisker test

Polarity: As marked

Mounting Torque: 10 in-lbs maximum

PRIMARY CHARACTERISTICS	
$I_{F(AV)}$	10 A x 2
V_{RRM}	30 V, 40 V
I_{FSM}	250 A
V_F	0.60 V
$T_J \text{ max.}$	150 °C

MAXIMUM RATINGS ($T_C = 25\text{ °C}$ unless otherwise noted)				
PARAMETER	SYMBOL	SBL2030CT	SBL2040CT	UNIT
Maximum repetitive peak reverse voltage	V_{RRM}	30	40	V
Working peak reverse voltage	V_{RWM}	21	28	V
Maximum DC blocking voltage	V_{DC}	30	40	V
Maximum average forward rectified current at $T_C = 105\text{ °C}$ total device per diode	$I_{F(AV)}$	20 10		A
Peak forward surge current 8.3 ms single half sine-wave superimposed on rated load per diode	I_{FSM}	250		A
Peak repetitive reverse surge current per diode at $t_p = 2.0\text{ }\mu\text{s}$, 1 kHz	I_{RRM}	1.0		A
Operating junction and storage temperature range	T_J, T_{STG}	- 55 to + 150		°C
Isolation voltage (ITO-220AB only) from terminal to heatsink $t = 1\text{ min}$	V_{AC}	1500		V

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ELECTRICAL CHARACTERISTICS (T _C = 25 °C unless otherwise noted)					
PARAMETER	TEST CONDITIONS		SYMBOL	VALUE	UNIT
Maximum instantaneous forward voltage per diode ⁽¹⁾	10 A		V _F	0.6	V
Maximum instantaneous current at rated DC blocking voltage per diode ⁽¹⁾		T _C = 25 °C T _C = 100 °C	I _R	1.0 50	mA

Note:

(1) Pulse test: 300 μs pulse width, 1 % duty cycle

THERMAL CHARACTERISTICS (T _C = 25 °C unless otherwise noted)					
PARAMETER	SYMBOL	SBL	SBLF	SBLB	UNIT
Typical thermal resistance from junction to case per diode	R _{θJC}	2.0	4.0	2.0	°C/W

ORDERING INFORMATION (Example)					
PACKAGE	PREFERRED P/N	UNIT WEIGHT (g)	PACKAGE CODE	BASE QUANTITY	DELIVERY MODE
TO-220AB	SBL2030CT-E3/45	1.85	45	50/tube	Tube
ITO-220AB	SBLF2030CT-E3/45	1.99	45	50/tube	Tube
TO-263AB	SBLB2030CT-E3/45	1.35	45	50/tube	Tube
TO-263AB	SBLB2030CT-E3/81	1.33	81	800/reel	Tape and reel
TO-220AB	SBL2030CTHE3/45 ⁽¹⁾	1.85	45	50/tube	Tube
ITO-220AB	SBLF2030CTHE3/45 ⁽¹⁾	1.99	45	50/tube	Tube
TO-263AB	SBLB2030CTHE3/45 ⁽¹⁾	1.35	45	50/tube	Tube
TO-263AB	SBLB2030CTHE3/81 ⁽¹⁾	1.33	81	800/reel	Tape and reel

Note:

(1) Automotive grade AEC Q101 qualified

RATINGS AND CHARACTERISTICS CURVES

(T_A = 25 °C unless otherwise noted)

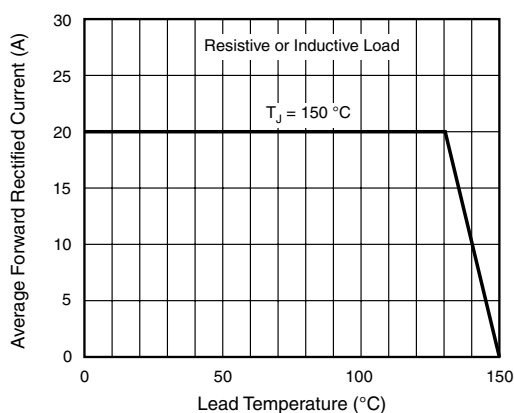


Figure 1. Forward Current Derating Curve

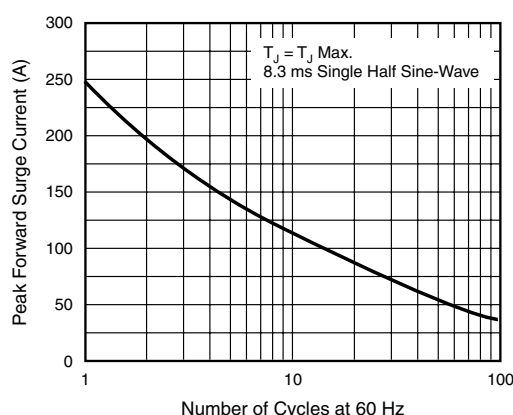


Figure 2. Maximum Non-Repetitive Peak Forward Surge Current Per Diode



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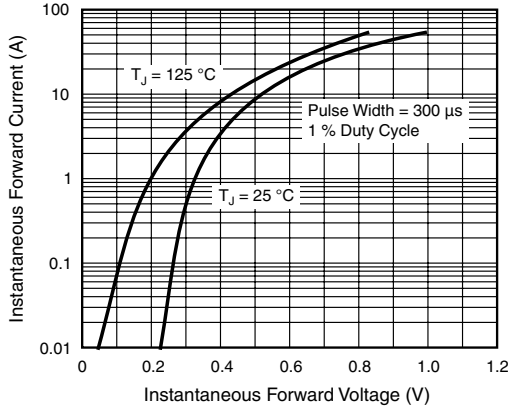


Figure 3. Typical Instantaneous Forward Characteristics Per Diode

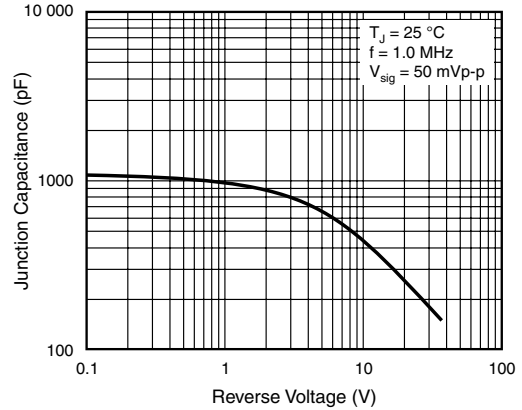


Figure 5. Typical Junction Capacitance Per Diode

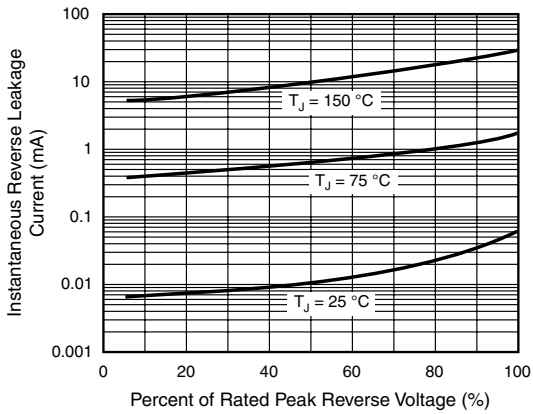


Figure 4. Typical Reverse Characteristics Per Diode

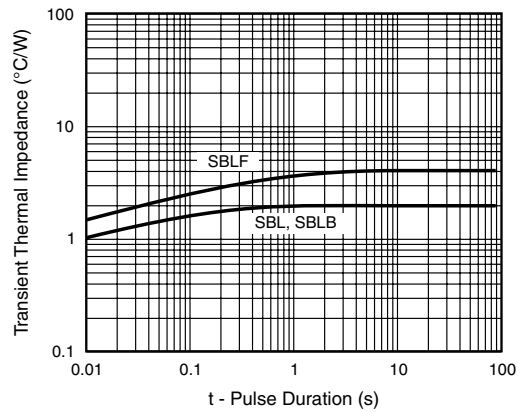


Figure 6. Typical Transient Thermal Impedance Per Diode

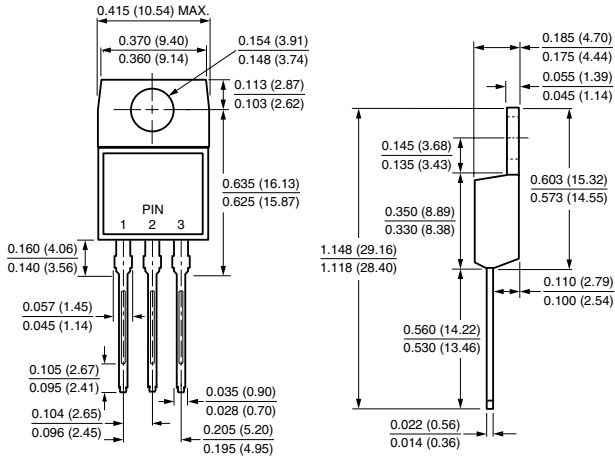
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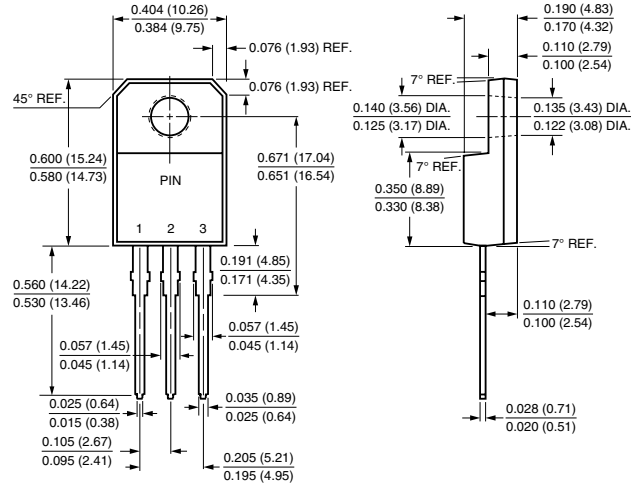


PACKAGE OUTLINE DIMENSIONS in inches (millimeters)

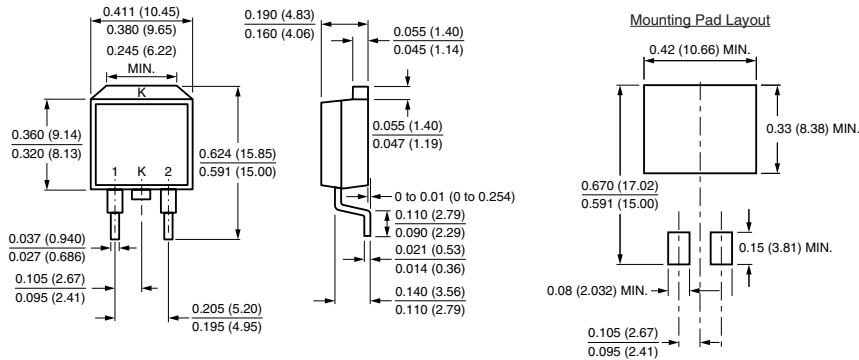
TO-220AB



ITO-220AB



TO-263AB





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