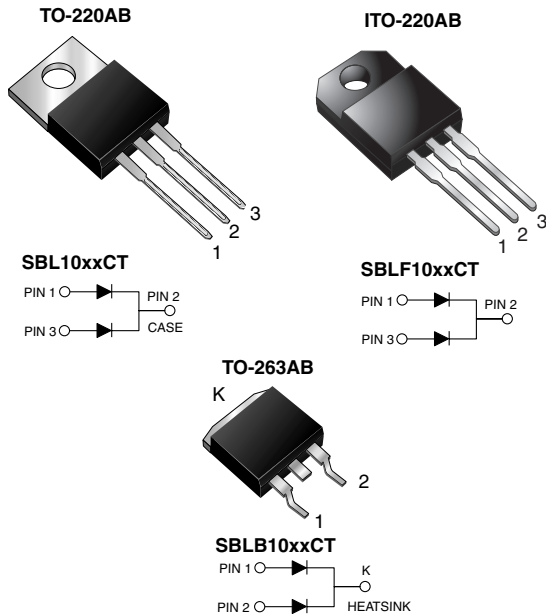


## Dual Common-Cathode Schottky Rectifier



### 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	
$I_{F(AV)}$	5 A x 2
$V_{RRM}$	30 V, 40 V
$I_{FSM}$	175 A
$V_F$	0.55 V
$T_J$ max.	125 °C

MAXIMUM RATINGS ( $T_C = 25\text{ °C}$ unless otherwise noted)				
PARAMETER	SYMBOL	SBL1030CT	SBL1040CT	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 $T_C = 107\text{ °C}$ total device per diode	$I_{F(AV)}$	10 5.0		A
Peak forward surge current 8.3 ms single half sine-wave superimposed on rated load per diode	$I_{FSM}$	175		A
Operating junction and storage temperature range	$T_J, T_{STG}$	- 40 to + 125		°C
Isolation voltage (ITO-220AB only) from terminal to heatsink $t = 1$ min	$V_{AC}$	1500		V

# SBL(F,B)1030CT & SBL(F,B)1040CT

Vishay General Semiconductor



<b>ELECTRICAL CHARACTERISTICS</b> ( $T_C = 25\text{ }^\circ\text{C}$ unless otherwise noted)					
PARAMETER	TEST CONDITIONS		SYMBOL	VALUE	UNIT
Maximum instantaneous forward voltage per diode <sup>(1)</sup>	5.0 A		$V_F$	0.55	V
Maximum instantaneous reverse current per diode at rated DC blocking voltage <sup>(1)</sup>		$T_C = 25\text{ }^\circ\text{C}$ $T_C = 100\text{ }^\circ\text{C}$	$I_R$	0.5 50	mA

**Note:**

(1) Pulse test: 300  $\mu\text{s}$  pulse width, 1 % duty cycle

<b>THERMAL CHARACTERISTICS</b> ( $T_C = 25\text{ }^\circ\text{C}$ unless otherwise noted)					
PARAMETER	SYMBOL	SBL	SBLF	SBLB	UNIT
Typical thermal resistance per diode	$R_{\theta JC}$	3.0	5.0	3.0	$^\circ\text{C/W}$

<b>ORDERING INFORMATION</b> (Example)					
PACKAGE	PREFERRED P/N	UNIT WEIGHT (g)	PACKAGE CODE	BASE QUANTITY	DELIVERY MODE
TO-220AB	SBL1030CT-E3/45	1.85	45	50/tube	Tube
ITO-220AB	SBLF1030CT-E3/45	1.99	45	50/tube	Tube
TO-263AB	SBLB1030CT-E3/45	1.35	45	50/tube	Tube
TO-263AB	SBLB1030CT-E3/81	1.35	81	800/reel	Tape and reel
TO-220AB	SBL1030CTHE3/45 <sup>(1)</sup>	1.85	45	50/tube	Tube
ITO-220AB	SBLF1030CTHE3/45 <sup>(1)</sup>	1.99	45	50/tube	Tube
TO-263AB	SBLB1030CTHE3/45 <sup>(1)</sup>	1.35	45	50/tube	Tube
TO-263AB	SBLB1030CTHE3/81 <sup>(1)</sup>	1.35	81	800/reel	Tape and reel

**Note:**

(1) Automotive grade AEC Q101 qualified

## RATINGS AND CHARACTERISTICS CURVES

( $T_A = 25\text{ }^\circ\text{C}$  unless otherwise noted)

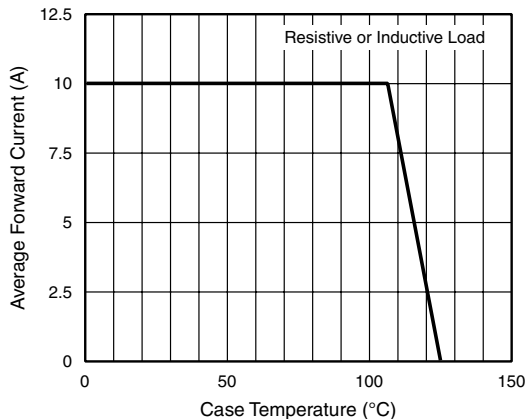


Figure 1. Forward Current Derating Curve

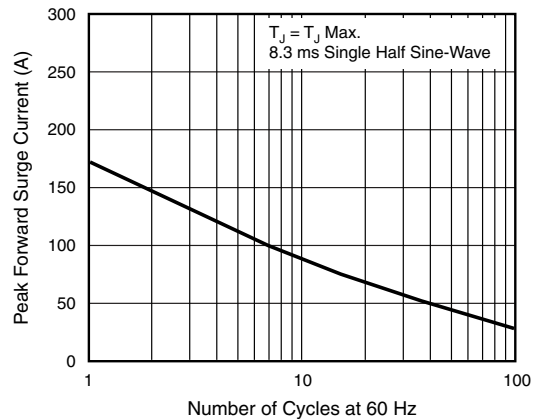


Figure 2. Maximum Non-Repetitive Peak Forward Surge Current Per Diode

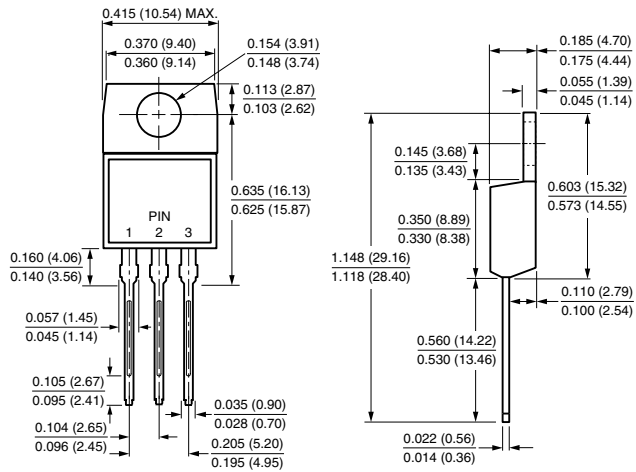
# SBL(F,B)1030CT & SBL(F,B)1040CT

Vishay General Semiconductor

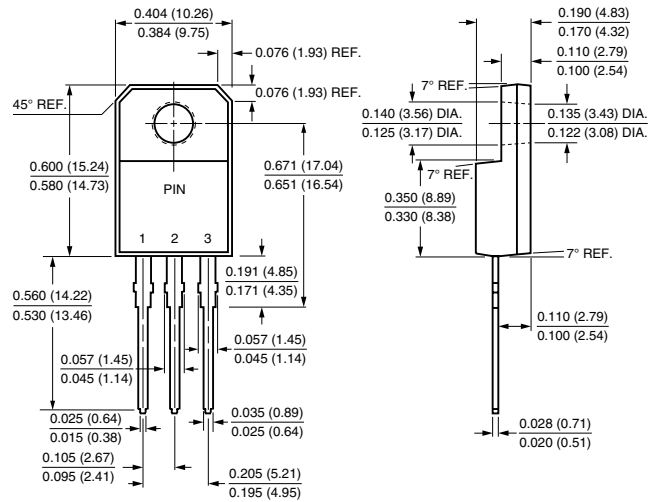


## PACKAGE OUTLINE DIMENSIONS in inches (millimeters)

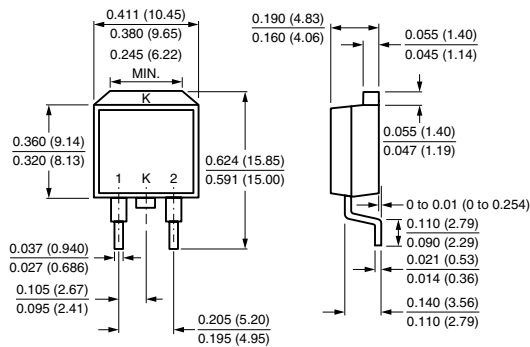
**TO-220AB**



**ITO-220AB**



**TO-263AB**



**Mounting Pad Layout**

