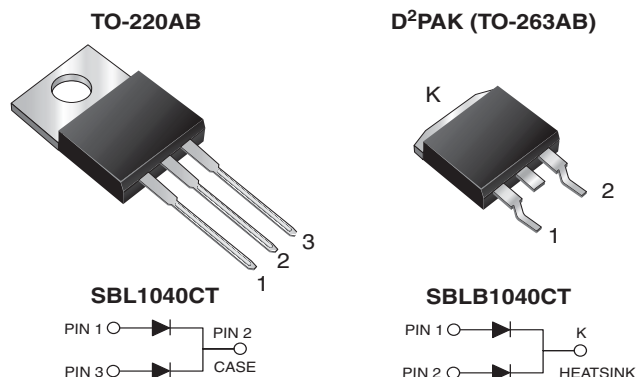


## Dual Common Cathode Schottky Rectifier



### DESIGN SUPPORT TOOLS


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PRIMARY CHARACTERISTICS	
$I_{F(AV)}$	2 x 5 A
$V_{RRM}$	40 V
$I_{FSM}$	175 A
$V_F$	0.55 V
$T_J$ max.	125 °C
Package	TO-220AB, D²PAK (TO-263AB)
Circuit configuration	Common cathode

### FEATURES

- Power pack
- Guardring for overvoltage protection
- Low power loss, 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 D²PAK (TO-263AB) package)
- Solder bath temperature 275 °C maximum, 10 s, per JESD 22-B106 (for TO-220AB package)
- AEC-Q101 qualified
- Material categorization: for definitions of compliance please see [www.vishay.com/doc?99912](http://www.vishay.com/doc?99912)



### TYPICAL APPLICATIONS

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

### MECHANICAL DATA

**Case:** TO-220AB, D²PAK (TO-263AB)

Molding compound meets UL 94 V-0 flammability rating  
Base P/N-E3 - RoHS-compliant, commercial grade  
Base P/NHE3\_X - RoHS-compliant, AEC-Q101 qualified  
("X" denotes revision code, e.g. A, B, ...)

**Terminals:** matte tin plated leads, solderable per J-STD-002 and JESD 22-B102

E3 suffix meets JESD 201 class 1A whisker test, HE3 suffix meets JESD 201 class 2 whisker test

**Polarity:** as marked

**Mounting Torque:** 10 in-lbs maximum

MAXIMUM RATINGS ( $T_C = 25$ °C unless otherwise noted)			
PARAMETER	SYMBOL	SBL1040CT	UNIT
Maximum repetitive peak reverse voltage	$V_{RRM}$	40	V
Working peak reverse voltage	$V_{RWM}$	28	
Maximum DC blocking voltage	$V_{DC}$	40	
Maximum average forward rectified current at $T_C = 107$ °C	$I_{F(AV)}$	10	A
		5.0	
Peak forward surge current 8.3 ms single half sine-wave superimposed on rated load per diode	$I_{FSM}$	175	
Operating junction and storage temperature range	$T_J, T_{STG}$	-40 to +125	°C

**ELECTRICAL CHARACTERISTICS** ( $T_C = 25\text{ }^{\circ}\text{C}$  unless otherwise noted)

PARAMETER	SYMBOL	TEST CONDITIONS		VALUE	UNIT
Maximum instantaneous forward voltage per diode	$V_F^{(1)}$	5.0 A		0.55	V
Maximum instantaneous reverse current at DC blocking voltage per diode	$I_R^{(2)}$	Rated $V_R$	$T_C = 25\text{ }^{\circ}\text{C}$	0.5	mA
			$T_C = 100\text{ }^{\circ}\text{C}$	50	

**Notes**

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

(2) Pulse test: pulse width  $\leq 40\text{ ms}$

**THERMAL CHARACTERISTICS** ( $T_C = 25\text{ }^{\circ}\text{C}$  unless otherwise noted)

PARAMETER	SYMBOL	SBL	SBLB	UNIT
Typical thermal resistance per diode	$R_{\theta JC}$	3.0	3.0	$^{\circ}\text{C/W}$

**ORDERING INFORMATION** (Example)

PACKAGE	PREFERRED P/N	UNIT WEIGHT (g)	PACKAGE CODE	BASE QUANTITY	DELIVERY MODE
TO-220AB	SBL1040CT-E3/45	1.85	45	50/tube	Tube
TO-263AB	SBLB1040CT-E3/45	1.35	45	50/tube	Tube
TO-263AB	SBLB1040CT-E3/81	1.35	81	800/reel	Tape and reel
TO-263AB	SBLB1040CTHE3_B/P <sup>(1)</sup>	1.35	P	50/tube	Tube
TO-263AB	SBLB1040CTHE3_B/I <sup>(1)</sup>	1.35	I	800/reel	Tape and reel

**Note**

(1) AEC-Q101 qualified, available in D<sup>2</sup>PAK (TO-263AB) package only



**RATINGS AND CHARACTERISTICS CURVES** ( $T_C = 25^\circ\text{C}$  unless otherwise noted)

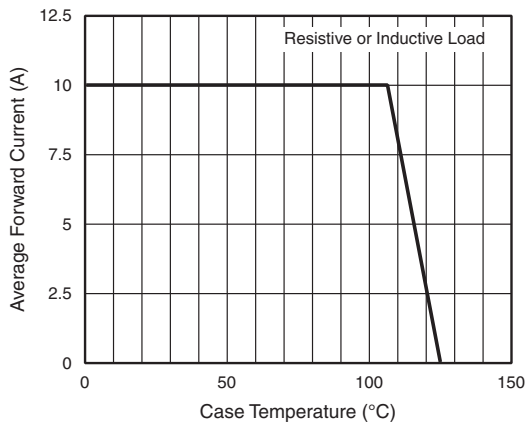


Fig. 1 - Forward Current Derating Curve

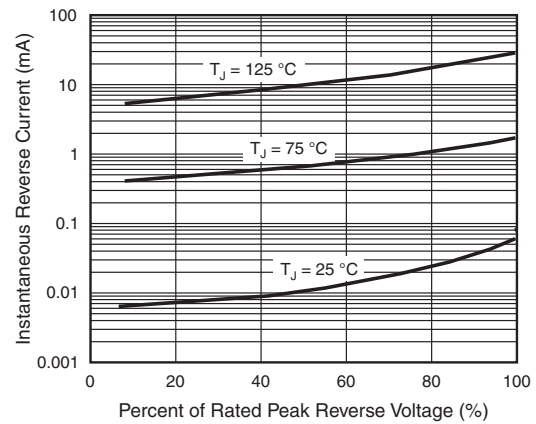


Fig. 4 - Typical Reverse Characteristics Per Diode

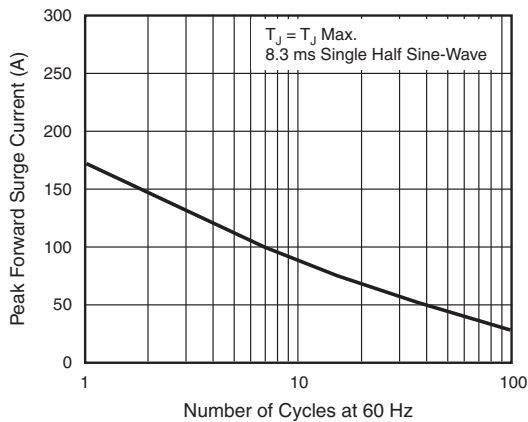


Fig. 2 - Maximum Non-Repetitive Peak Forward Surge Current Per Diode

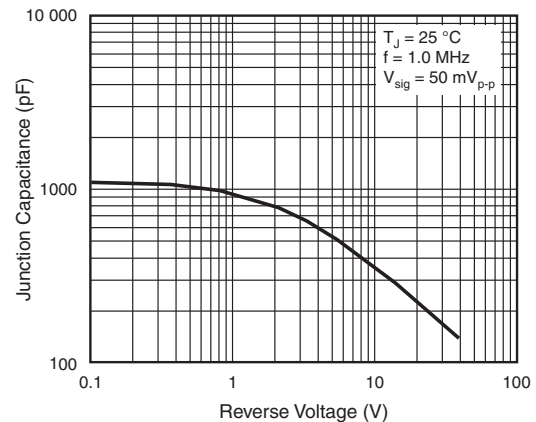


Fig. 5 - Typical Junction Capacitance Per Diode

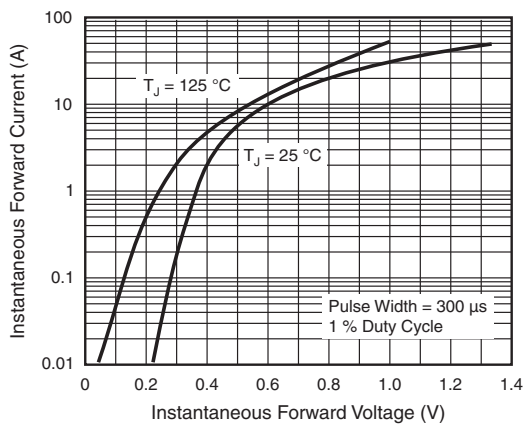


Fig. 3 - Typical Instantaneous Forward Characteristics Per Diode

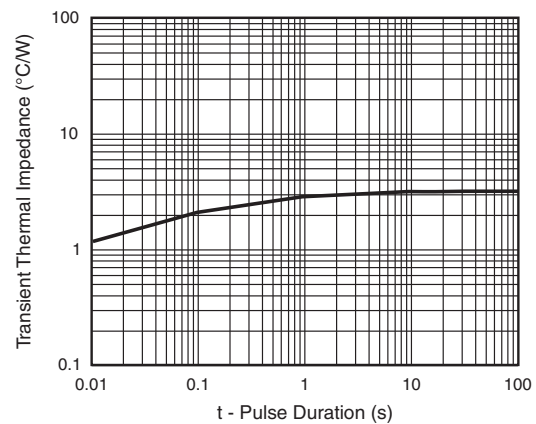
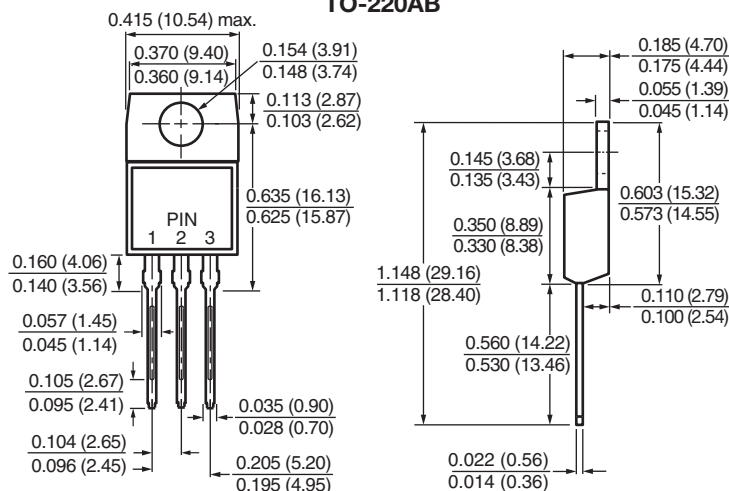


Fig. 6 - Typical Transient Thermal Impedance Per Diode

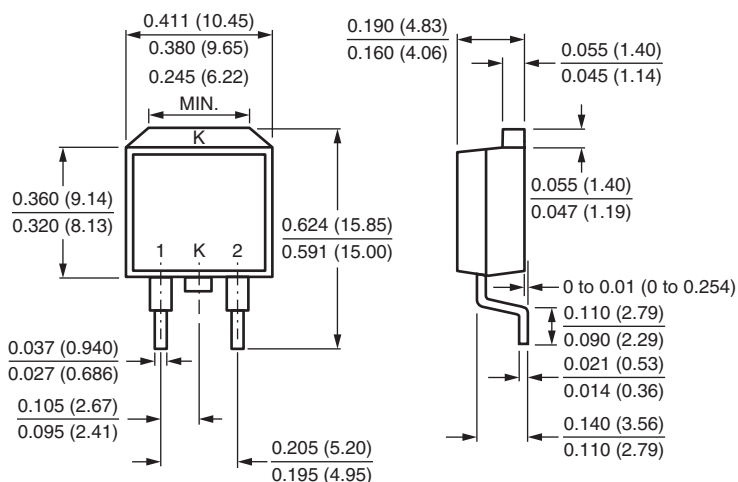


PACKAGE OUTLINE DIMENSIONS in inches (millimeters)

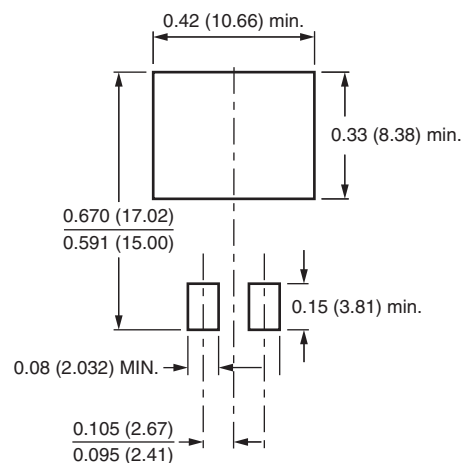
TO-220AB



D<sup>2</sup>PAK (TO-263AB)



Mounting Pad Layout





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