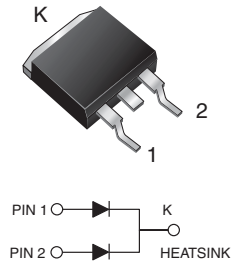




**THE DATASHEET OF  
SBLB1640CTHE3\_A/P**



## Dual Common Cathode Schottky Rectifier

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

**RoHS**  
COMPLIANT

**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
- AEC-Q101 qualified available
  - Automotive ordering code: base P/NHE3\_A
- Material categorization: for definitions of compliance please see [www.vishay.com/doc?99912](http://www.vishay.com/doc?99912)

**DESIGN SUPPORT TOOLS**
[click logo to get started](#)
**3D**  
Models  
Available

**TYPICAL APPLICATIONS**

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

PRIMARY CHARACTERISTICS	
$I_{F(AV)}$	2 x 8 A
$V_{RRM}$	40 V
$I_{FSM}$	250 A
$V_F$	0.55 V
$T_J$ max.	125 °C
Package	D <sup>2</sup> PAK (TO-263AB)
Circuit configuration	Common cathode

**MECHANICAL DATA**
**Case:** D<sup>2</sup>PAK (TO-263AB)

Molding compound meets UL 94 V-0 flammability rating  
 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

HE3 suffix meets JESD 201 class 2 whisker test

**Polarity:** as marked

MAXIMUM RATINGS ( $T_C = 25\text{ °C}$ unless otherwise noted)			
PARAMETER	SYMBOL	SBLB1640CT	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 $T_C = 95\text{ °C}$	total device	16	A
	per diode	8.0	
Peak forward surge current 8.3 ms single half sine-wave superimposed on rated load per diode	$I_{FSM}$	250	
Operating junction and storage temperature range	$T_J, T_{STG}$	-40 to +125	°C



<b>ELECTRICAL CHARACTERISTICS</b> ( $T_C = 25\text{ }^\circ\text{C}$ unless otherwise noted)					
PARAMETER	SYMBOL	TEST CONDITIONS		VALUE	UNIT
Maximum instantaneous forward voltage per diode	$V_F^{(1)}$	8.0 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  $\leq 40\text{ ms}$

<b>THERMAL CHARACTERISTICS</b> ( $T_C = 25\text{ }^\circ\text{C}$ unless otherwise noted)			
PARAMETER	SYMBOL	SBLB1640CT	UNIT
Typical thermal resistance from junction to case per diode	$R_{\theta JC}$	2.0	$^\circ\text{C/W}$

<b>ORDERING INFORMATION</b> (Example)					
PACKAGE	PREFERRED P/N	UNIT WEIGHT (g)	PACKAGE CODE	BASE QUANTITY	DELIVERY MODE
TO-263AB	SBLB1640CTHE3_B/P <sup>(1)</sup>	1.35	P	50/tube	Tube
TO-263AB	SBLB1640CTHE3_B/I <sup>(1)</sup>	1.35	I	800/reel	Tape and reel

**Note**

- (1) AEC-Q101 qualified

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

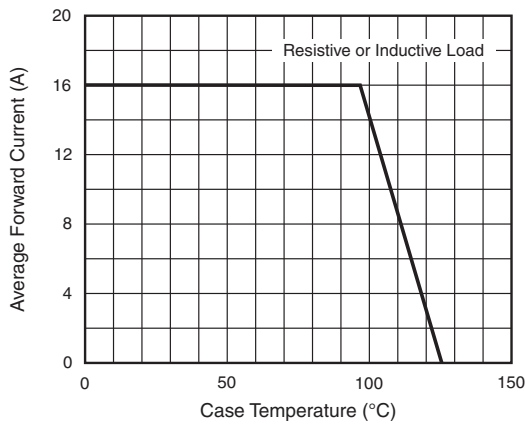


Fig. 1 - Forward Current Derating Curve

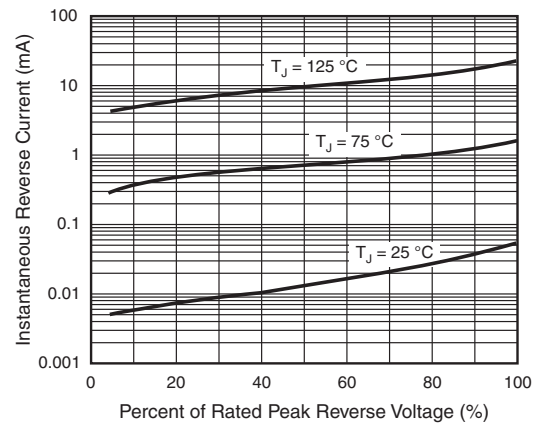


Fig. 4 - Typical Reverse Characteristics Per Diode

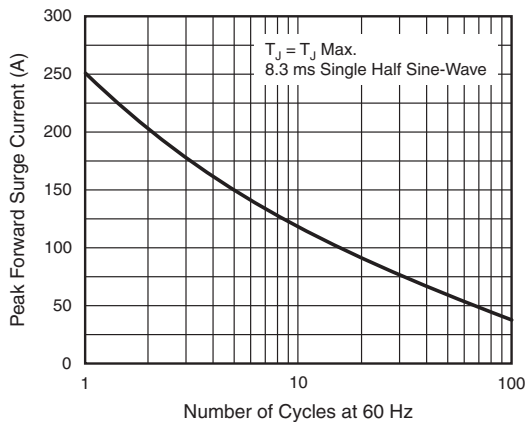


Fig. 2 - Maximum Non-Repetitive Peak Forward Surge Current Per Diode

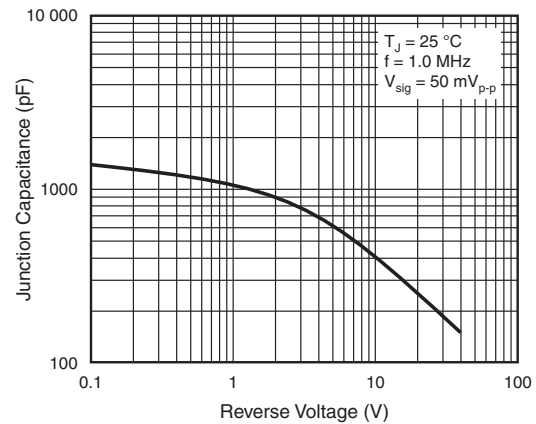


Fig. 5 - Typical Junction Capacitance Per Diode

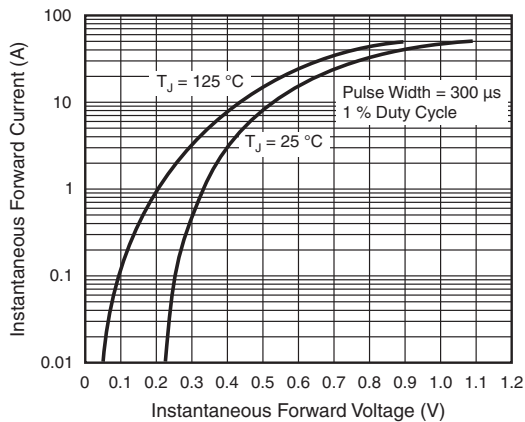


Fig. 3 - Typical Instantaneous Forward Characteristics Per Diode

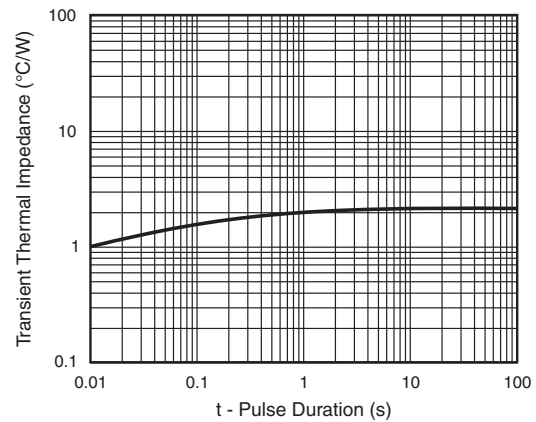
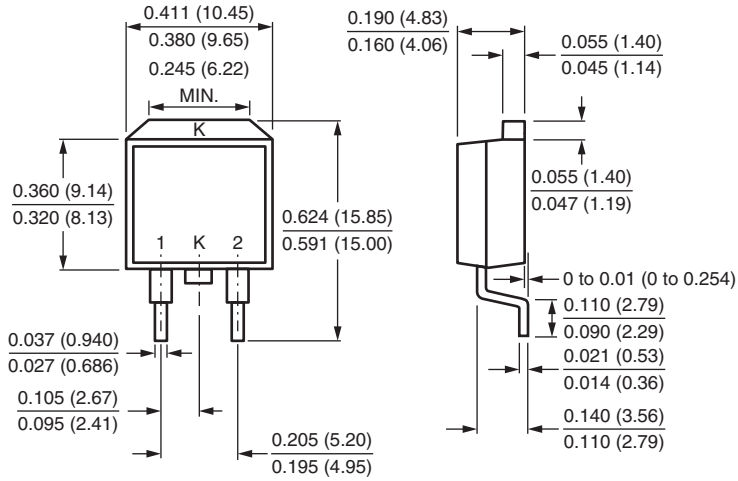


Fig. 6 - Typical Transient Thermal Impedance Per Diode

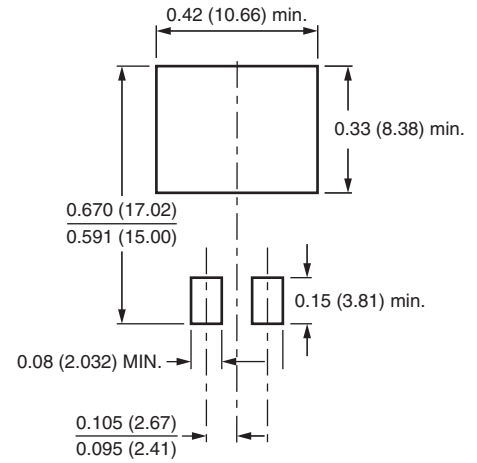


PACKAGE OUTLINE DIMENSIONS in inches (millimeters)

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



Mounting Pad Layout





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