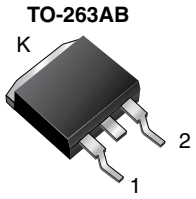
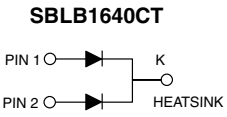
Dual Common Cathode Schottky Rectifier





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

RoHS COMPLIANT

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	TO-263AB
Diode variations	Common cathode

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-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

Mounting Torque: 10 in-lbs maximum

MAXIMUM RATINGS (T_C = 25 °C unless otherwise noted)

PARAMETER		SYMBOL	SBL1640CT	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 °C	total device	$I_{F(AV)}$	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
Isolation voltage (ITO-220AB only) from terminal to heatsink t = 1 min		V_{AC}	1500	V

ELECTRICAL CHARACTERISTICS (T_C = 25 °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 °C	0.5	mA
			T_C = 100 °C	50	

Notes

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

(2) Pulse test: pulse width ≤ 40 ms

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

ORDERING INFORMATION (Example)					
PACKAGE	**PREFERRED P/N**	**UNIT WEIGHT (g)**	**PACKAGE CODE**	**BASE QUANTITY**	**DELIVERY MODE**
TO-263AB	SBLB1640CTHE3_A/P (1)	1.35	P	50/tube	Tube
TO-263AB	SBLB1640CTHE3_A/I (1)	1.35	I	800/reel	Tape and reel

Note

(1) AEC-Q101 qualified

RATINGS AND CHARACTERISTICS CURVES (T_C = 25 °C unless otherwise noted)

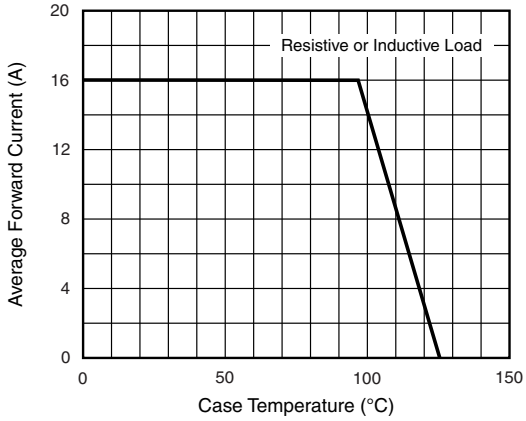


Fig. 1 - Forward Current Derating Curve

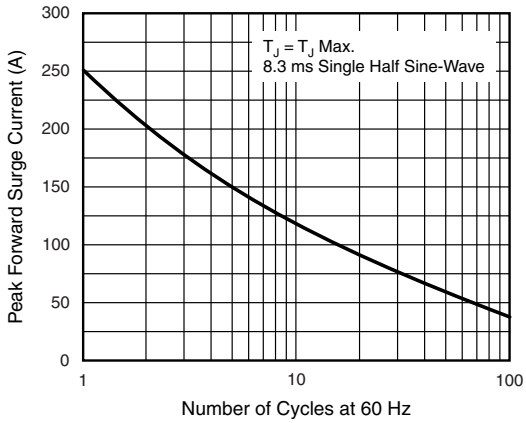


Fig. 2 - Maximum Non-Repetitive Peak Forward Surge Current Per Diode

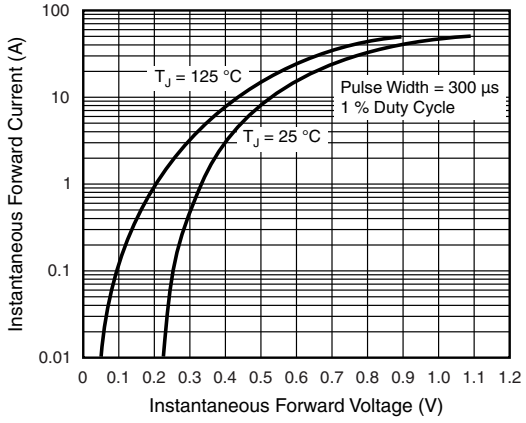


Fig. 3 - Typical Instantaneous Forward Characteristics Per Diode

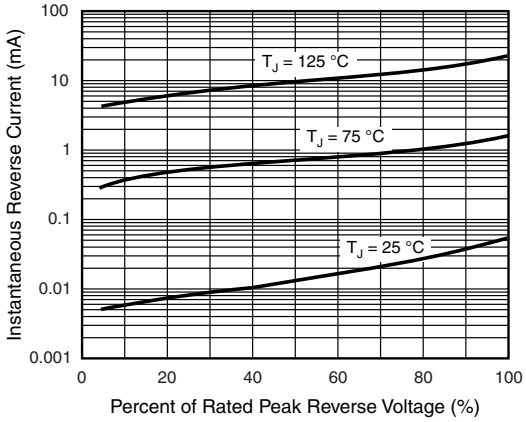


Fig. 4 - Typical Reverse Characteristics Per Diode

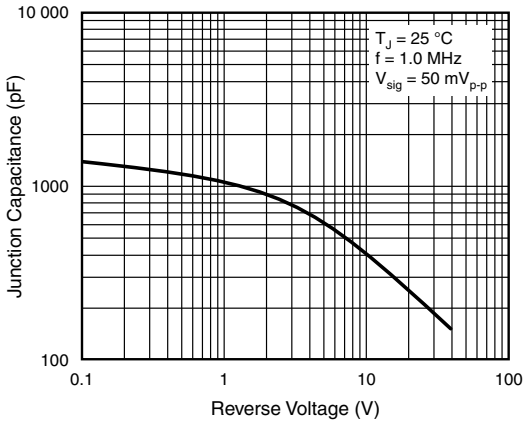


Fig. 5 - Typical Junction Capacitance Per Diode

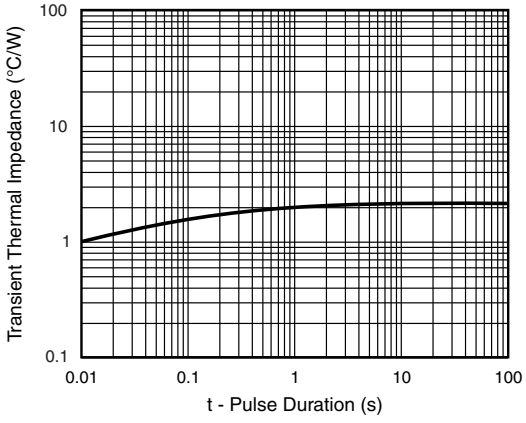
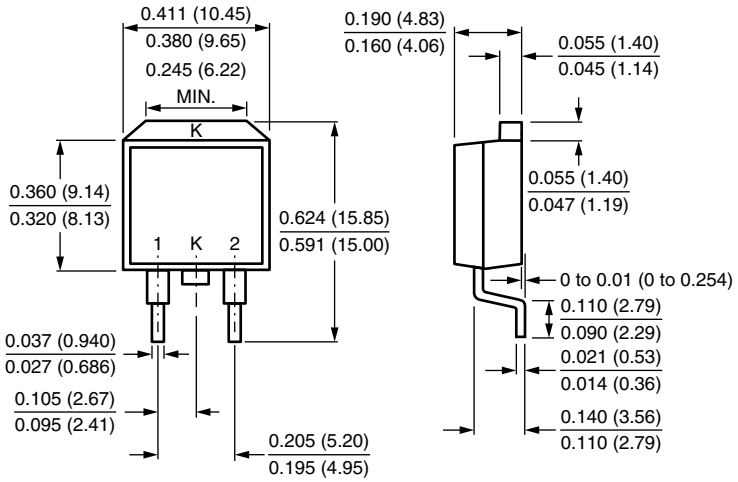


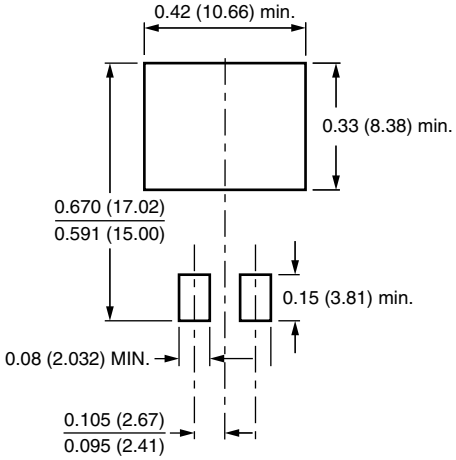
Fig. 6 - Typical Transient Thermal Impedance Per Diode

PACKAGE OUTLINE DIMENSIONS in inches (millimeters)

D^2PAK (TO-263AB)



Mounting Pad Layout



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