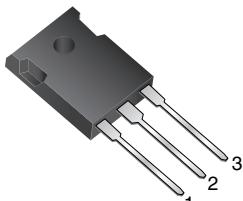


Dual Common Cathode Schottky Rectifier


TO-247AD (TO-3P)


FEATURES

- Power pack
- Guardring for overvoltage protection
- Lower power losses, high efficiency
- Low forward voltage drop
- High forward surge capability
- High frequency operation
- Solder dip 275 °C max., 10 s, per JESD 22-B106
- Material categorization: For definitions of compliance please see www.vishay.com/doc?99912


RoHS
COMPLIANT

TYPICAL APPLICATIONS

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

MECHANICAL DATA

Case: TO-247AD (TO-3P)

Molding compound meets UL 94 V-0 flammability rating
Base P/N-E3 - RoHS-compliant, commercial grade

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

E3 suffix meets JESD 201 class 1A whisker test

Polarity: As marked

Mounting Torque: 10 in-lbs maximum

PRIMARY CHARACTERISTICS	
$I_{F(AV)}$	20 A
V_{RRM}	30 V, 40 V
I_{FSM}	250 A
V_F	0.55 V
T_J max.	125 °C
Package	TO-247AD (TO-3P)
Diode variations	Common cathode

MAXIMUM RATINGS ($T_A = 25$ °C unless otherwise noted)					
PARAMETER	SYMBOL	SBL2030PT	SBL2040PT	UNIT	
Maximum repetitive peak reverse voltage	V_{RRM}	30	40	V	
Maximum RMS voltage	V_{RWM}	21	28	V	
Maximum DC blocking voltage	V_{DC}	30	40	V	
Maximum average forward rectified current (fig. 1)	$I_{F(AV)}$	20		A	
Peak forward surge current 8.3 ms single half sine-wave superimposed on rated load per diode	I_{FSM}	250		A	
Operating junction and storage temperature range	T_J, T_{STG}	- 40 to + 125		°C	

ELECTRICAL CHARACTERISTICS ($T_A = 25$ °C unless otherwise noted)					
PARAMETER	SYMBOL	TEST CONDITIONS	SBL2030PT	SBL2040PT	UNIT
Maximum instantaneous forward voltage per diode	V_F ⁽¹⁾	10 A	0.55		V
Maximum instantaneous reverse current at rated DC blocking voltage per diode	I_R ⁽¹⁾		$T_C = 25$ °C	1.0	mA
			$T_C = 100$ °C	50	mA

Note

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

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

PARAMETER	SYMBOL	SBL2030PT	SBL2040PT	UNIT
Thermal resistance, junction to case per diode	$R_{\theta\text{JC}}$		1.5	$^\circ\text{C/W}$

ORDERING INFORMATION (Example)

PACKAGE	PREFERRED P/N	UNIT WEIGHT (g)	PACKAGE CODE	BASE QUANTITY	DELIVERY MODE
TO-247AD	SBL2030PT-E3/45	6.13	45	30/tube	Tube

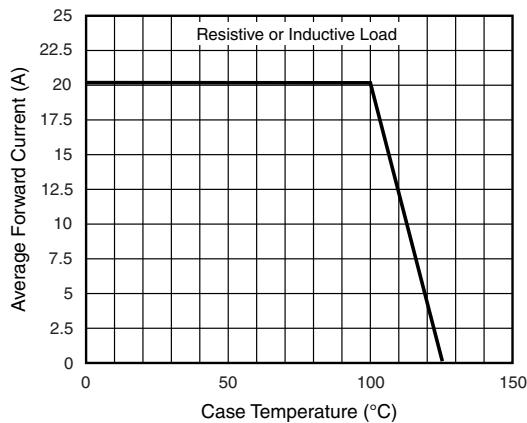
RATINGS AND CHARACTERISTICS CURVES ($T_A = 25^\circ\text{C}$ unless otherwise noted)


Fig. 1 - Forward Current Derating Curve

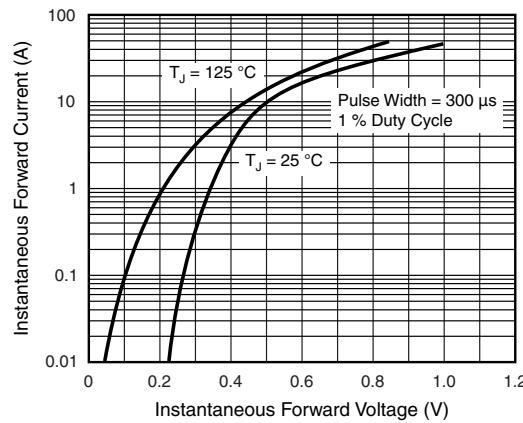


Fig. 3 - Typical Instantaneous Forward Characteristics Per Diode

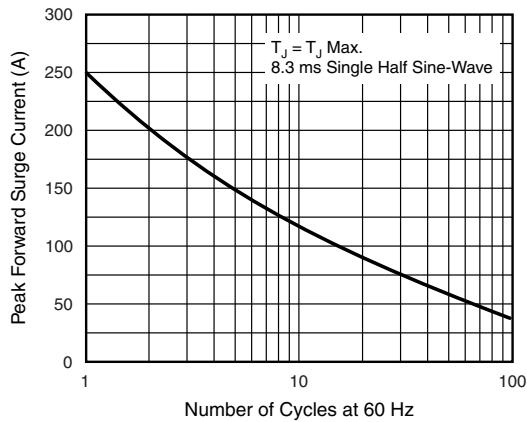


Fig. 2 - Maximum Non-Repetitive Peak Forward Surge Current Per Diode

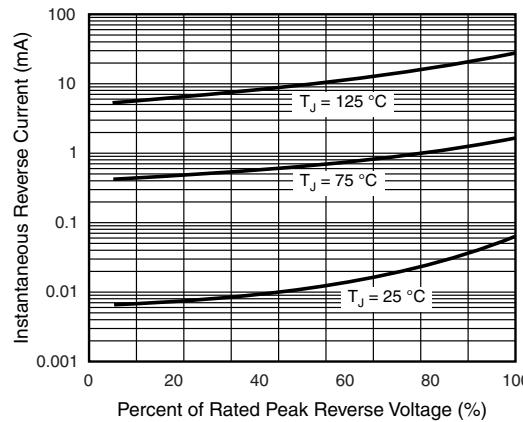


Fig. 4 - Typical Reverse Characteristics Per Diode

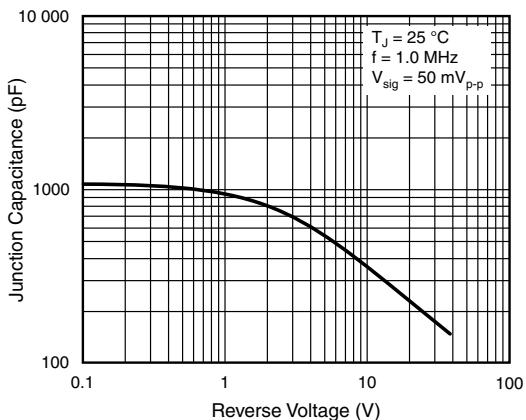


Fig. 5 - Typical Junction Capacitance Per Diode

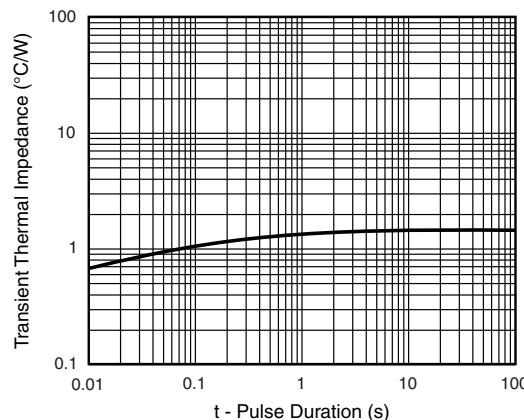
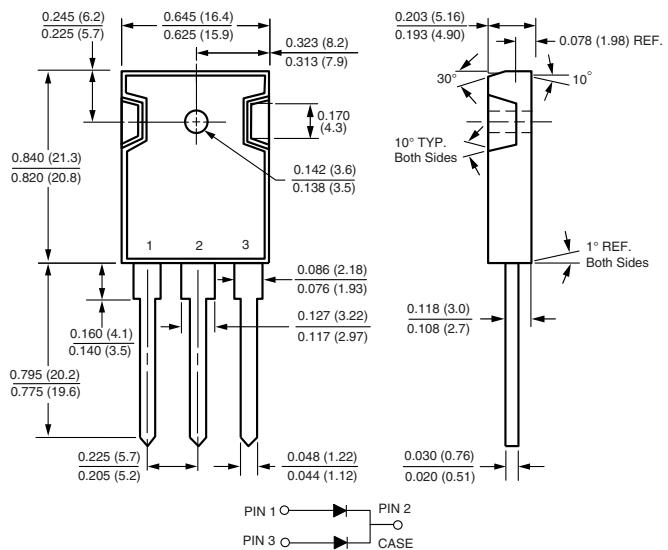


Fig. 6 - Typical Transient Thermal Impedance Per Diode

PACKAGE OUTLINE DIMENSIONS in inches (millimeters)

TO-247AD (TO-3P)



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