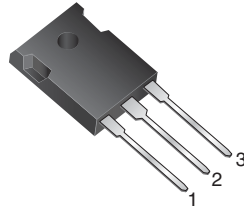


Dual Common Cathode Schottky Rectifier


TO-247AD (TO-3P)

RoHS
COMPLIANT

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 260 °C, 40 s
- Material categorization: for definitions of compliance please see 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, or polarity protection application.

MECHANICAL DATA

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

Epoxy 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	
$I_{F(AV)}$	40 A
V_{RRM}	30 V, 40 V
I_{FSM}	400 A
V_F	0.50 V
T_J max.	125 °C
Package	TO-247AD (TO-3P)
Diode variations	Common cathode

MAXIMUM RATINGS ($T_A = 25\text{ °C}$ unless otherwise noted)				
PARAMETER	SYMBOL	SBL4030PT	SBL4040PT	UNIT
Maximum repetitive peak reverse voltage	V_{RRM}	30	40	V
Maximum working peak reverse voltage	V_{RWM}	21	28	V
Maximum DC blocking voltage	V_{DC}	30	40	V
Maximum average forward rectified current at $T_C = 100\text{ °C}$	$I_{F(AV)}$	40		A
Peak forward surge current, 8.3 ms single half sine-wave superimposed on rated load per diode	I_{FSM}	400		A
Peak repetitive reverse surge current per diode ⁽¹⁾	I_{RRM}	2.0		A
Voltage rate of change at (rated V_R)	dV/dt	1000		V/ μ s
Operating junction storage temperature range	T_J, T_{STG}	-40 to +125		°C

Note

⁽¹⁾ 2.0 μ s pulse width, f = 1.0 kHz



ELECTRICAL CHARACTERISTICS ($T_A = 25\text{ }^\circ\text{C}$ unless otherwise noted)						
PARAMETER	TEST CONDITIONS		SYMBOL	SBL4030PT	SBL4040PT	UNIT
Maximum instantaneous forward voltage per diode ⁽¹⁾	$I_F = 20\text{ A}$	$T_C = 25\text{ }^\circ\text{C}$	V_F	0.58		V
		$T_C = 100\text{ }^\circ\text{C}$		0.50		
Maximum instantaneous reverse current at rated DC blocking voltage per diode ⁽¹⁾	$T_C = 25\text{ }^\circ\text{C}$	$T_C = 25\text{ }^\circ\text{C}$	I_R	10		mA
	$T_C = 100\text{ }^\circ\text{C}$	$T_C = 100\text{ }^\circ\text{C}$		100		

Note

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

THERMAL CHARACTERISTICS ($T_A = 25\text{ }^\circ\text{C}$ unless otherwise noted)				
PARAMETER	SYMBOL	SBL4030PT	SBL4040PT	UNIT
Thermal resistance from junction to case per diode	$R_{\theta JC}$	1.2		$^\circ\text{C/W}$

ORDERING INFORMATION (Example)					
PACKAGE	PREFERRED P/N	UNIT WEIGHT (g)	PACKAGE CODE	BASE QUANTITY	DELIVERY MODE
TO-247AD	SBL4030PT-E3/45	6.13	45	30/tube	Tube

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

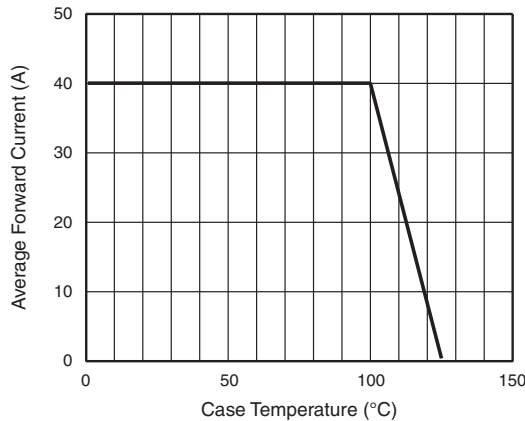


Fig. 1 - Forward Current Derating Curve

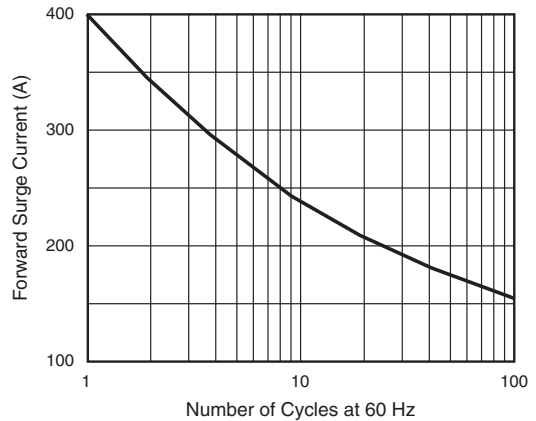


Fig. 2 - Maximum Non-Repetitive Peak Forward Surge Current Per Diode

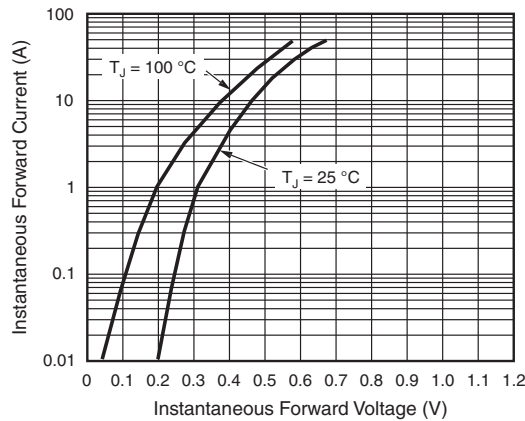


Fig. 3 - Typical Instantaneous Forward Characteristics Per Diode

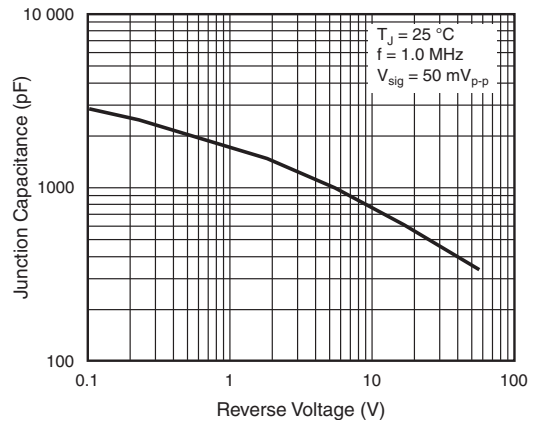


Fig. 5 - Typical Junction Capacitance Per Diode

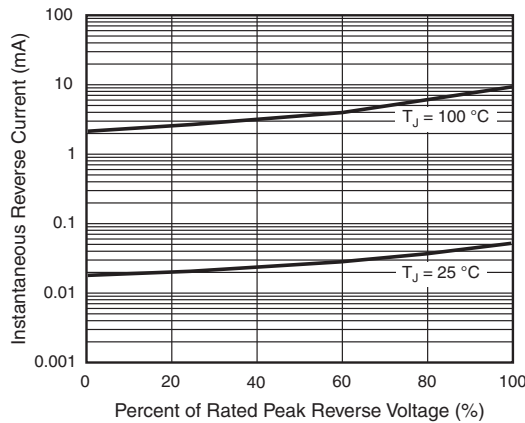


Fig. 4 - Typical Reverse Characteristics Per Diode

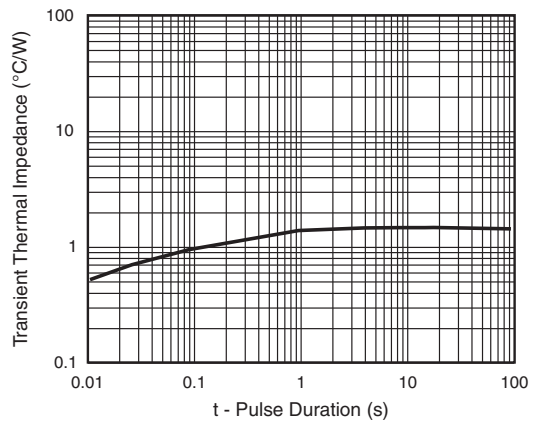
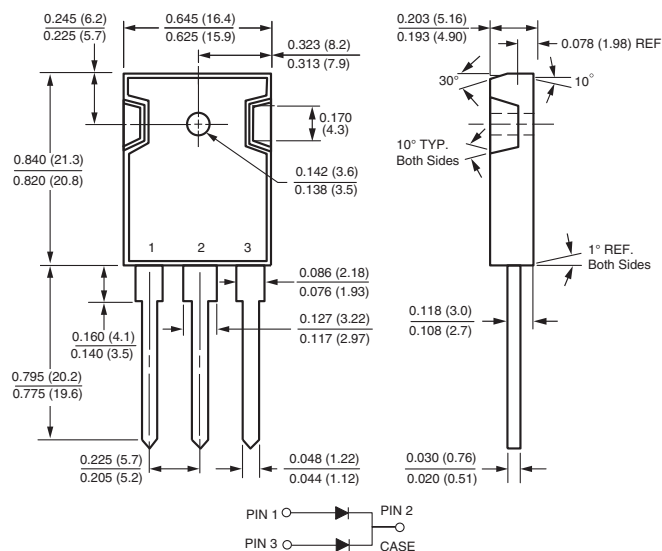


Fig. 6 - Typical Transient Thermal Impedance Per Diode

PACKAGE OUTLINE DIMENSIONS in inches (millimeters)

TO-247AD (TO-3P)





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