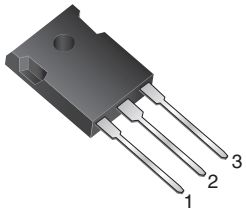
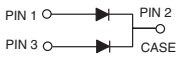
Dual Common Cathode Low V_F OR-ing Schottky Rectifier



TO-247AD (TO-3P)



FEATURES

- Power pack
- Guardring for overvoltage protection
- Lower power losses, high efficiency
- Very 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

RoHS COMPLIANT

TYPICAL APPLICATIONS

For use in low voltage, high frequency rectifier of switching mode power supplies, OR-ing diode, freewheeling diodes, DC/DC converters, and 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	
$I_{F(AV)}$	2 x 20 A
V_{RRM}	15 V
I_{FSM}	340 A
V_F	0.33 V
T_j max.	150 °C
Package	TO-247AD (TO-3P)
Diode variations	Common cathode

MAXIMUM RATINGS (T_A = 25 °C unless otherwise noted)				
PARAMETER		SYMBOL	SBL40L15PT	UNIT
Maximum repetitive peak reverse voltage		V_{RRM}	15	V
Maximum working peak reverse voltage		V_{RWM}	11	V
Maximum DC blocking voltage		V_{DC}	15	V
Maximum average forward rectified current at T_C = 140 °C	total device	$I_{F(AV)}$	40	A
	per leg		20	
Peak forward surge current, 8.3 ms single half sine-wave superimposed on rated load		I_{FSM}	340	A
Peak repetitive reverse surge current (1)		I_{RRM}	2.0	A
Voltage rate of change at (rated V_R)		dV/dt	10 000	V/µs
Operating junction storage temperature range		T_J, T_{STG}	-65 to +150	°C

Note

(1) 2.0 µs pulse width, f = 1.0 kHz

ELECTRICAL CHARACTERISTICS (T_A = 25 °C unless otherwise noted)					
PARAMETER	**TEST CONDITIONS**		**SYMBOL**	**VALUE**	**UNIT**
Maximum instantaneous forward voltage per leg	I_F = 19 A	T_J = 25 °C	V_F (1)	0.41	V
		T_J = 125 °C		0.33	
	I_F = 40 A	T_J = 25 °C		0.52	
		T_J = 125 °C		0.50	
Maximum instantaneous reverse current at rated DC blocking voltage per leg		T_J = 25 °C	I_R (1)	6.0	mA
		T_J = 100 °C		500	

Note

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

THERMAL CHARACTERISTICS (T_A = 25 °C unless otherwise noted)			
PARAMETER	**SYMBOL**	**VALUE**	**UNIT**
Thermal resistance from junction to case per leg	$R_{\theta JC}$	1.6	°C/W

ORDERING INFORMATION					
PACKAGE	**PREFERRED P/N**	**UNIT WEIGHT**	**PACKAGE CODE**	**BASE QUANTITY**	**DELIVERY MODE**
TO-247AD	SBL40L15PT-E3/45	6.13	45	30/Tube	Tube

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

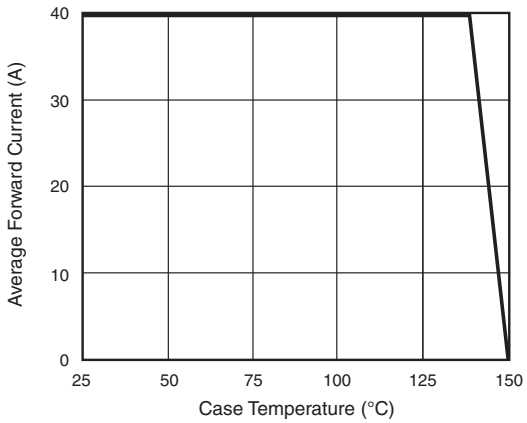


Fig. 1 - Forward Current Derating Curve

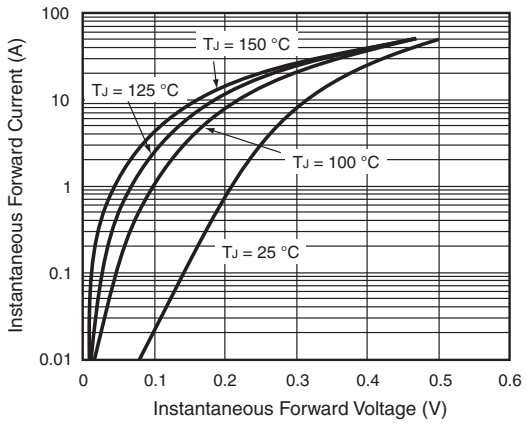


Fig. 2 - Typical Instantaneous Forward Characteristics Per Leg

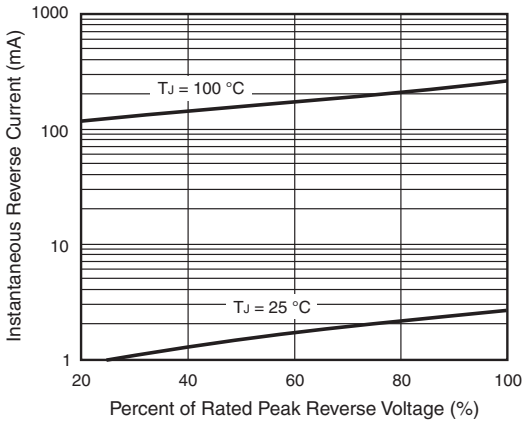


Fig. 3 - Typical Reverse Characteristics Per Leg

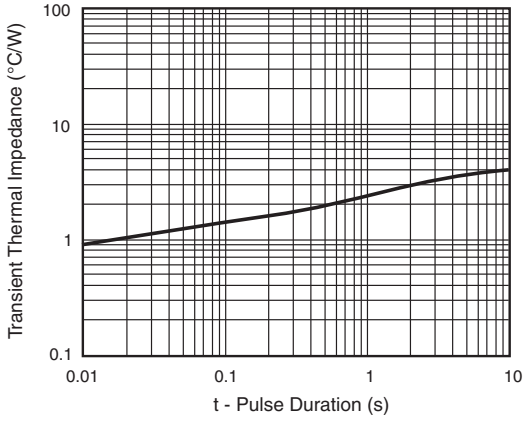


Fig. 5 - Typical Transient Thermal Impedance Per Leg

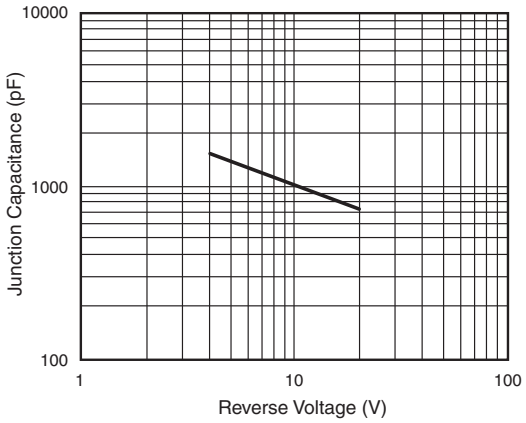
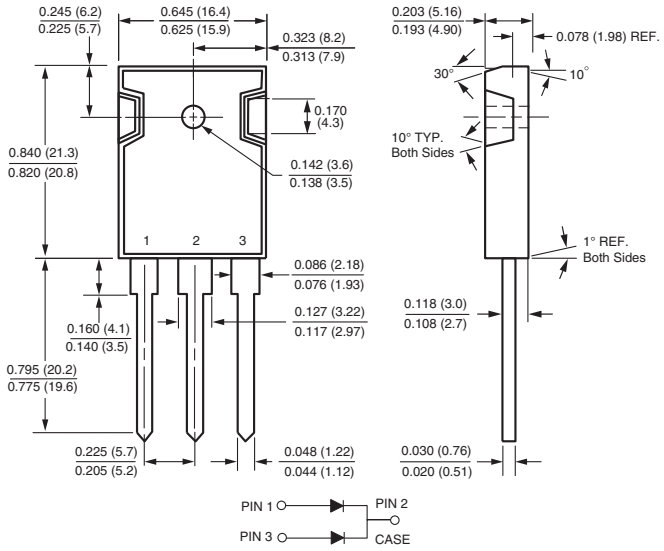


Fig. 4 - Typical Junction Capacitance Per Leg

PACKAGE OUTLINE DIMENSIONS in inches (millimeters)

TO-247AD (TO-3P)



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