Dual Common-Cathode Schottky Rectifier

TO-247AD (TO-3P)

FEATURES
- 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
- Component in accordance to RoHS 2002/95/EC and WEEE 2002/96/EC

RoHS COMPLIANT

TYPICAL APPLICATIONS
For use in low voltage, high frequency rectifier of switching mode power supplies, freewheeling diodes, dc-to-dc converters or polarity protection application.

MECHANICAL DATA
Case: TO-247AD (TO-3P)
Epoxy meets UL 94V-0 flammability rating
Terminals: Matte tin plated leads, solderable per J-STD-002 and JESD22-B102
E3 suffix for consumer grade, meets JESD 201 class 1A whisker test
Polarity: As marked
Mounting Torque: 10 in-lbs maximum

PRIMARY CHARACTERISTICS

$I_{F(AV)}$	30 A
V_{RRM}	45 V
I_{FSM}	400 A
V_F	0.47 V
T_J max.	150 °C

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

PARAMETER	SYMBOL	SD241P	UNIT
Maximum repetitive peak reverse voltage at T_C = 25 °C	V_{RRM}	45	V
Maximum blocking voltage at T_C = 25 °C	V_{DC}	45	V
Maximum working peak reverse voltage	V_{RWM}	35	V
Maximum average forward rectified current at T_C = 105 °C	$I_{F(AV)}$	30	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_{RSM}	2.0	A
Voltage rate of change at V_R = 35 V	dV/dt	10 000	V/µs
Operating junction temperature range	T_J	- 65 to + 150	°C
Storage temperature range	T_{STG}	- 65 to + 175	°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	SD241P	UNIT
Maximum instantaneous forward voltage per diode [1]	I_F = 10 A I_F = 20 A	T_C = 125 °C T_C = 125 °C	V_F	0.47 0.60	V
Maximum instantaneous reverse current reverse voltage per diode [1]	V_R = 35 V	T_C = 25 °C T_C = 125 °C	I_R	1.0 100	mA

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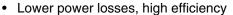(1) Pulse test: 300 µs pulse width, 1 % duty cycle

SD241P

Vishay General Semiconductor

THERMAL CHARACTERISTICS (T_A = 25 °C unless otherwise noted)

PARAMETER	SYMBOL	SD241P	UNIT
Maximum thermal resistance from junction of case per diode	$R_{\theta JC}$	1.4	°C

ORDERING INFORMATION (Example)

PACKAGE	PREFERRED P/N	UNIT WEIGHT (g)	PACKAGE CODE	BASE QUANTITY	DELIVERY MODE
TO-247AD	SD241P-E3/45	6.13	45	30/tube	Tube

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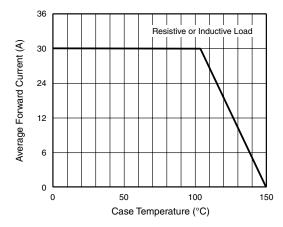
(T_A = 25 °C unless otherwise noted)

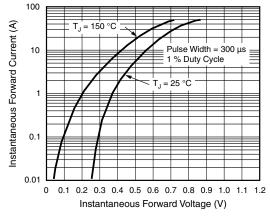Figure 1. Forward Current Derating Curve

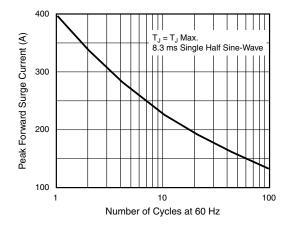Figure 3. Typical Instantaneous Forward Characteristics Per Diode

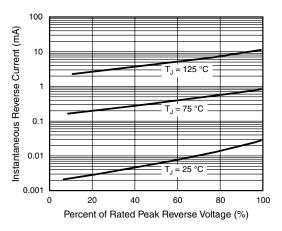Figure 2. Maximum Non-Repetitive Peak Forward Surge Current Per Diode

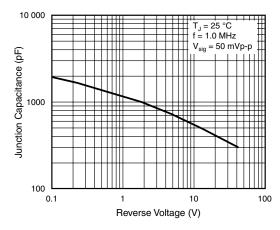Figure 4. Typical Reverse Characteristics Per Diode
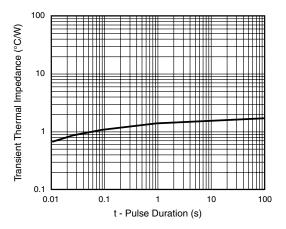
Figure 5. Typical Junction Capacitance Per Diode

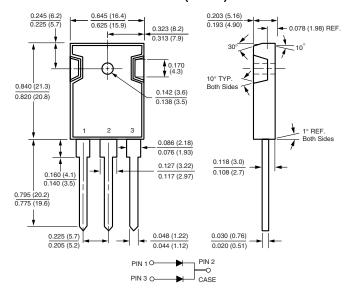
Figure 6. Typical Transient Thermal Impedance Per Diode

PACKAGE OUTLINE DIMENSIONS in inches (millimeters)

TO-247AD (TO-3P)

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For technical questions within your region, please contact one of the following:
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