

# DUAL POWER SCHOTTKY RECTIFIERS

## 30 Amp Pk per diode, 45V

SD241  
SD241HR2

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### FEATURES

- Very Low Forward Voltage
- Low Recovered Charge
- Rugged Packaged Design (TO-3)
- High Efficiency for Low Voltage Supplies
- Dual Schottky Rectifiers in a Single Package

### DESCRIPTION

The SD241 has two Schottky barrier junctions arranged in a common cathode configuration and is ideally suited for output rectifiers and catch diodes in low voltage supplies.

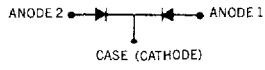
### ABSOLUTE MAXIMUM RATINGS (T<sub>case</sub> = 25°C) Per Diode

Peak Repetitive Reverse Voltage, V <sub>RRM</sub> .....	45V*
Working Peak Reverse Voltage, V <sub>RWM</sub> .....	35V
Average Rectified Forward Current, I <sub>O</sub> .....	30A
Non-repetitive Peak	
Surge current (8.3 ms), I <sub>FSM</sub> .....	400A
Peak Reverse Transient Current, I <sub>RM</sub> .....	2A
Storage Temperature Range, T <sub>stg</sub> .....	-55°C to +175°C
Junction Operating Temperature Range, T <sub>J</sub> .....	-55°C to +150°C
Package Thermal Resistance, Junction to Case, R <sub>θJC</sub> .....	1.4°C/W

\* See curve of V<sub>RRM</sub> Rating vs Case Temperature.

### MECHANICAL SPECIFICATIONS

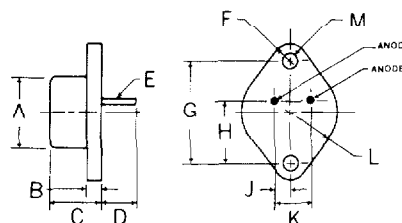
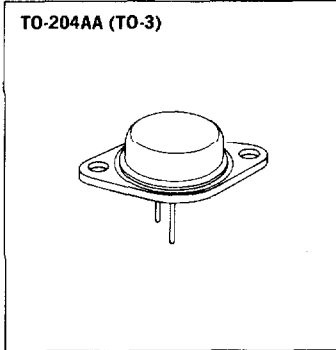
**NOTE:**  
Leads may be soldered to within 1/16" of base provided temperature-time exposure is less than 260°C for 10 seconds.



ANODE 2      ANODE 1  
CASE (CATHODE)

**SD241**  
**SD241HR2**

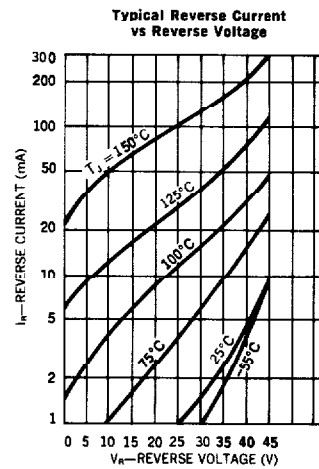
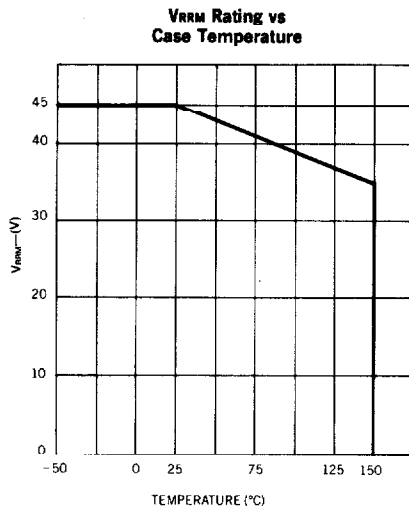
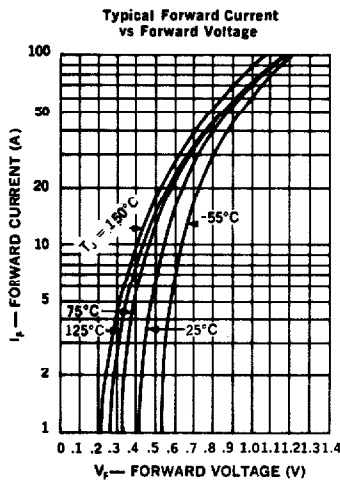
	ins.	mm.
A	.875 MAX.	22.23 MAX.
D	.130 MAX.	3.43 MAX.
C	.250-.450	6.35-11.43
D	.312 MIN.	7.92 MIN.
E	.038-.043 DIA.	0.97-1.09 DIA.
F	.188 MAX. RAD.	4.78 MAX. RAD.
G	1.177-1.197	29.90-30.40
H	.655-.675	16.64-17.15
J	.205-.225	5.21-5.72
K	.420-.440	10.67-11.18
L	.625 MAX. RAD.	15.84 MAX. RAD.
M	.151-.161 DIA.	3.84-4.09 DIA.

Notes: All metal surfaces tin plated.



Characteristic	Symbol	Limit	Units	Conditions
Maximum Instantaneous Reverse Current	$i_R$	25 100	mA mA	$T_c = 25^\circ\text{C}, V_R = 35\text{V}$ $T_c = 125^\circ\text{C}$ Pulse Width = 400 $\mu\text{s}$ Duty Cycle = 1 percent
Maximum Instantaneous Forward Voltage	$V_F$	.47	V	$i_F = 10\text{A}$ Pulse Width = 300 $\mu\text{s}$ Duty Cycle = 1 percent $T_c = 125^\circ\text{C}$
		.60	V	$i_F = 20\text{A}$ Pulse Width = 300 $\mu\text{s}$ Duty Cycle = 1 percent $T_c = 125^\circ\text{C}$
Maximum Capacitance	$C_i$	2000	pF	$V_R = 5.0\text{V}$
Maximum Voltage Rate of Change	$dv/dt$	1000	v/ $\mu\text{s}$	$v_R = 35\text{V}$



**OPTIONAL HIGH RELIABILITY (HR2) SCREENING**

The following tests are performed on 100% of the devices specified SD241HR2.

SCREEN	MIL-STD-750 METHOD	CONDITIONS
1. High Temperature	1032	24 Hours @ $T_A = 150^\circ\text{C}$
2. Temperature Cycle	1051	F, 20 Cycles, -55 to +150°C. No dwell required @ 25°C, $t \geq 10$ min. @ extremes
3. Hermetic Seal a. Fine Leak b. Gross Leak	1071	H, Helium C, Liquid
4. Thermal Impedance		Sage Test
5. Interim Electrical Parameters	GO/NO GO	$V_F$ and $I_R$ @ 25°C
6. High Temperature Reverse Blocking	Similar to Method 1040	1/2 Sine Reverse. $t = 48$ Hours. $T_c = 125^\circ\text{C}$ . $VR_{RM} = \text{rating}$ , $F = 50-60$ Hz, $I_O = OA$
7. Final Electrical Parameters	GO/NO GO	$V_F + I_R$ @ 25°C PDA = 10% (Final Electricals)