

DUAL POWER SCHOTTKY RECTIFIERS

SD241
SD241HR2

30 Amp Pk per diode, 45V

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_{case} = 25°C) Per Diode

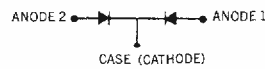
Peak Repetitive Reverse Voltage, V _{RRM}	45V*
Working Peak Reverse Voltage, V _{RWM}	35V
Average Rectified Forward Current, I _O	30A
Non-repetitive Peak Surge current (8.3 ms), I _{FSM}	400A
Peak Reverse Transient Current, I _{RM}	2A
Storage Temperature Range, T _{stg}	-55°C to +175°C
Junction Operating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

* See curve of V_{RRM} Rating vs Case Temperature.

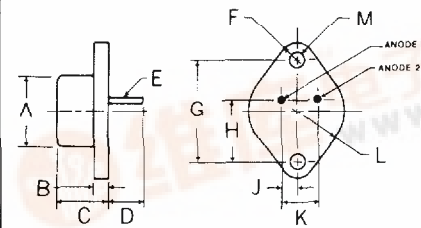
MECHANICAL SPECIFICATIONS

NOTE:

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

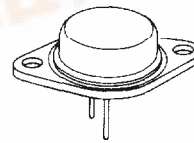


SD241
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	ins.	mm.
A	.875 MAX.	22.23 MAX.
D	.135 MAX.	3.43 MAX.
C	.250-.450	6.35-11.43
D	.312 MIN.	7.92 MIN.
E	.038-.043 DIA.	0.97-1.09 DIA.
F	.188 MAX. RAD.	4.78 MAX. RAD.
G	1.177-1.197	29.90-30.40
H	.655-.675	16.64-17.15
J	.205-.225	5.21-5.72
K	.420-.440	10.67-11.18
L	.625 MAX. RAD.	13.34 MAX. RAD.
M	.151-.161 DIA.	3.84-4.09 DIA.

TO-204AA (TO-3)



Notes: All metal surfaces tin plated.

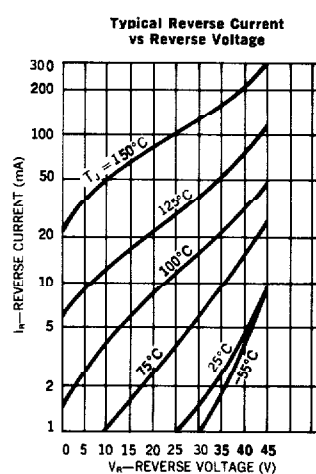
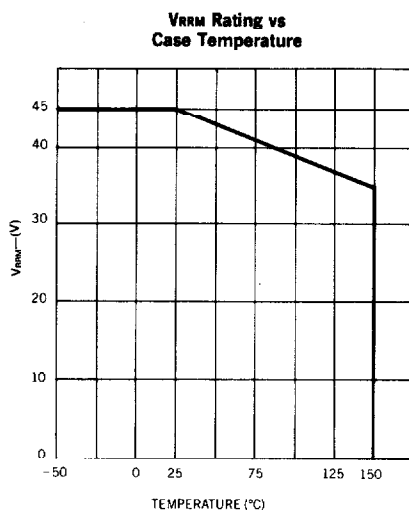
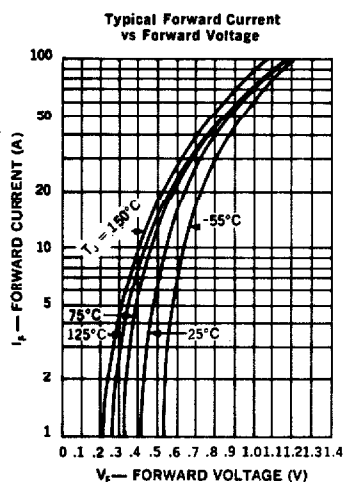
Microsemi Corp.
Watertown
The diode experts

ELECTRICAL CHARACTERISTICS ($T_{CASE} = 25^{\circ}\text{C}$) Per Diode

 3D241
SD241HR2

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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	$\text{V}/\mu\text{s}$	$V_R = 35\text{V}$


OPTIONAL HIGH RELIABILITY (H1R2) 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 $+150^{\circ}\text{C}$. 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	$\frac{1}{2}$ Sine Reverse. $t = 48$ Hours, $T_C = 125^{\circ}\text{C}$. V_{RRM} = rating, $F = 50$ -60 Hz, $I_O = 0\text{A}$
7. Final Electrical Parameters	GO/NO GO	$V_F + I_R$ @ 25°C PDA = 10% (Final Electricals)