

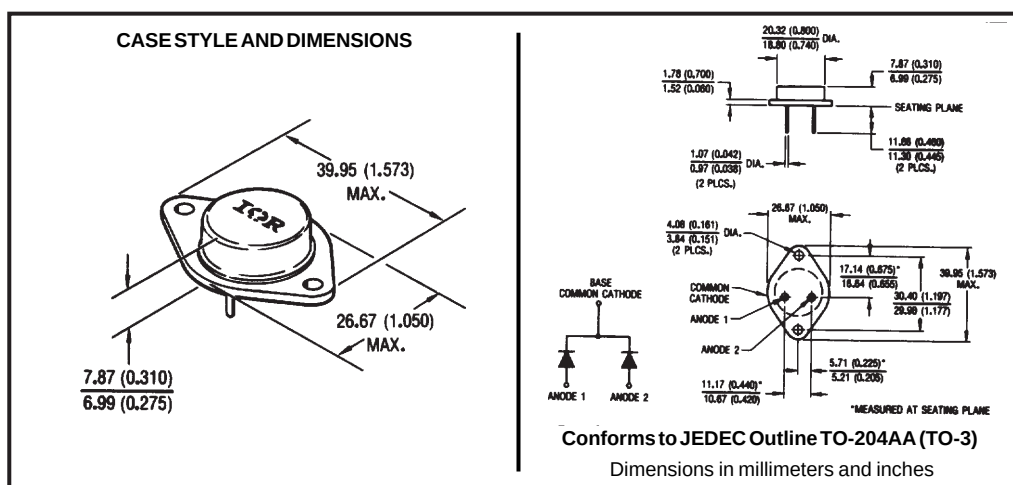
Major Ratings and Characteristics

Characteristics	SD241	Units
$I_{F(AV)}$ Rectangular waveform	60	A
V_{RRM}	35/45	V
I_{FSM} @ 60Hz	400	A
V_F @ 30Apk, $T_J = 25^\circ\text{C}$ (per leg)	0.82	V
T_J	-55 to 175	$^\circ\text{C}$

Description/Features

The SD241 center tap Schottky rectifier has been optimized for low reverse leakage at high temperature. The proprietary barrier technology allows for reliable operation up to 175°C junction temperature. Typical applications are in switching power supplies, converters, free-wheeling diodes, and reverse battery protection.

- 175°C T_J operation
- Center tap TO-3 package
- Low forward voltage drop
- High frequency operation
- Guard ring for enhanced ruggedness and long term reliability
- Hermetic packaging



Voltage Ratings

Part number	SD241
V_R Max. DC Reverse Voltage (V)	35/45 (1)
V_{RWM} Max. Working Peak Reverse Voltage (V)	

(1) For SD241 rated V_{RWM} and $V_{RRM} = 45V$ @ $T_J = 25^\circ C$, $= 35V$ @ $T_J = 150^\circ C$

Absolute Maximum Ratings

Parameters	SD241	Units	Conditions
$I_{F(AV)}$ Max. Average Forward Current * See Fig. 5	60	A	50% duty cycle @ $T_C = 120^\circ C$, rectangular wave form
I_{FSM} Max. Peak One Cycle Non-Repetitive Surge Current (Per Leg) * See Fig. 7	400	A	60Hz half cycle sine wave or 5ms rectangular pulse Following any rated load condition and with rated V_{RRM} applied

Electrical Specifications

Parameters	SD241	Units	Conditions
V_{FM} Max. Forward Voltage Drop (Per Leg) * See Fig. 1 (2)	0.82	V	@ 30A $T_J = 25^\circ C$
	1.09	V	@ 60A $T_J = 25^\circ C$
	0.92	V	@ 60A $T_J = 175^\circ C$
I_{RM} Max. Reverse Leakage Current (Per Leg) * See Fig. 2 (2)	10	mA	$T_J = 25^\circ C$ $V_R = \text{rated } V_R$
	20	mA	$T_J = 125^\circ C$
C_T Max. Junction Capacitance (Per Leg)	1400	pF	$V_R = 5V_{DC}$, (test signal range 100Khz to 1Mhz) $25^\circ C$
L_S Typical Series Inductance (Per Leg)	10.0	nH	Measured mounting plane to lead 5mm from package body
dv/dt Max. Voltage Rate of Change (Rated V_R)	1000	V/ μs	

(2) Pulse Width < 300 μs , Duty Cycle < 2%

Thermal-Mechanical Specifications

Parameters		SD241	Units	Conditions
T _J	Max. Junction Temperature Range	-55 to 175	°C	
T _{stg}	Max. Storage Temperature Range	-55 to 175	°C	
R _{thJC}	Max. Thermal Resistance Junction to Case (Per Leg)	1.40	°C/W	DC operation * See Fig. 4
R _{thJC}	Max. Thermal Resistance Junction to Case (Per Package)	0.70	°C/W	DC operation
R _{thCS}	Typical Thermal Resistance, Case to Heatsink	0.20	°C/W	Mounting surface, smooth and greased
wt	Approximate Weight	11.4(0.40)	g(oz.)	
T	Mounting Torque	Min. 12(10)	Kg-cm (lbf-in)	
		Max. 17(15)		
Case Style		TO-204AA(TO-3)	JEDEC	

* For Additional Informations and Graphs, Please See the 40CDQ Series

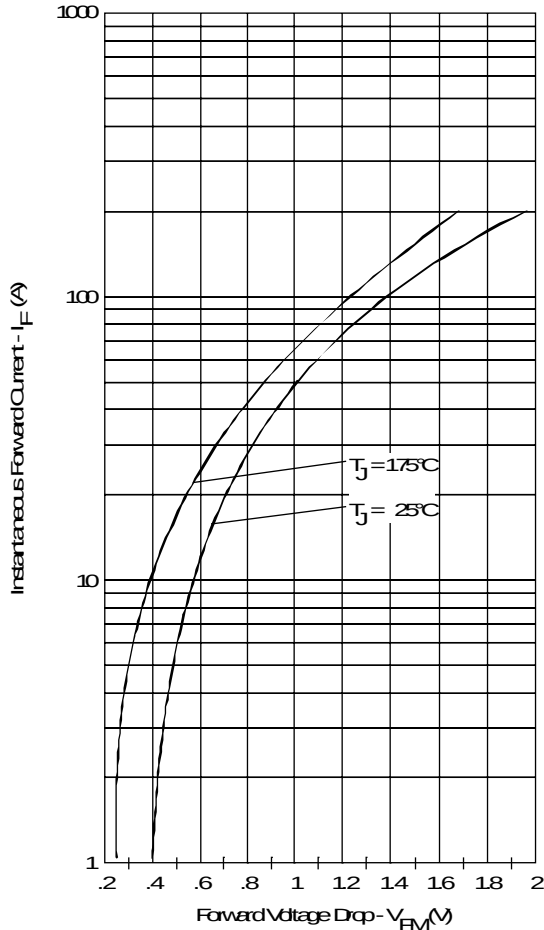


Fig. 1 - Max. Forward Voltage Drop Characteristics (Per Leg)

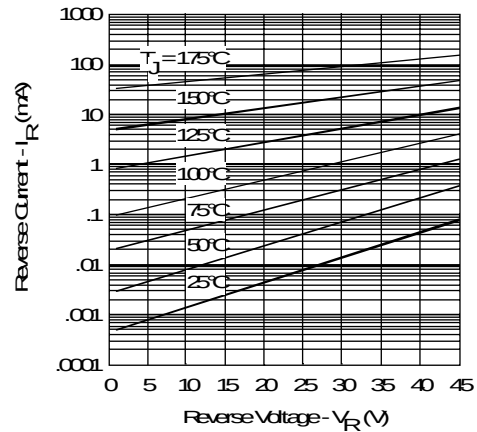


Fig. 2 - Typical Values Of Reverse Current Vs. Reverse Voltage (Per Leg)

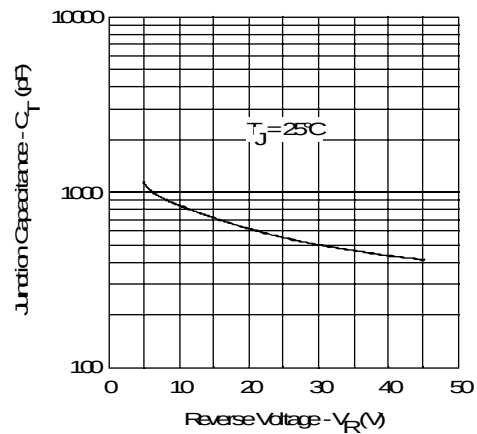


Fig. 3 - Typical Junction Capacitance Vs. Reverse Voltage (Per Leg)

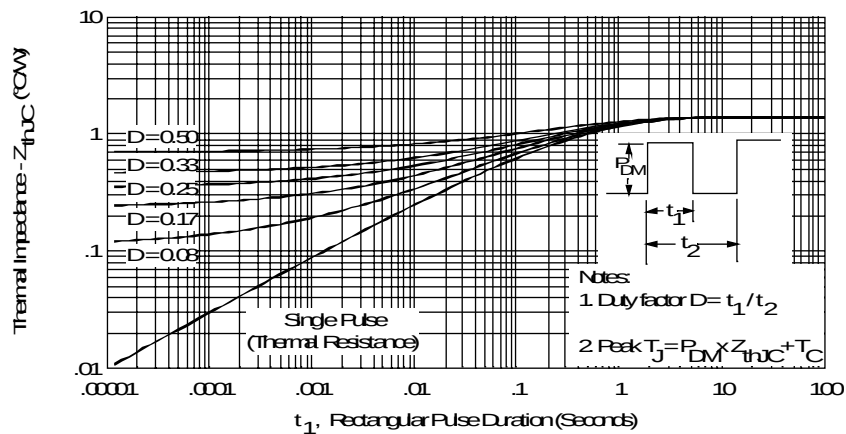


Fig. 4 - Max. Thermal Impedance Z_{thJC} Characteristics (Per Leg)

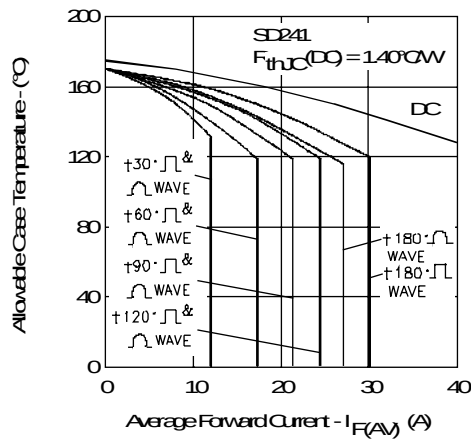


Fig. 5 - Max. Allowable Case Temperature Vs. Average Forward Current (Per Leg)

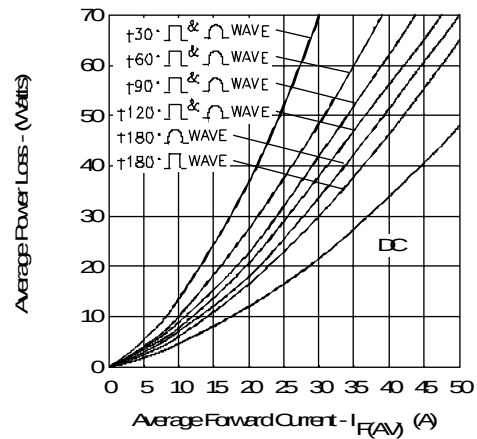


Fig. 6 - Forward Power Loss Characteristics (Per Leg)

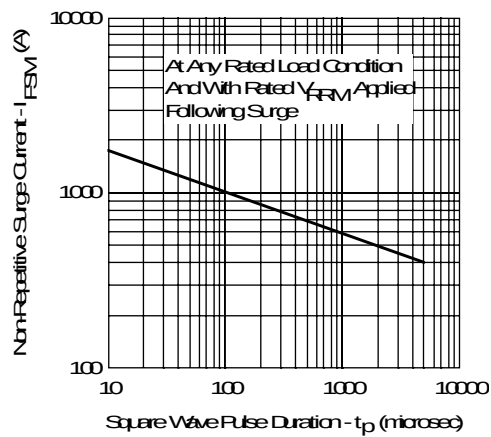


Fig. 7 - Max. Non-Repetitive Surge Current (Per Leg)