International
IOR Rectifier

PD-94186D

SCHOTTKY RECTIFIER
HIGH EFFICIENCY SERIES

35CGQ150

35 Amp, 150V

Major Ratings and Characteristics

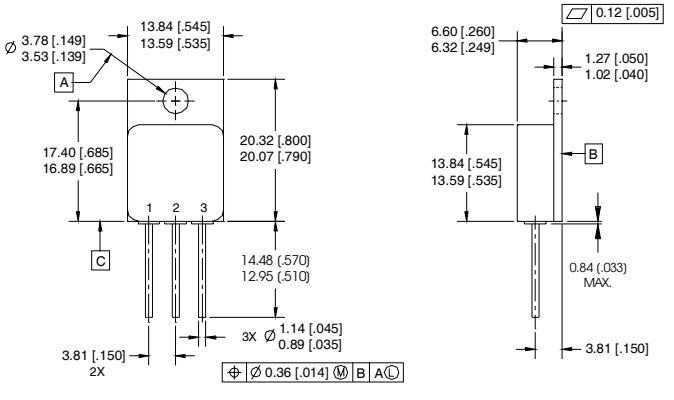
Characteristics	Limits	Units
$I_{F(AV)}$	35	A
V_{RRM} (Per Leg)	150	V
I_{FSM} @ tp = 8.3ms half-sine (Per Leg)	400	A
V_F @ 17.5Apk, T_J =125°C (Per Leg)	0.8	V
T_J, T_{stg} Operating and storage	-55 to150	°C

Description/Features

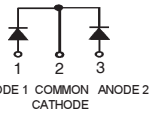
The 35CGQ150 center tap Schottky rectifier has been expressly designed to meet the rigorous requirements of HiRel environments. It is packaged in the hermetic isolated TO-254AA package. The device's forward voltage drop and reverse leakage current are optimized for the lowest power loss and the highest circuit efficiency for typical high frequency switching power supplies and resonent power converters. Full MIL-PRF-19500 quality conformance testing is available on source control drawings to TX, TXV and S quality levels.

- Hermetically Sealed
- Center Tap
- Low Forward Voltage Drop
- High Frequency Operation
- Guard Ring for Enhanced Ruggedness and Long term Reliability
- Lightweight
- ESD Rating: Class NS per MIL-STD-750, Method 1020

CASE STYLE



NOTES:
1. DIMENSIONING & TOLERANCING PER ASME Y14.5M-1994.
2. ALL DIMENSIONS ARE SHOWN IN MILLIMETERS (INCHES).
3. CONTROLLING DIMENSION: INCH.
4. CONFORMS TO JEDEC OUTLINE TO-254AA.



Case Outline and Dimensions - TO-254AA

03/12/14

Voltage Ratings

	Part number	35CGQ150
V_R	Max. DC Reverse Voltage (V) (Per Leg)	150
V_{RWM}	Max. Working Peak Reverse Voltage (V) (Per Leg)	

Absolute Maximum Ratings

	Parameters	Limits	Units	Conditions
$I_{F(AV)}$	Max. Average Forward Current See Fig. 5	35	A	50% duty cycle @ T_C = 115°C, square waveform
I_{FSM}	Max. Peak One Cycle Non - Repetitive Surge Current (Per Leg)	400	A	@ t_p = 8.3 ms half-sine

Electrical Specifications

	Parameters	Limits	Units	Conditions	
V_{FM}	Max. Forward Voltage Drop (Per Leg) See Fig. 1①	1.05	V	@17.5A	T_J = -55°C
		1.29	V	@35A	
		0.93	V	@17.5A	T_J = 25°C
		1.18	V	@35A	
		0.80	V	@17.5A	T_J = 125°C
		1.07	V	@35A	
I_{RM}	Max. Reverse Leakage Current (Per Leg) See Fig. 2 ①	0.1	mA	T_J = 25°C	V_R = rated V_R
		16	mA	T_J = 125°C	
C_T	Max. Junction Capacitance (Per Leg)	800	pF	V_R = 5V_{DC} (1MHz, 25°C)	
L_S	Typical Series Inductance (Per Leg)	7.8	nH	Measured from anode lead to cathode lead 6mm (0.025 in.) from package	

Thermal-Mechanical Specifications

	Parameters	Limits	Units	Conditions
T_J	Max.Junction Temperature Range	-55 to 150	°C	
T_{stg}	Max. Storage Temperature Range	-55 to 150	°C	
R_{thJC}	Max. Thermal Resistance, Junction to Case (Per Leg)	1.25	°C/W	DC operation See Fig. 4
R_{thJC}	Max. Thermal Resistance, Junction to Case (Per Package)	0.63	°C/W	DC operation
wt	Weight (Typical)	9.3	g	
	Die Size (Typical)	158X158	mils	
	Case Style	TO-254AA		

① Pulse Width < 300µs, Duty Cycle < 2%

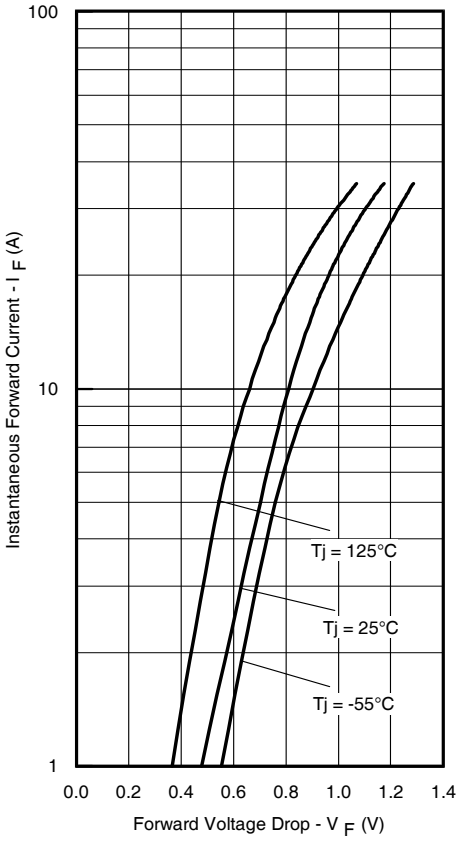


Fig. 1 - Max. Forward Voltage Drop Characteristics (Per Leg)

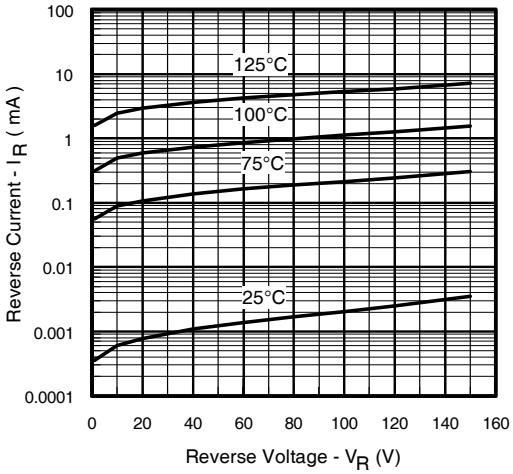


Fig. 2 - Typical Values of Reverse Current Vs. Reverse Voltage (Per Leg)

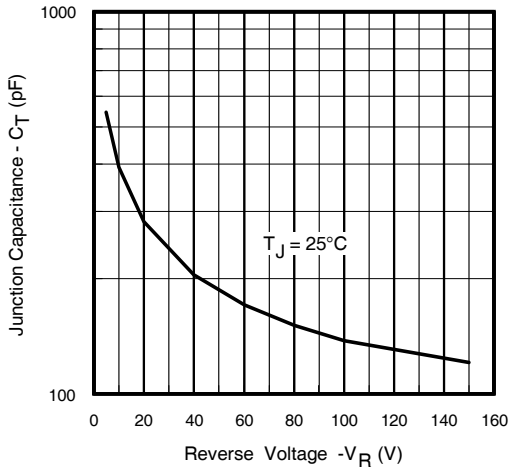


Fig. 3 - Typical Junction Capacitance Vs. Reverse Voltage (Per Leg)

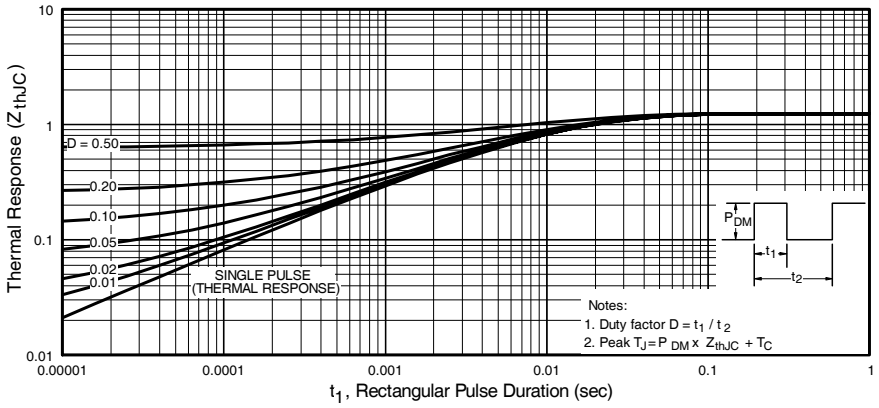


Fig. 4 - Max. Thermal Impedance Z_{thJC} Characteristics (Per Leg)

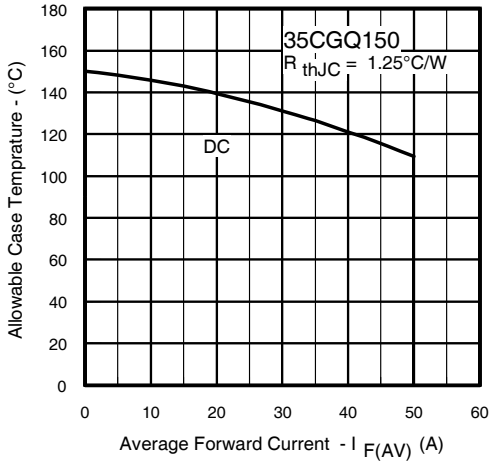


Fig. 5 - Max. Allowable Case Temperature Vs.
Average Forward Current (Per Leg)

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