

SCHOTTKY RECTIFIER
HIGH EFFICIENCY SERIES

35GQ150
35 Amp, 150V

Major Ratings and Characteristics

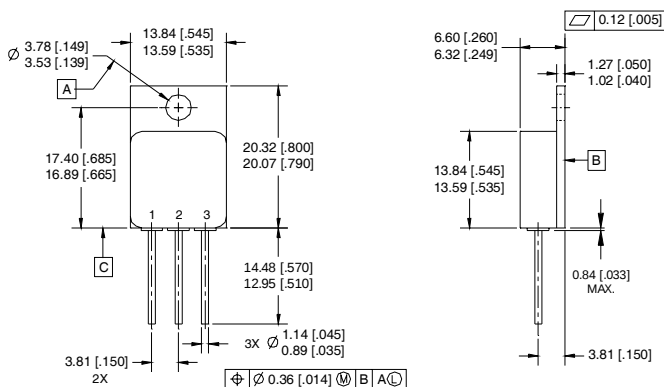
Characteristics	35GQ150	Units
$I_{F(AV)}$	35	A
V_{RRM}	150	V
I_{FSM} @ $t_p = 8.3\text{ms}$ half-sine	400	A
V_F @ 35Apk, $T_J = 125^\circ\text{C}$	0.9	V
T_J, T_{stg} Operating and storage	-55 to 150	$^\circ\text{C}$

Description/Features

The 35GQ150 Schottky rectifier has been expressly designed to meet the rigorous requirements of HiRel environments. It is packaged in the hermetically 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 resonant power converters. Full MIL-PRF-19500 quality conformance testing is available on source control drawings to TX, TXV and S quality levels.

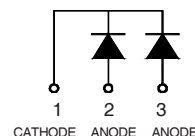
- Hermetically Sealed
- Low Forward Voltage Drop
- High Frequency Operation
- Guard Ring for Enhanced Ruggedness and Long term Reliability
- Lightweight
- ESD Rating: Class NS per MIL-STD-750, Method 1020

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.
5. EXTERNALLY SHORT PINS 2 & 3



Case Outline and Dimensions - TO-254AA

Voltage Ratings

Part number	35GQ150
V_R Max. DC Reverse Voltage (V)	150
V_{RWM} Max. Working Peak Reverse Voltage (V)	

Absolute Maximum Ratings

Parameters	Limits	Units	Conditions
$I_{F(AV)}$ Max. Average Forward Current See Fig. 5	35	A	50% duty cycle @ $T_C = 100^\circ\text{C}$, square waveform
I_{FSM} Max. Peak One Cycle Non - Repetitive Surge Current	400	A	@ $t_p = 8.3$ ms half-sine

Electrical Specifications

Parameters	Limits	Units	Conditions
V_{FM} Max. Forward Voltage Drop See Fig. 1①	1.12	V	@35A $T_J = -55^\circ\text{C}$ ②
	1.41	V	@70A
	1.0	V	@35A $T_J = 25^\circ\text{C}$ ②
	1.31	V	@70A
	0.9	V	@35A $T_J = 125^\circ\text{C}$ ②
	1.26	V	@70A
I_{RM} Max. Reverse Leakage Current See Fig. 2 ①	0.2	mA	$T_J = 25^\circ\text{C}$ $V_R = \text{rated } V_R$ ②
	32	mA	$T_J = 125^\circ\text{C}$
C_T Max. Junction Capacitance	1600	pF	$V_R = 5V_{DC}$ (1MHz, 25°C)
L_S Typical Series Inductance	7.8	nH	Measured from center of cathode pad to center of anode pad

Thermal-Mechanical Specifications

Parameters	Limits	Units	Conditions
T_J Max. Junction Temperature Range	-55 to 150	$^\circ\text{C}$	
T_{stg} Max. Storage Temperature Range	-55 to 150	$^\circ\text{C}$	
R_{thJC} Max. Thermal Resistance, Junction to Case	1.1	$^\circ\text{C/W}$	DC operation See Fig. 4
wt Weight (Typical)	9.3	g	
Die Size (Typical)	(2)158X158	mils	
Case Style	TO-254AA		

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

② Pins 2 and 3 externally tied together

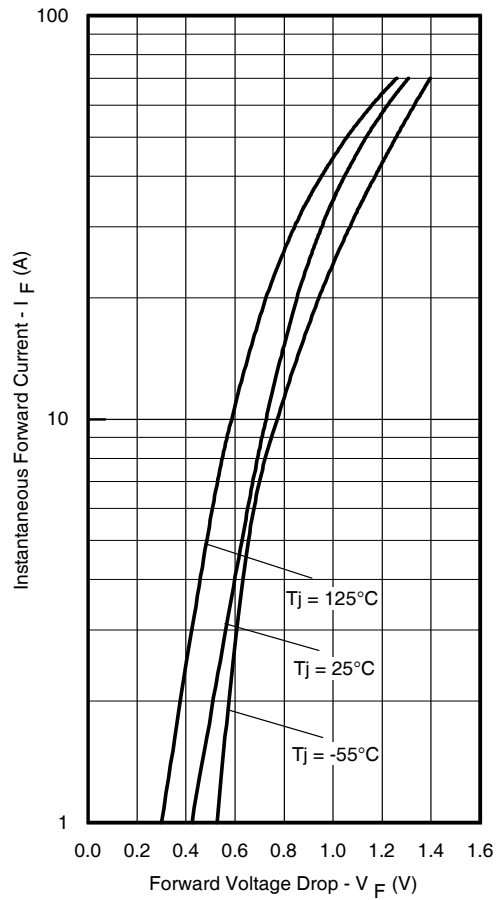


Fig. 1 - Max. Forward Voltage Drop Characteristics

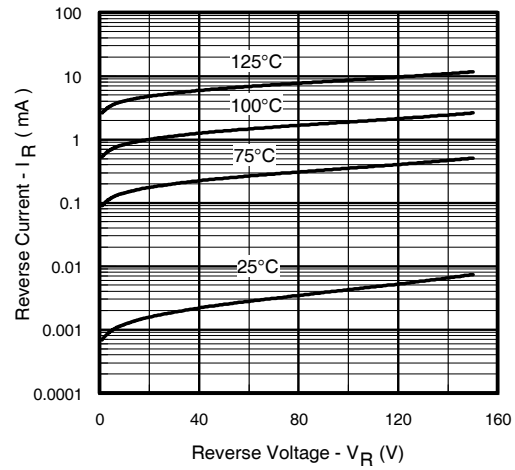


Fig. 2 - Typical Values of Reverse Current Vs. Reverse Voltage

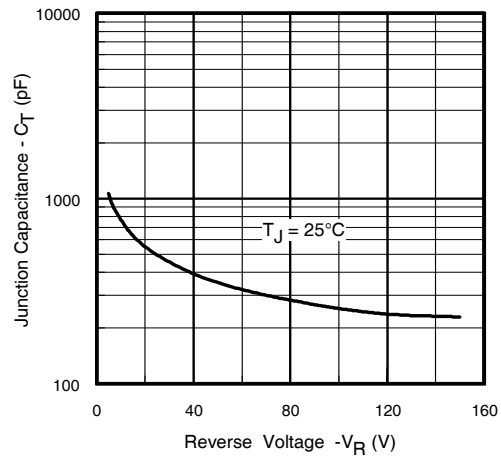


Fig. 3 - Typical Junction Capacitance Vs. Reverse Voltage

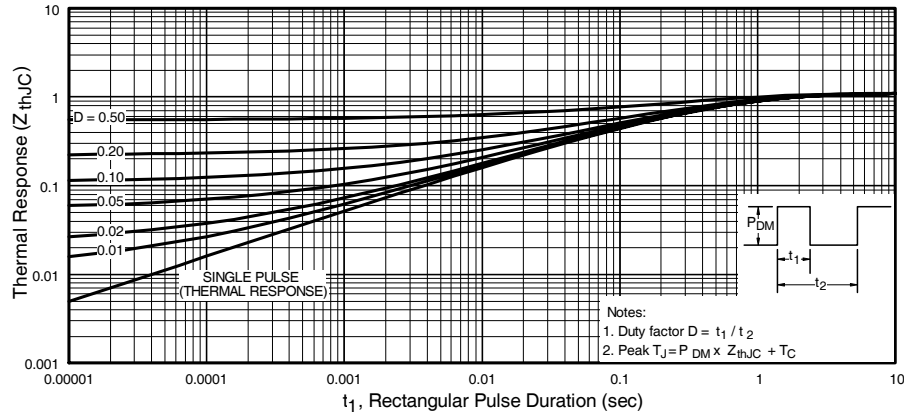


Fig. 4 - Max. Thermal Impedance Z_{thJC} Characteristics

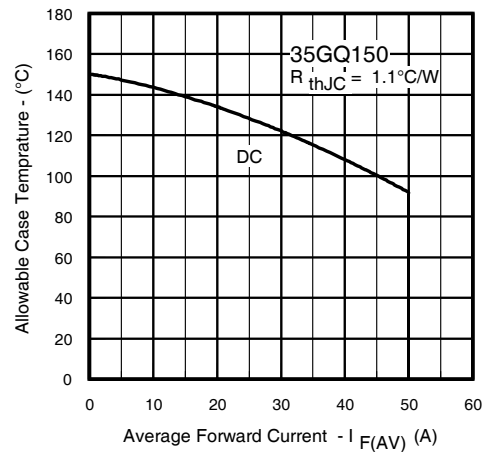


Fig. 5 - Max. Allowable Case Temperature Vs. Average Forward Current