35SCGQ045

SCHOTTKY RECTIFIER
HIGH EFFICIENCY SERIES

35 Amp. 45V

Major Ratings and Characteristics

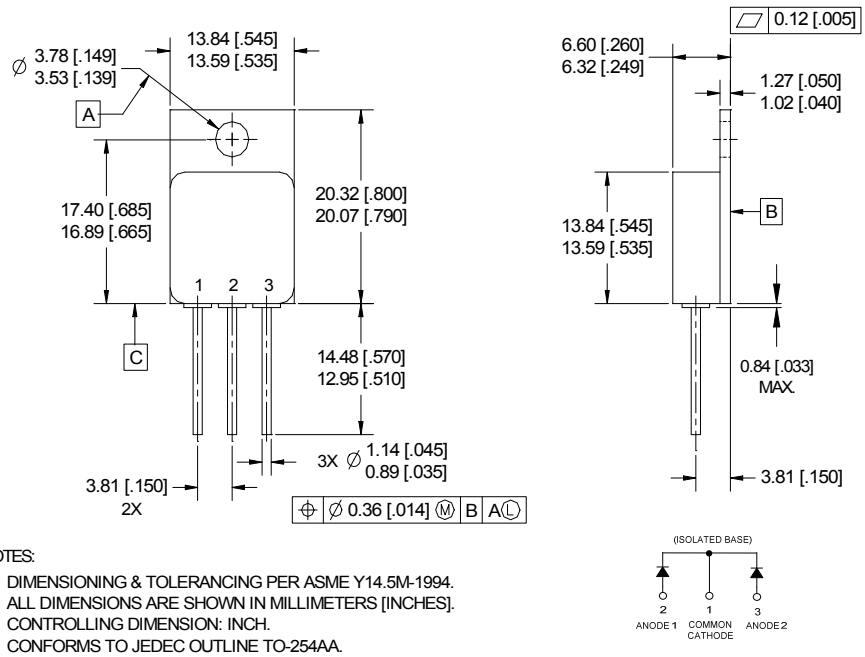
Characteristics	35SCGQ045	Units
$I_{F(AV)}$ (Per Leg)	35	A
V_{RRM} (Per Leg)	45	V
I_{FSM} @ tp = 8.3ms half–sine (Per Leg)	200	A
V_F @ 30Apk, T_J = 125°C	0.74	V
T_J, T_{stg} Operating and storage	-55 to 150	°C

Description/Features

The 35SCGQ045 center tap Schottky rectifier has been expressly designed to meet the rigorous requirements of IR 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 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
- 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

Voltage Ratings (Per Leg)

Part Number	35SCGQ045
V_R Max. DC Reverse Voltage (V)	45
V_{RRM} Max. Working Peak Reverse Voltage (V)	

Absolute Maximum Ratings (Per Leg)

Parameter	Limits	Units	Conditions
$I_{F(AV)}$ Max. Average Forward Current See Fig. 5	35	A	50% duty cycle @ T_C = 116°C, square waveform
I_{FSM} Max. Peak One Cycle Non - Repetitive Surge Current	200	A	@ tp = 8.3 ms half-sine

Electrical Specifications (Per Leg)

Parameter	Limits	Units	Conditions	
V_{FM} Max. Forward Voltage Drop See Fig. 1①	0.61	V	@ I_F = 15A	T_J = -55°C
	0.74	V	@ I_F = 30A	
	0.54	V	@ I_F = 15A	T_J = 25°C
	0.73	V	@ I_F = 30A	
	0.47	V	@ I_F = 15A	T_J = 125°C
	0.74	V	@ I_F = 30A	
I_{RM} Max. Reverse Leakage Current See Fig. 2 ①	0.70	mA	T_J = 25°C	V_R = rated V_R
	75	mA	T_J = 100°C	
	195	mA	T_J = 125°C	
C_T Max. Junction Capacitance	2000	pF	V_R = 5V_{DC} (1MHz, 25°C)	
L_S Typical Series Inductance	7.8	nH	Measured from anode lead to cathode lead 6mm (0.25 in.) from package	

Thermal-Mechanical Specifications

Parameter	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)	150 x 180	mils	
Case Style	TO-254AA		

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

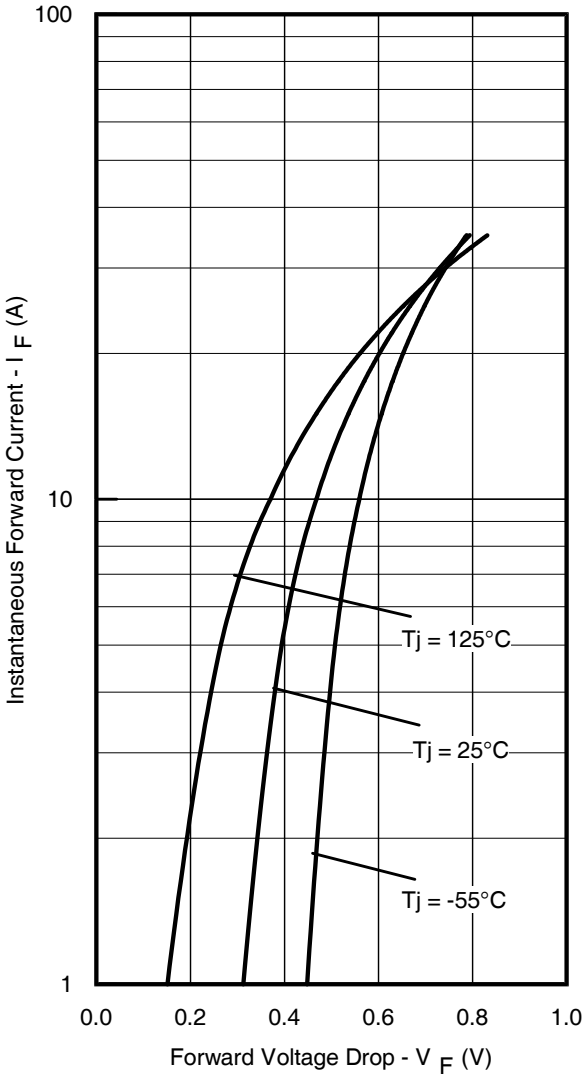


Fig 1. Max. Forward Voltage Drop Characteristics (Per Leg)

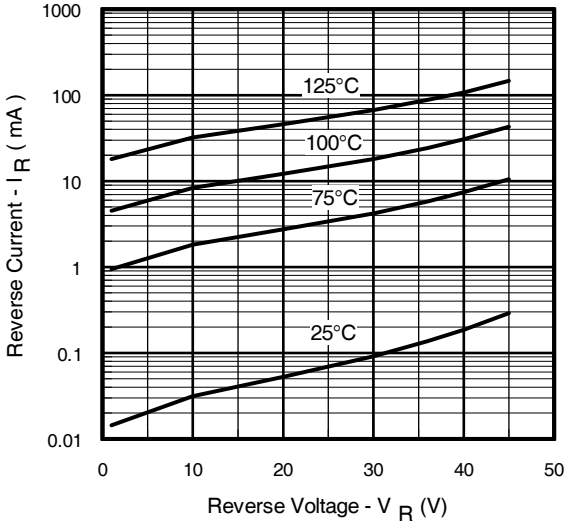


Fig 2. Typical Values of Reverse Current Vs. Reverse Voltage (Per Leg)

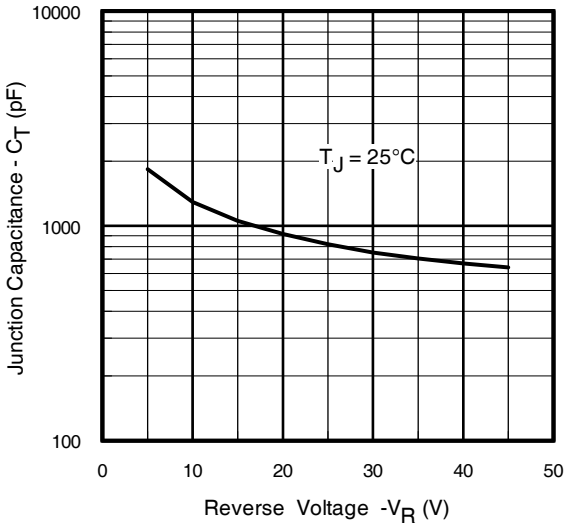


Fig 3. Typical Junction Capacitance Vs. Reverse Voltage (Per Leg)

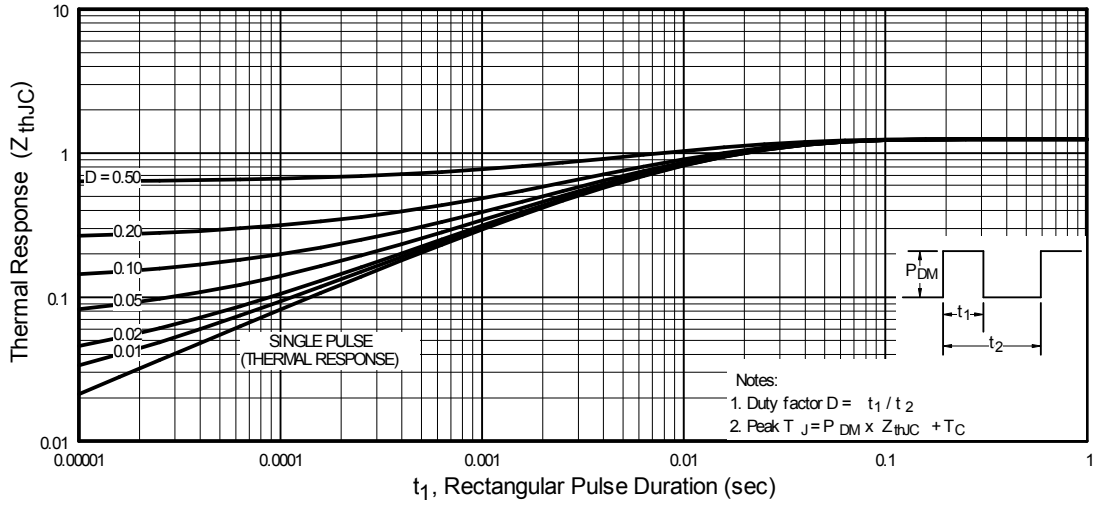


Fig 4. Max. Thermal Impedance ZthJC Characteristics (Per Leg)

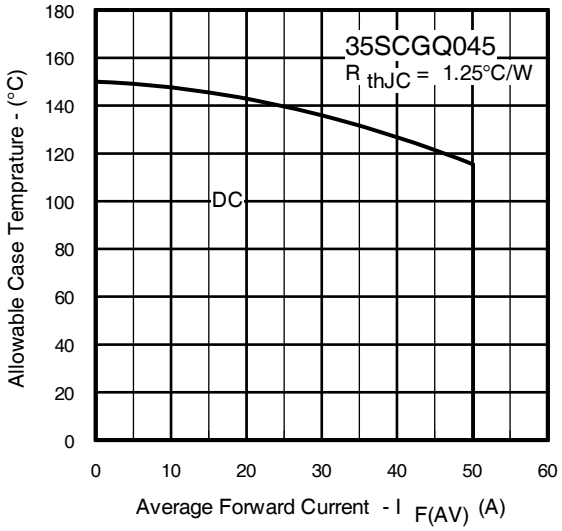


Fig 5. Max. Allowable Case Temperature Vs.
Average Forward Current (Per Leg)

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