PD-94229A

International
IOR Rectifier

SCHOTTKY RECTIFIER
HIGH EFFICIENCY SERIES

35SCGQ030
35 Amp, 30V

Major Ratings and Characteristics

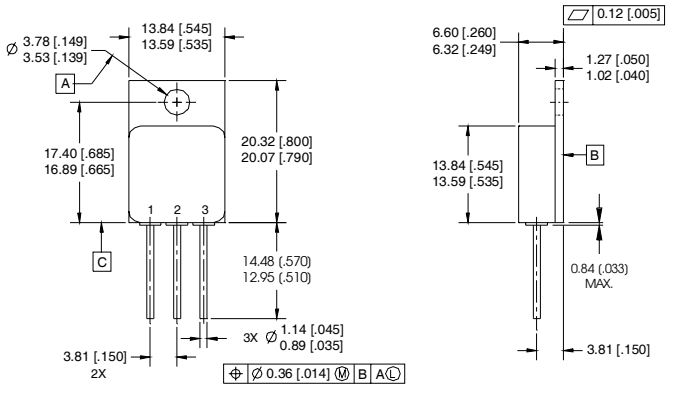
Characteristics	Limits	Units
$I_{F(AV)}$	35	A
V_{RRM} (Per Leg)	30	V
I_{FSM} @ tp = 8.3ms half-sine (Per Leg)	150	A
V_F @ 17.5Apk, T_J =125°C (Per Leg)	0.53	V
T_J, T_{STG} Operating and storage	-55 to 150	°C

Description / Features

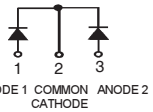
The 35SCGQ030 center tap Schottky rectifier has been expressly designed to meet the rigorous requirements of HiRel environments. It is packaged in the hermeticly isolated TO-254AA package. The device's forward voltage drop and reverse leakage current are optimized for the lowest power loss and the highest 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

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

03/12/2014

Voltage Ratings

	Part number	35SCGQ030
V_R	Max. DC Reverse Voltage (V) (Per Leg)	30
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 =108 °C, square waveform
I_{FSM}	Max. Peak One Cycle Non - Repetitive Surge Current (Per Leg)	150	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	0.63	V	@ 17.5A	T_J = -55°C
		0.80	V	@ 35A	
		0.59	V	@ 17.5A	T_J = 25°C
		0.81	V	@ 35A	
		0.53	V	@ 17.5A	T_J = 125°C
		0.84	V	@ 35A	
I_{RM}	Max. Reverse Leakage Current (Per Leg) See Fig. 2 ①	1.5	mA	T_J = 25°C	V_R = rated V_R
		330	mA	T_J = 125°C	
C_T	Max. Junction Capacitance (Per Leg)	2635	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)	150X180	mils	
	Case Style	TO-254AA		

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

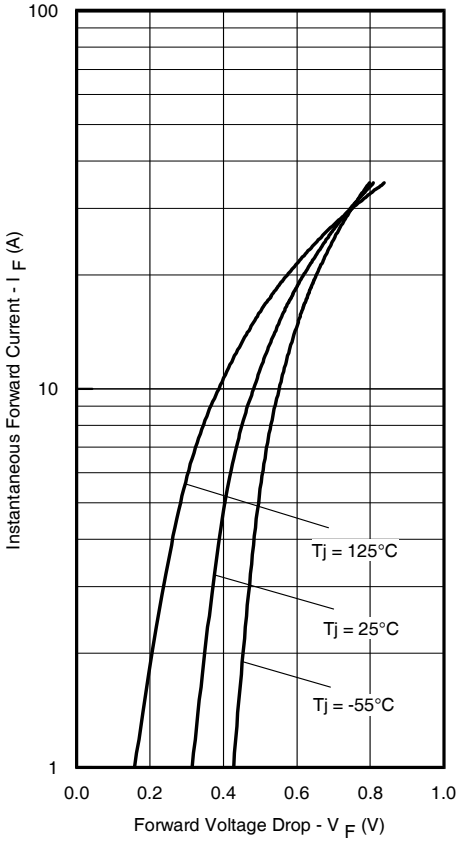


Fig. 1 - Max. Forward Voltage Drop Characteristics (Per Leg)

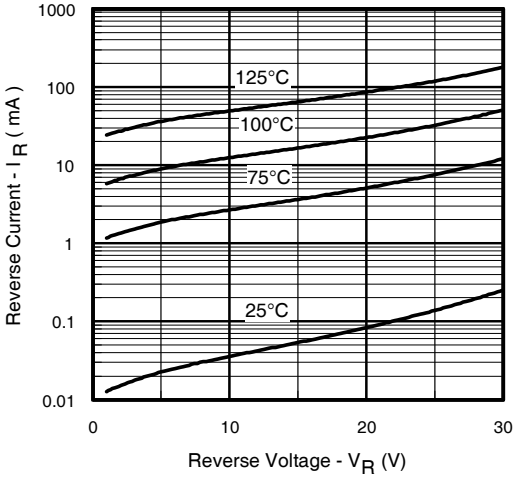


Fig. 2 - Typical Values of Reverse Current Vs. Reverse Voltage (Per Leg)

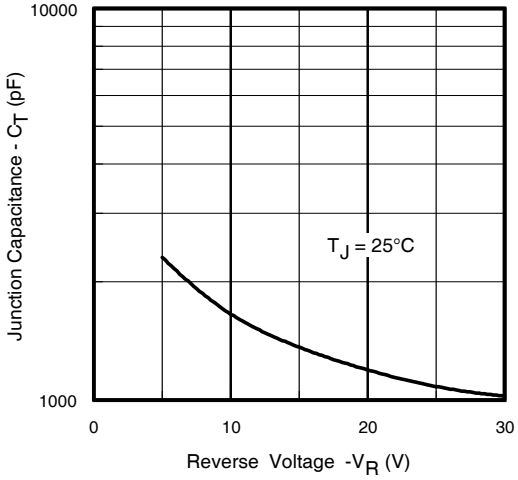


Fig. 3 - Typical Junction Capacitance Vs. Reverse Voltage (Per Leg)

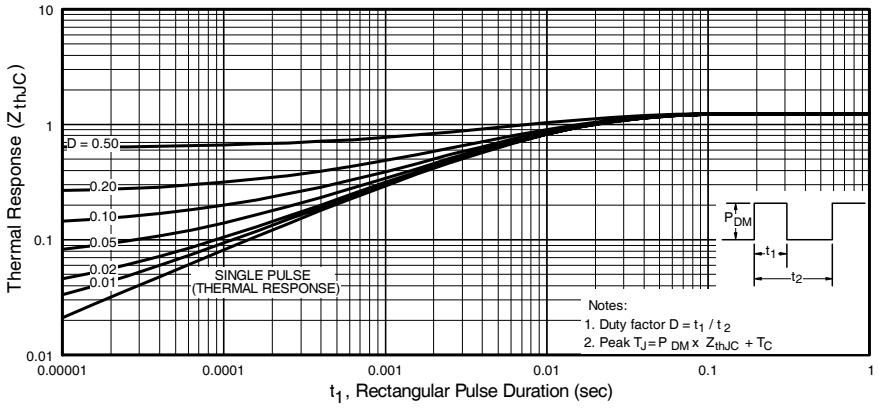


Fig. 4 - Max. Thermal Impedance Z_{thJC} Characteristics (Per Leg)

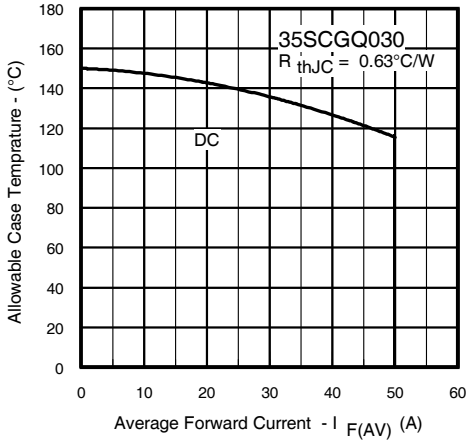


Fig. 5 - Max. Allowable Case Temperature Vs.
Average Forward Current

IR WORLD HEADQUARTERS: 101 N. Sepulveda Blvd., El Segundo, California 90245, USA Tel: (310) 252-7105
IR LEOMINSTER : 205 Crawford St., Leominster, Massachusetts 01453, USA Tel: (978) 534-5776
TAC Fax: (310) 252-7903
Visit us at www.irf.com for sales contact information.
Data and specifications subject to change without notice. 03/2014