International
IOR Rectifier

PD - 20354C

SCHOTTKY RECTIFIER

25GQ045

35 Amp

Major Ratings and Characteristics

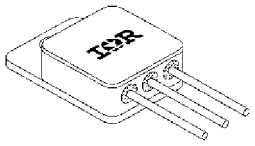
Characteristics	25GQ045	Units
$I_{F(AV)}$ Rectangular Waveform	35	A
V_{RRM}	45	V
I_{FSM} @ t_p = 8.3ms sine	400	A
V_F @ 35Apk, T_J = 125°C	0.84	V
T_J, T_{stg} Operating and Storage	-55 to 150	°C

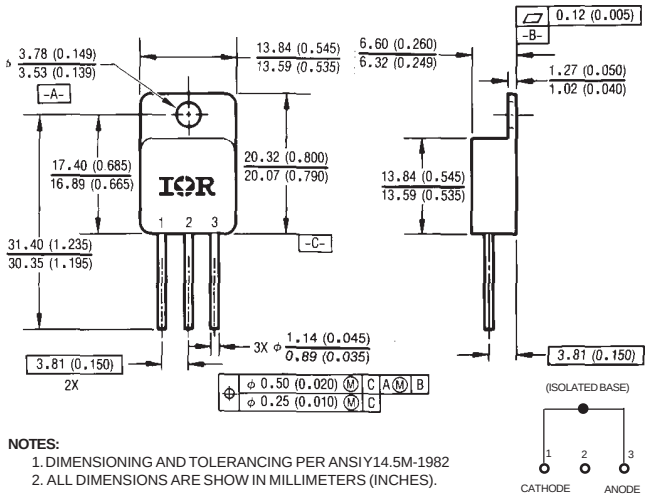
Description/Features

The 25GQ045 Schottky rectifier has been expressly designed to meet the rigorous requirements of hi-rel environments. It is packaged in the hermetic, isolated, TO-254AA package and has extremely low reverse leakage at high temperature. Full MIL-PRF-19500 quality conformance testing is available on source controlled drawings to JANTX, JANTXV, or JANS levels. Typical applications include switching power supplies and resonant power converters.

- Hermetically Sealed
- Low Forward Voltage Drop
- High Frequency Operation
- Guard Ring for Enhanced Ruggedness and Long Term Reliability
- Electrically Isolated
- Ceramic Eyelets

CASE STYLE





NOTES:
1. DIMENSIONING AND TOLERANCING PER ANSI Y14.5M-1982
2. ALL DIMENSIONS ARE SHOW IN MILLIMETERS (INCHES).

Conforms to JEDEC Outline TO-254AA

Voltage Ratings

	Part number	25GQ045
V_R	Max. DC Reverse Voltage (V)	45
V_{RWM}	Max. Working Peak Reverse Voltage (V)	

Absolute Maximum Ratings

	Parameters	25GQ045	Units	Conditions
$I_{F(AV)}$	Max. Average Forward Current See Fig. 4	35	A	50% duty cycle @ T_C = 100°C, rectangular waveform
I_{FSM}	Max. Peak One Cycle Non - Repetitive Surge Current	400	A	@ t_p = 8.3 ms sine

Electrical Specifications

	Parameters	25GQ045	Units	Conditions	
V_{FM}	Max. Forward Voltage Drop See Fig. 1①	0.93	V	@ 35A	T_J = 25°C
		1.38	V	@ 70A	
		0.84	V	@ 35A	T_J = 125°C
		1.29	V	@ 70A	
I_{RM}	Max. Reverse Leakage Current See Fig. 2 ①	0.80	mA	T_J = 25°C	V_R = rated V_R
		45	mA	T_J = 125°C	
C_T	Max. Junction Capacitance	2600	pF	V_R = 5V_{DC}, (test signal range 100KHz to 1MHz) 25°C	
L_S	Typical Series Inductance	8.7	nH	Measured lead to lead 5mm from package body	

Thermal-Mechanical Specifications

	Parameters	25GQ045	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	1.0	°C/W	DC operation See Fig. 5
R_{thCS}	Typical Thermal Resistance, Case to Heatsink	0.21	°C/W	Mounting surface, smooth and greased
wt	Weight (Typical)	9.3	g	
	Die Description (Square)	0.2	inches	
	Case Style	TO-254AA		JEDEC

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

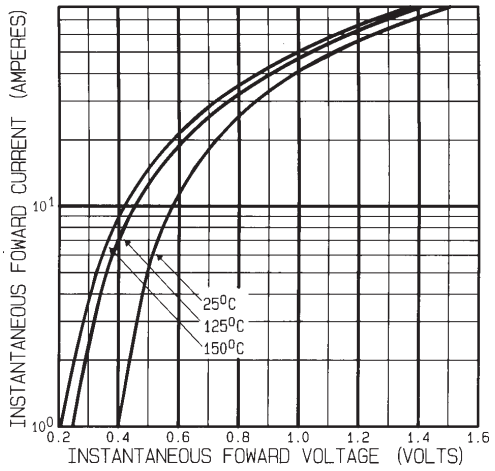


Fig. 1 - Max. Forward Voltage Drop Characteristics

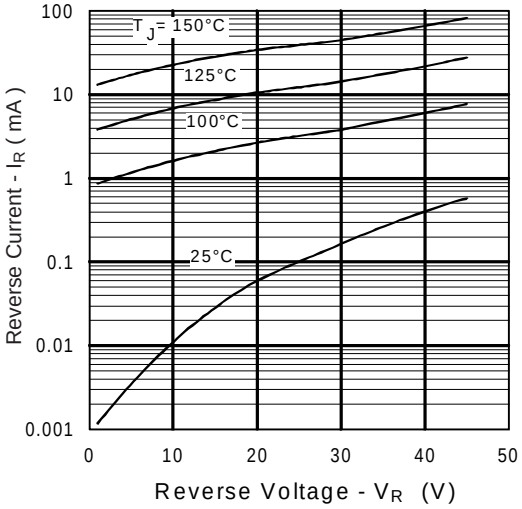


Fig. 2 - Typical Values of Reverse Current Vs. Reverse Voltage

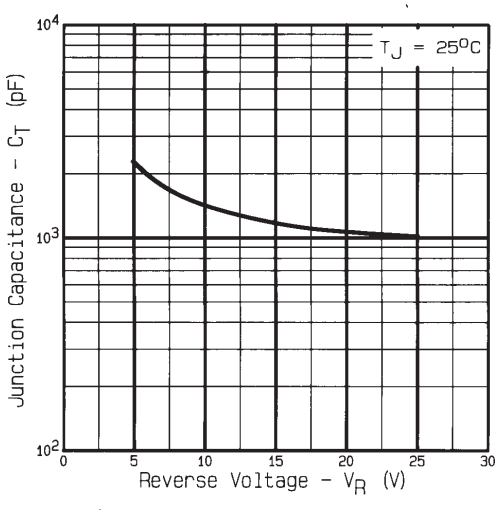


Fig. 3 - Typical Junction Capacitance Vs. Reverse Voltage

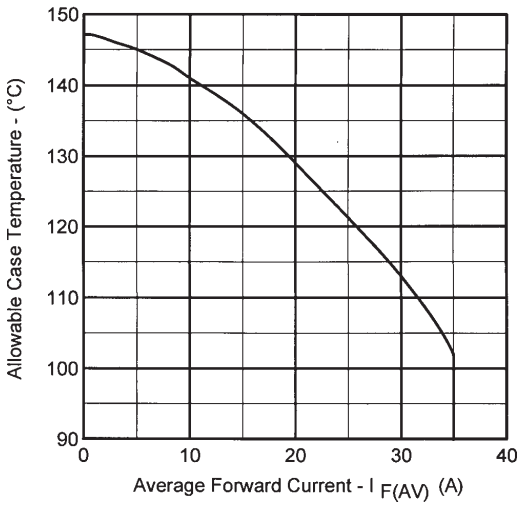


Fig. 4 - Max. Allowable Case Temperature Vs. Average Forward Current

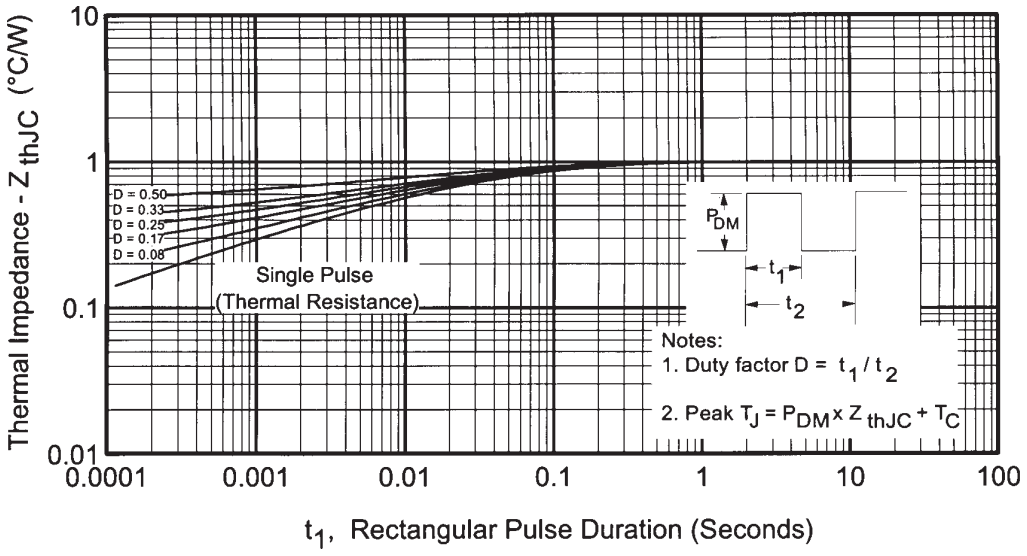


Fig.5 - Max. Thermal Impedance Z_{thJC} characteristics

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WORLD HEADQUARTERS: 233 Kansas St., El Segundo, California 90245, Tel: (310) 252-7105
IR GREAT BRITAIN: Hurst Green, Oxted, Surrey RH8 9BB, UK Tel: ++ 44 1883 732020
IR CANADA: 15 Lincoln Court, Brampton, Ontario L6T3Z2, Tel: (905) 453 2200
IR GERMANY: Saalburgstrasse 157, 61350 Bad Homburg Tel: ++ 49 6172 96590
IR ITALY: Via Liguria 49, 10071 Borgaro, Torino Tel: ++ 39 11 451 0111
IR JAPAN: K&H Bldg., 2F, 30-4 Nishi-Ikebukuro 3-Chome, Toshima-Ku, Tokyo Japan 171 Tel: 81 3 3983 0086
IR SOUTHEAST ASIA: 1 Kim Seng Promenade, Great World City West Tower, 13-11, Singapore 237994 Tel: ++ 65 838 4630
IR TAIWAN: 16 Fl. Suite D. 207, Sec. 2, Tun Haw South Road, Taipei, 10673, Taiwan Tel: 886-2-2377-9936