International
IOR Rectifier
AN INFINEON TECHNOLOGIES COMPANY

PD-20354E

SCHOTTKY RECTIFIER
HIGH EFFICIENCY SERIES

25GQ045
35Amp, 45V

Major Ratings and Characteristics

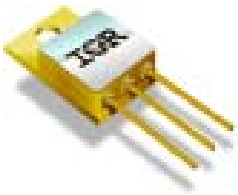
Characteristics	25GQ045	Units
$I_{F(AV)}$	25	A
V_{RRM}	45	V
I_{FSM} @ tp = 8.3ms half-sine	400	A
V_F @ 35Apk, T_J =125°C	0.84	V
T_J, T_{stg} Operating and storage	-55 to 150	°C

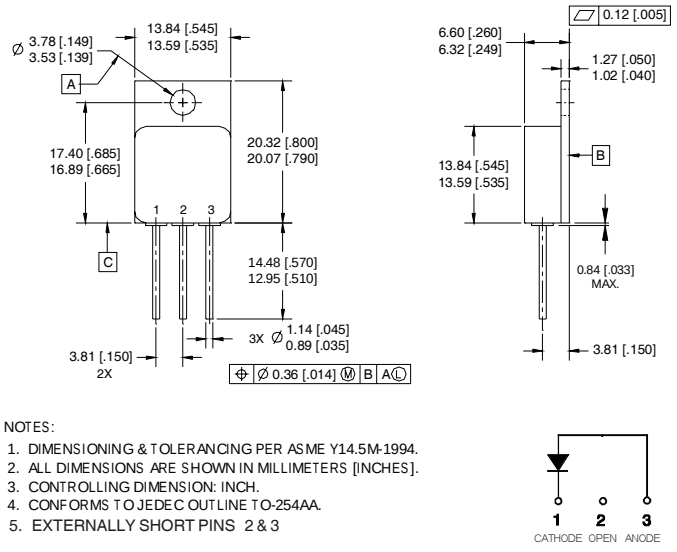
Description/Features

The 25GQ150 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
- Low Forward Voltage Drop
- High Frequency Operation
- Guard Ring for Enhanced Ruggedness and Long term Reliability
- Lightweight
- Electrically Isolated
- 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	25GQ045
V_R	Max. DC Reverse Voltage (V)	45
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°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	0.98	V	@35A	T_J = -55°C
		1.39	V	@70A	
		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	0.8	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} (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	°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. 4
wt	Weight (Typical)	9.3	g	
	Die Size (Typical)	200X200	mils	
	Case Style	TO-254AA		

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

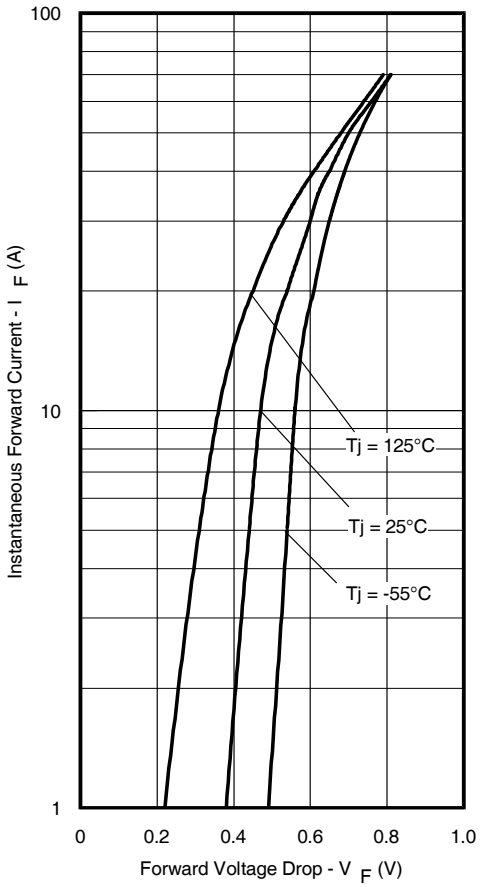


Fig. 1 - Typical Forward Voltage Drop Characteristics

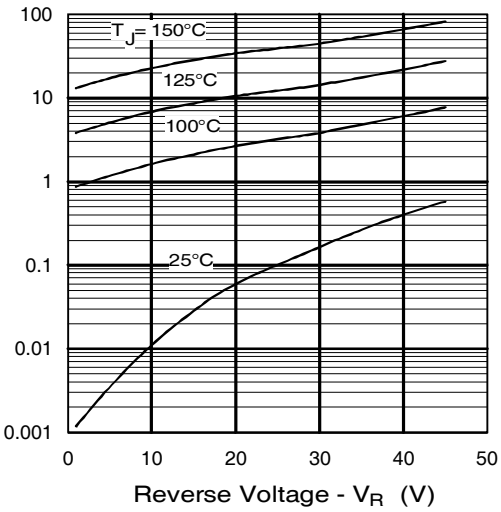


Fig. 2 - Typical Values of Reverse Current Vs. Reverse Voltage

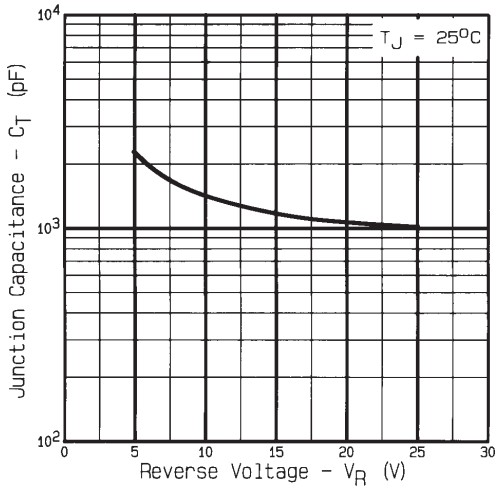


Fig. 3 - Typical Junction Capacitance Vs. Reverse Voltage

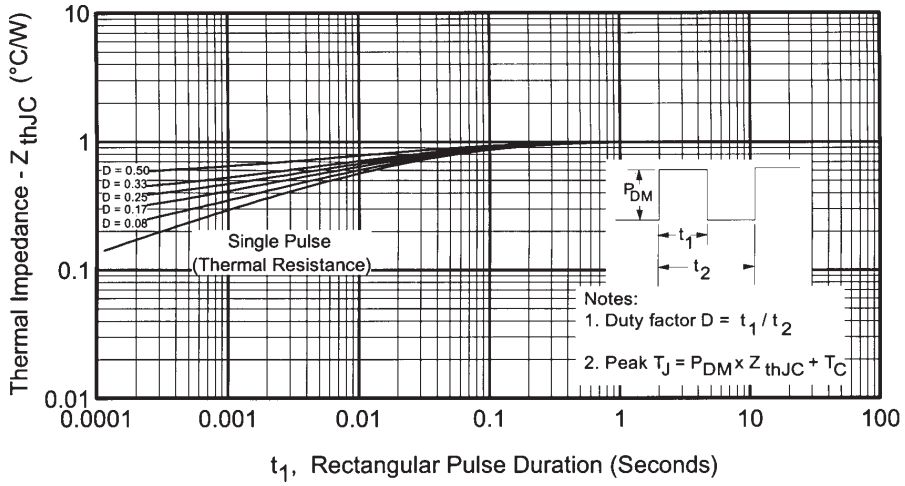


Fig. 4 - Max. Thermal Impedance Z_{thJC} Characteristics

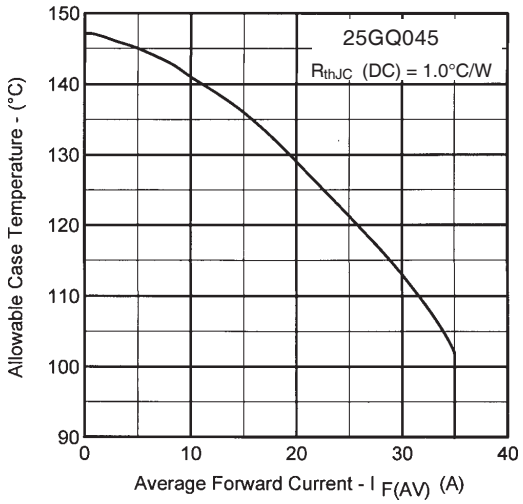


Fig. 5 - Max. Allowable Case Temperature Vs. Average Forward Current

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.