

SCHOTTKY RECTIFIER

HIGH EFFICIENCY SERIES

25GQ045
35Amp, 45V

Major Ratings and Characteristics

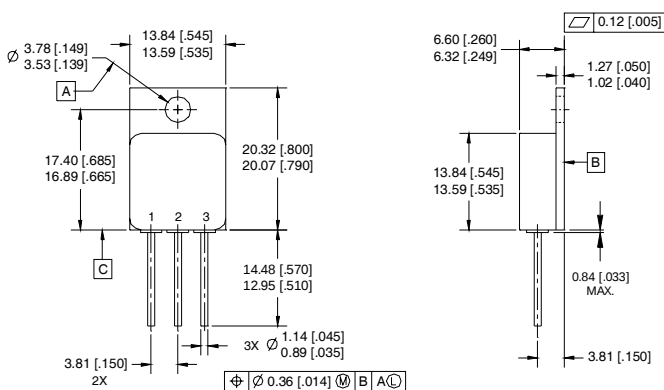
Characteristics	25GQ045	Units
$I_{F(AV)}$	25	A
V_{RRM}	45	V
$I_{FSM} @ \text{tp} = 8.3\text{ms half-sine}$	400	A
$V_F @ 35\text{Apk}, T_J = 125^\circ\text{C}$	0.84	V
T_J, T_{stg} Operating and storage	-55 to 150	$^\circ\text{C}$

Description/Features

The 25GQ150 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.

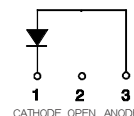
- Hermetically Sealed
- Low Forward Voltage Drop
- High Frequency Operation
- Guard Ring for Enhanced Ruggedness and Long term Reliability
- Lightweight
- Electrically Isolated
- ESD Rating: Class NS per MIL-STD-750, Method 1020

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. 1 ①	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%

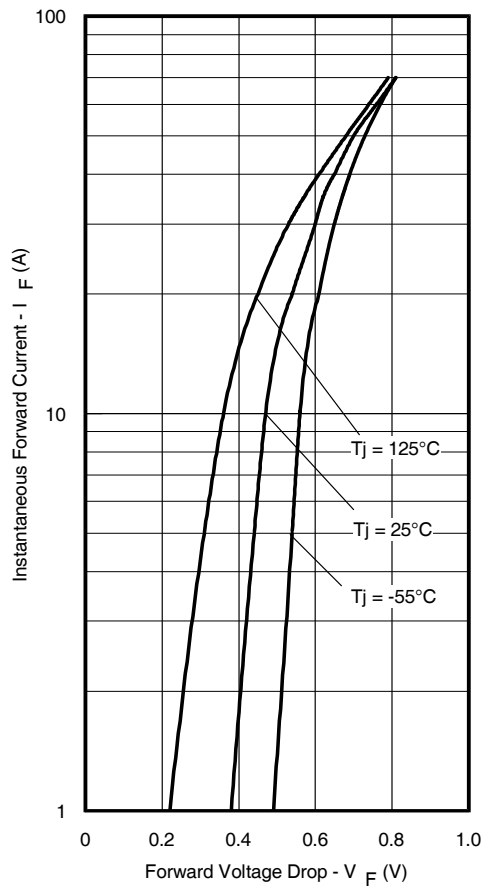


Fig. 1 - Typical Forward Voltage Drop Characteristics

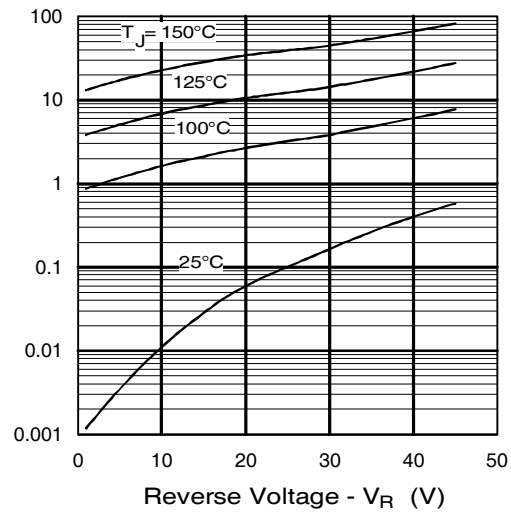


Fig. 2 - Typical Values of Reverse Current Vs. Reverse Voltage

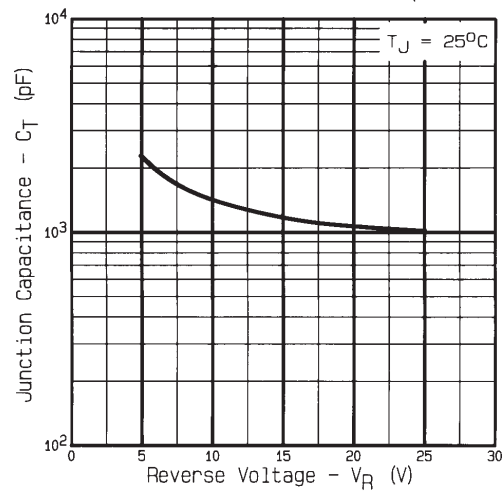


Fig. 3 - Typical Junction Capacitance Vs. Reverse Voltage

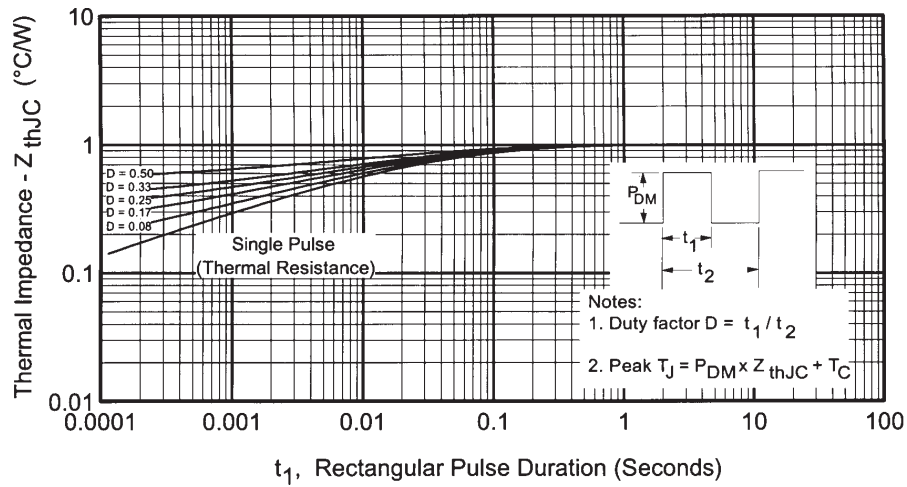
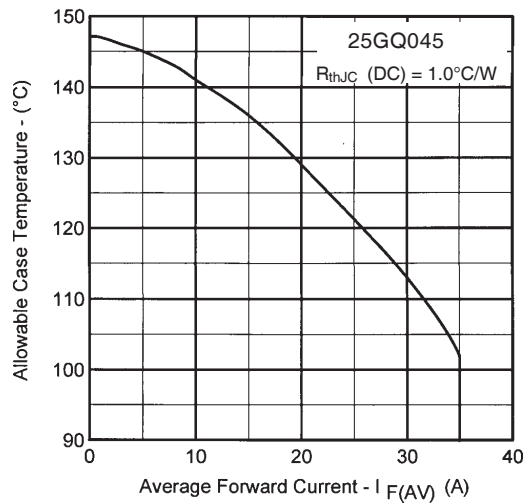
Fig. 4 - Max. Thermal Impedance Z_{thJC} Characteristics

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