International
IOR Rectifier

PD-94088B

SCHOTTKY RECTIFIER
HIGH EFFICIENCY SERIES

10YQ045C
JANS1N7045T3
JANTX1N7045T3
JANTXV1N7045T3

10Amp, 45V

Ref: MIL-PRF-19500/735

Major Ratings and Characteristics

Characteristics	1N7045T3	Units
$I_{F(AV)}$	10	A
V_{RRM}	45	V
I_{FSM} @ tp = 8.3ms half-sine	110	A
V_F @ 10Apk, T_J =125°C	0.70	V
T_J, T_{stg} Operating and storage	-65 to 150	°C

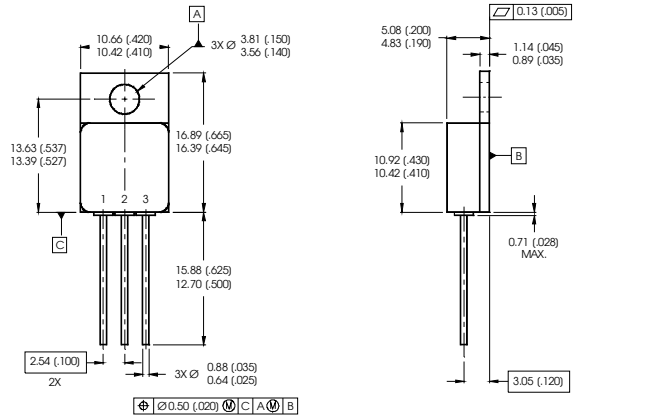
Description/Features

The 1N7045T3 Schottky rectifier has been expressly designed to meet the rigorous requirements of high reliability environments. It is packaged in the hermetic isolated TO-257AA 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 levels.

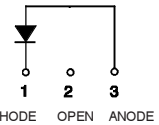
- Hermetically Sealed
- Low Forward Voltage Drop
- High Frequency Operation
- Guard Ring for Enhanced Ruggedness and Long Term Reliability
- Lightweight
- Ceramic Eyelets
- ESD Rating: Class 3A per MIL-STD-750, Method 1020

CASE STYLE





NOTES:
1. DIMENSIONING & TOLERANCING PER ANSI Y14.5M-1994.
2. CONTROLLING DIMENSION: INCH.
3. DIMENSIONS ARE SHOWN IN MILLIMETERS (INCHES).
4. OUTLINE CONFORMS TO JEDEC OUTLINE TO-257AA.



Case Outline and Dimensions - TO-257AA

10/16/12

Voltage Ratings

	Part number	1N7045T3
V_R	Max. DC Reverse Voltage (V) (Per Leg)	45
V_{RWM}	Max. Working DC Reverse Voltage (V) (Per Leg)	

Absolute Maximum Ratings

	Parameters	Limits	Units	Conditions
$I_{F(AV)}$	Max. Average Forward Current See Fig. 5	10	A	50% duty cycle @ T_C = 119°C, square waveform
I_{FSM}	Max. Peak One Cycle Non - Repetitive Surge Current	110	A	@ t_p = 8.3 ms half-sine

Electrical Specifications

	Parameters	Limits	Units	Conditions	
V_{FM}	Max. Forward Voltage Drop See Fig. 1①	0.74	V	@ 10A	T_J = -55°C
		0.95	V	@ 20A	
		0.73	V	@ 10A	T_J = 25°C
		1.02	V	@ 20A	
		0.70	V	@ 10A	T_J = 125°C
		1.10	V	@ 20A	
I_{RM}	Max. Reverse Leakage Current	0.50	mA	T_J = 25°C	
	See Fig. 2①	67	mA	T_J = 125°C	V_R = rated V_R
C_T	Max. Junction Capacitance	900	pF	V_R = 5V_{DC} (1MHz, 25°C)	
L_S	Typical Series Inductance	9.8	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	-65 to 150	°C	
T_{stg}	Max. Storage Temperature Range	-65 to 150	°C	
R_{thJC}	Max. Thermal Resistance, Junction to Case	2.6	°C/W	DC operation See Fig. 4
wt	Weight (Typical)	3.3	g	
	Die Size (Typical)	125X125	mils	
	Case Style	TO-257AA		

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

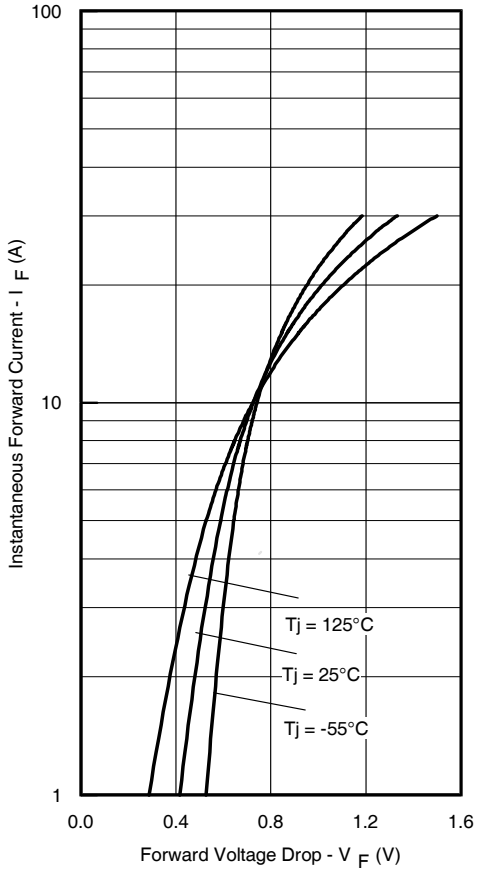


Fig. 1 - Max. Forward Voltage Drop Characteristics

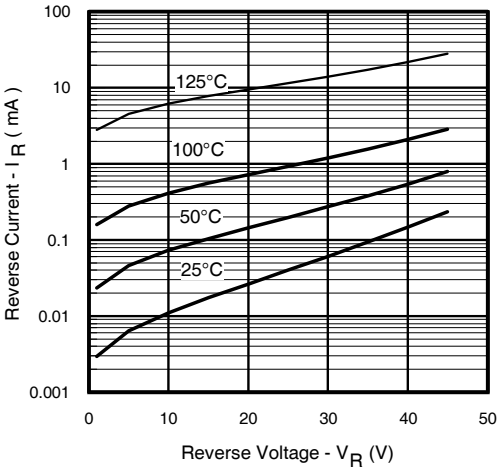


Fig. 2 - Typical Values of Reverse Current Vs. Reverse Voltage

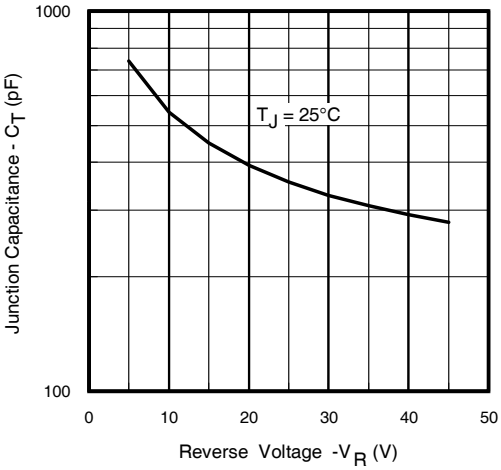


Fig. 3 - Typical Junction Capacitance Vs. Reverse Voltage

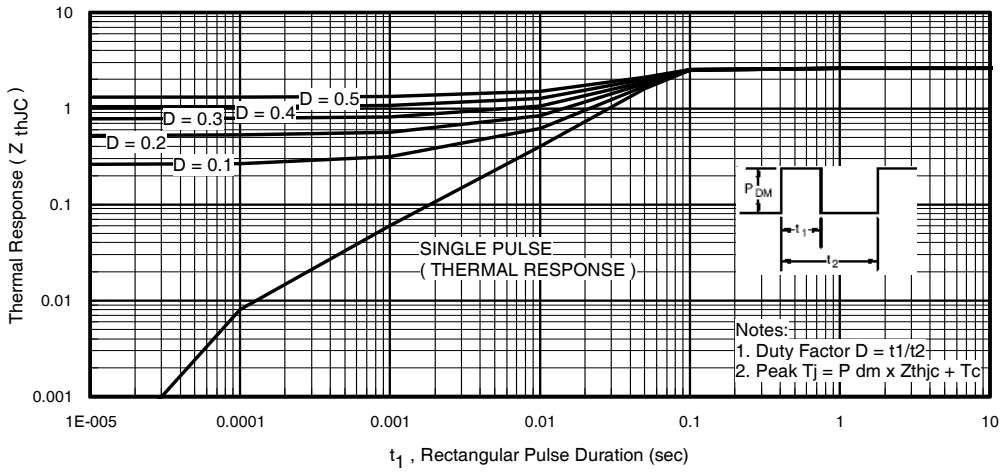


Fig. 4 - Max. Thermal Impedance Z_{thJC} Characteristics

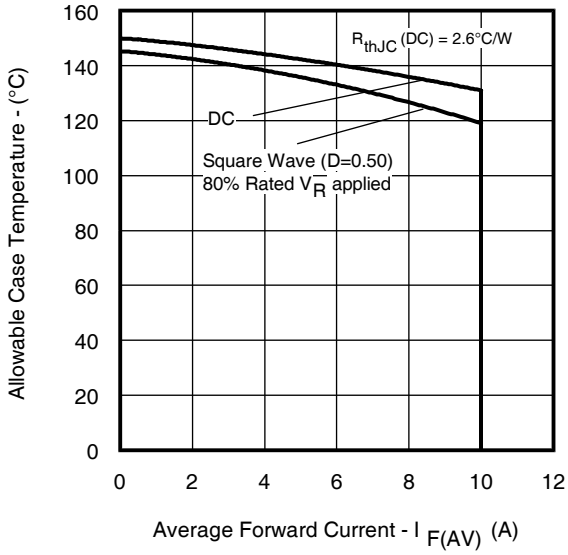


Fig. 5 - Max. Allowable Case Temperature Vs.
Average Forward Current

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