International
IOR Rectifier

PD-97555B

SCHOTTKY RECTIFIER
HIGH EFFICIENCY SERIES

22DGQ045
JANS1N6660DT1
JANTX1N6660DT1
JANTXV1N6660DT1

30Amp, 45V
Ref: MIL-PRF-19500/608

Major Ratings and Characteristics

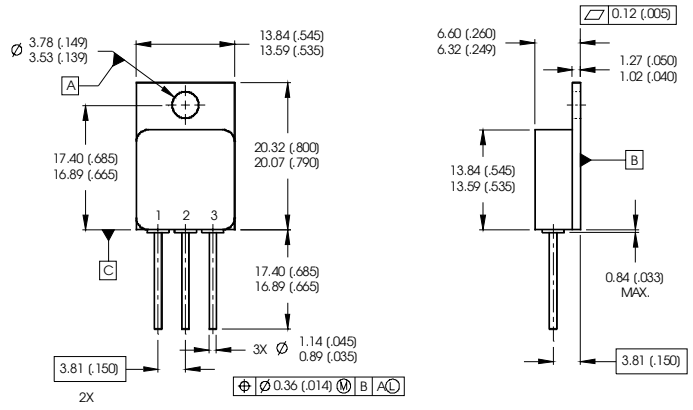
Characteristics	1N6660DT1	Units
$I_{F(AV)}$	30	A
V_{RRM} (Per Leg)	45	V
I_{FSM} @ tp = 8.3ms half-sine (Per Leg)	300	A
V_F @ 20Apk, T_J =125°C (Per Leg)	0.70	V
T_J, T_{stg} Operating and storage	-65 to 150	°C

Description/Features

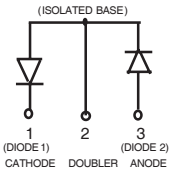
The 1N6660DT1 Doubler Schottky rectifier has been expressly designed to meet the rigorous requirements of high reliability environments. It is packaged in the hermetic isolated TO-254AA package. The device's forward voltage drop and reverse leakage current are optimized for the lowest power loss and 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 controlled drawings to TX, TXV and S levels.

- Hermetically Sealed
- Center Tap
- High Frequency Operation
- Guard Ring for Enhanced Ruggedness and Long Term Reliability
- Electrically Isolated
- ESD Rating: Class 3A 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.



Case Outline and Dimensions - TO-254AA

Voltage Ratings

	Part number	1N6660DT1
V_R	Max. DC Reverse Voltage (V) (Per Leg)	45
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. 6	30	A	50% duty cycle @ T_C = 88.4°C, rectangular waveform
I_{FSM}	Max. Peak One Cycle Non - Repetitive Surge Current (Per Leg)	300	A	@ t_p = 8.3 ms half-sine

Electrical Specifications

	Parameters	Limits	Units	Conditions	
V_{FM}	Max. Forward Voltage Drop (Per Leg) ①	0.80	V	@ 15A	T_J = -55°C
		0.55	V	@ 5.0A	T_J = 25°C See Fig. 1
		0.75	V	@ 15A	
		1.0	V	@ 30A	
I_{RM}	Max. Reverse Leakage Current (Per Leg) See Fig. 2 ①	1.0	mA	T_J = 25°C	V_R = rated V_R
		40	mA	T_J = 125°C	
C_T	Max. Junction Capacitance (Per Leg)	2000	pF	V_R = 5V_{DC} (1MHz, 25°C)	
L_S	Typical Series Inductance (Per Leg)	6.7	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 125	°C	
T_{stg}	Max. Storage Temperature Range	-65 to 150	°C	
R_{thJC}	Max. Thermal Resistance, Junction Diode1 (Cathode) to Case	2.8	°C/W	DC operation See Fig. 4
R_{thJC}	Max. Thermal Resistance, Junction Diode 2 (Anode) to Case	1.65	°C/W	DC operation See Fig. 5
R_{thJC}	Max. Thermal Resistance, Junction to Case (Per Package)	1.50	°C/W	DC operation
wt	Weight (Typical)	9.3	g	
	Die Size	150X150	mils	
	Case Style	TO-254AA		

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

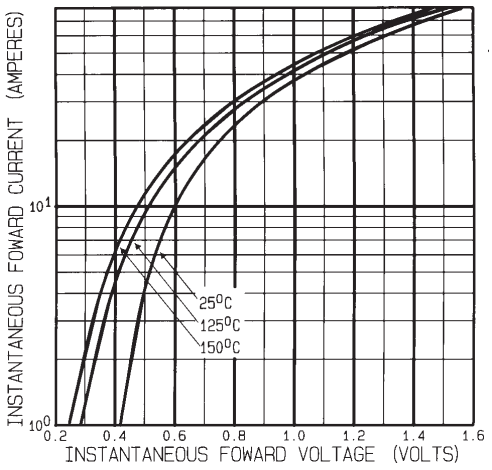


Fig. 1 - Typical Forward Voltage Drop Characteristics (Per Leg)

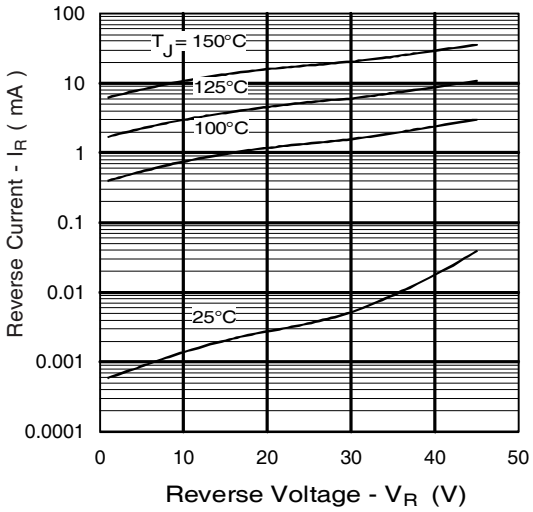


Fig. 2 - Typical Values of Reverse Current Vs. Reverse Voltage (Per Leg)

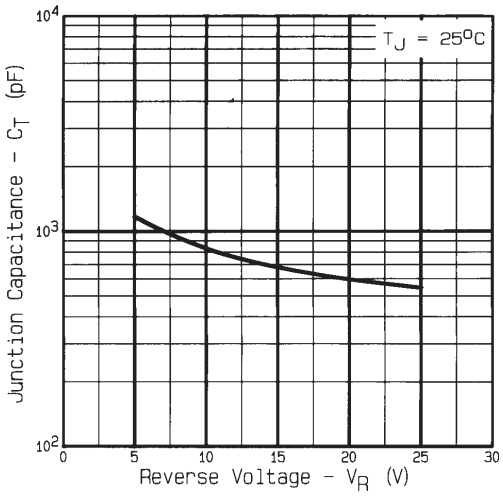


Fig. 3 - Typical Junction Capacitance Vs. Reverse Voltage (Per Leg)

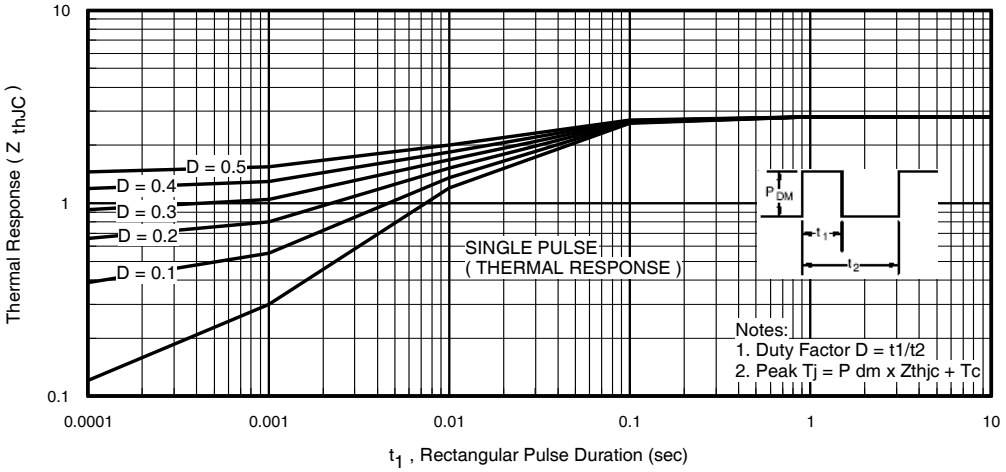


Fig. 4 - Max. Thermal Impedance Z_{thJC} Characteristics (Diode 1)

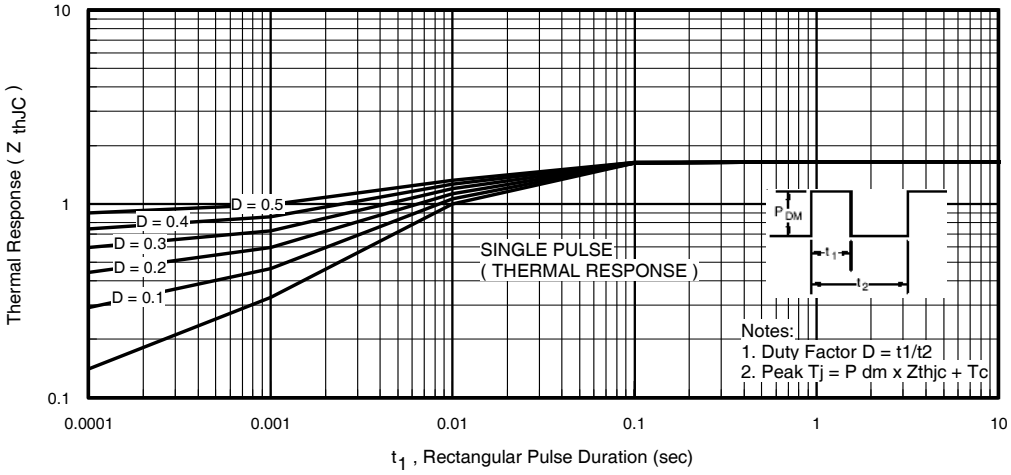


Fig. 5 - Max. Thermal Impedance Z_{thJC} Characteristics (Diode 2)

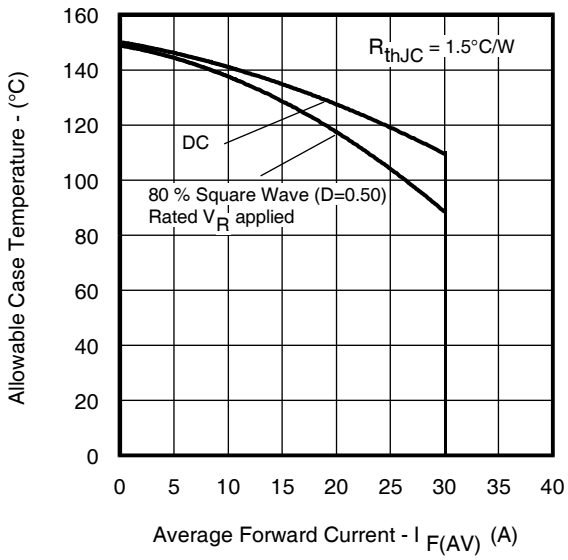


Fig. 6 - Max. Allowable Case Temperature Vs.
Average Forward Current (Per Package)

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