

Voltage Ratings

Part Number	1N6660CAT1
V_R Max. DC Reverse Voltage (V) (Per Leg)	45
V_{RRM} Max. Working Peak Reverse Voltage (V) (Per Leg)	

Absolute Maximum Ratings

Parameter	Limits	Units	Conditions
$I_{F(AV)}$ Max. Average Forward Current See Fig. 5	30	A	50% duty cycle @ $T_C = 88.4^\circ\text{C}$, 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

Parameter	Limits	Units	Conditions
V_{FM} Max. Forward Voltage Drop (Per Leg) See Fig. 1 ①	0.80	V	@ $I_F = 15\text{A}$ $T_J = -55^\circ\text{C}$
	0.55	V	@ $I_F = 5.0\text{A}$ $T_J = 25^\circ\text{C}$
	0.75	V	@ $I_F = 15\text{A}$ $T_J = 25^\circ\text{C}$
	1.0	V	@ $I_F = 30\text{A}$ $T_J = 25^\circ\text{C}$
I_{RM} Max. Reverse Leakage Current (Per Leg) See Fig. 2 ①	1.0	mA	$T_J = 25^\circ\text{C}$ $V_R = \text{rated } V_R$
	40	mA	$T_J = 125^\circ\text{C}$
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 (0.25 in.) from package

Thermal-Mechanical Specifications

Parameter	Limits	Units	Conditions
T_J Max. Junction Temperature Range	-65 to 125	$^\circ\text{C}$	
T_{stg} Max. Storage Temperature Range	-65 to 150	$^\circ\text{C}$	
R_{thJC} Max. Thermal Resistance, Junction to Case (Per Leg)	2.8	$^\circ\text{C/W}$	DC operation See Fig. 4
R_{thJC} Max. Thermal Resistance, Junction to Case (Per Package)	1.5	$^\circ\text{C/W}$	DC operation
Wt Weight (Typical)	9.3	g	
Die Size (Typical)	150 x 150	mils	
Case Style	TO-254AA		

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

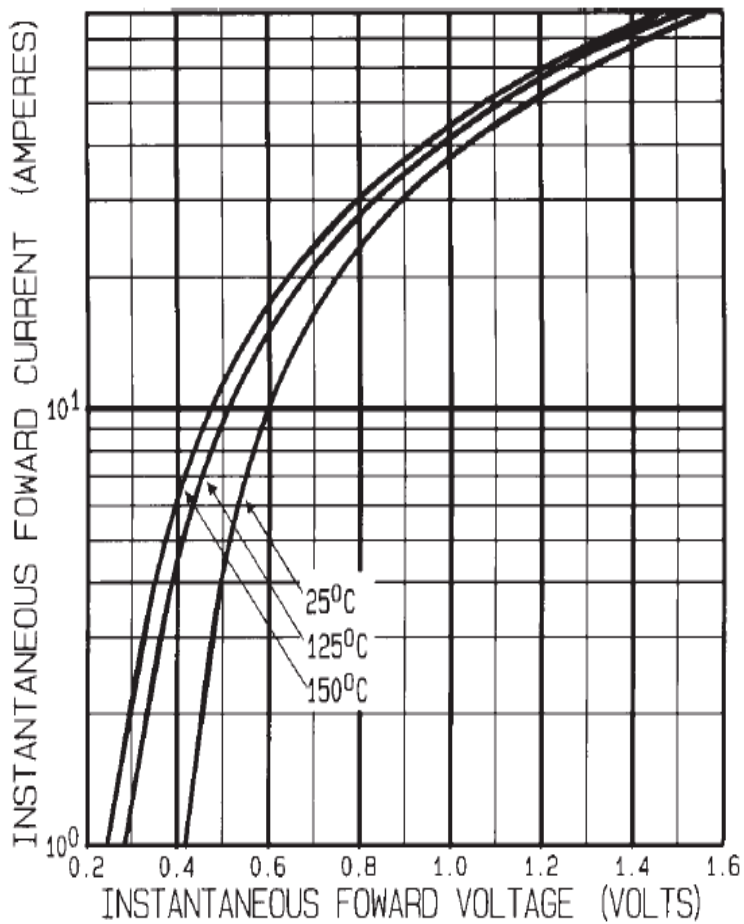


Fig 1. Max. Forward Voltage Drop Characteristics (Per Leg)

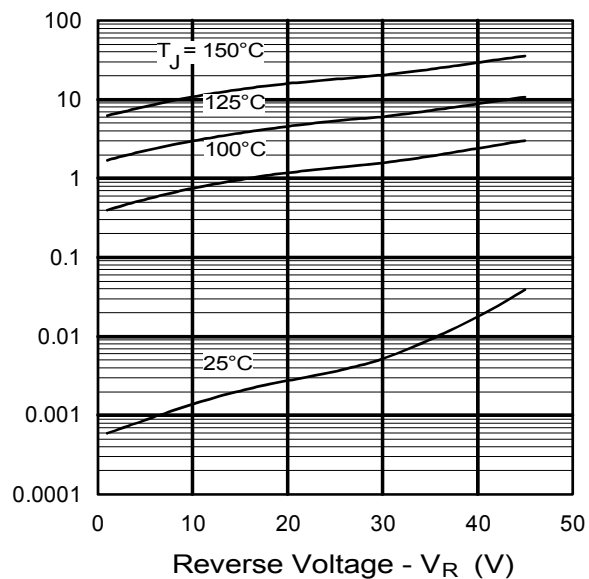


Fig 2. Typical Values of Reverse Current Vs. Reverse Voltage (Per Leg)

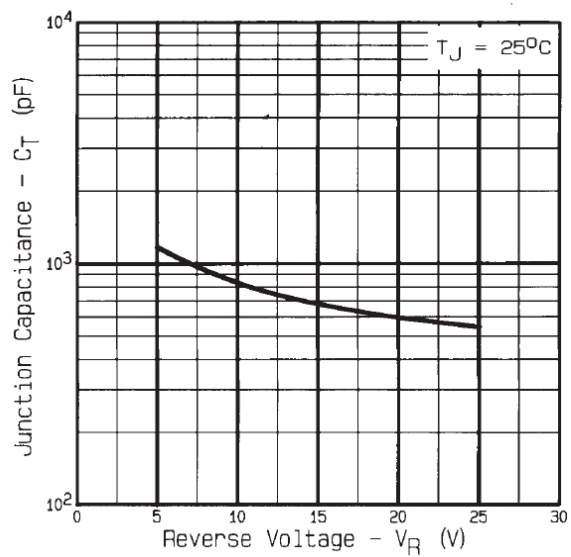


Fig 3. Typical Junction Capacitance Vs. Reverse Voltage (Per Leg)

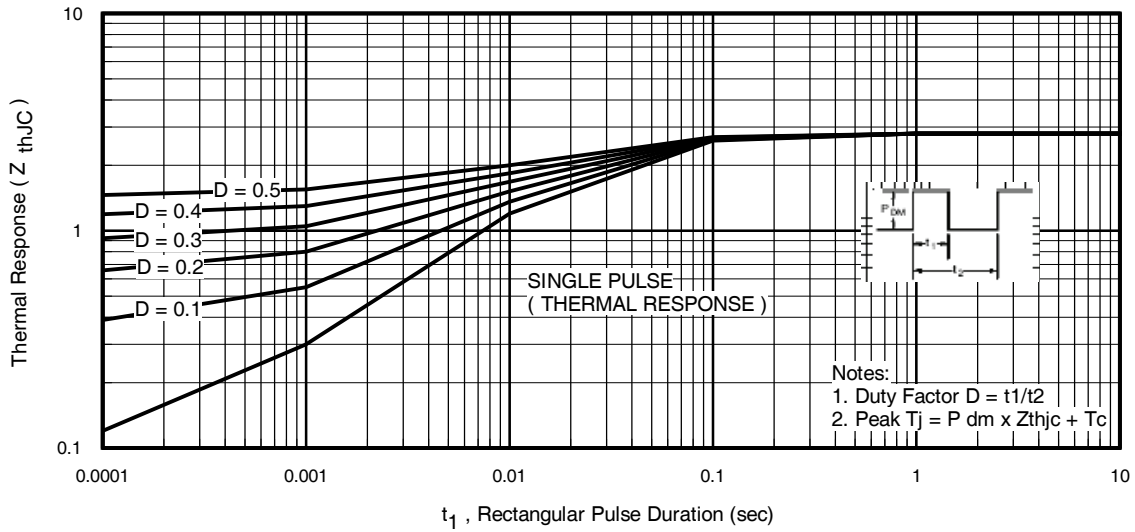


Fig 4. Max. Thermal Impedance Z_{thJC} Characteristics (Per Leg)

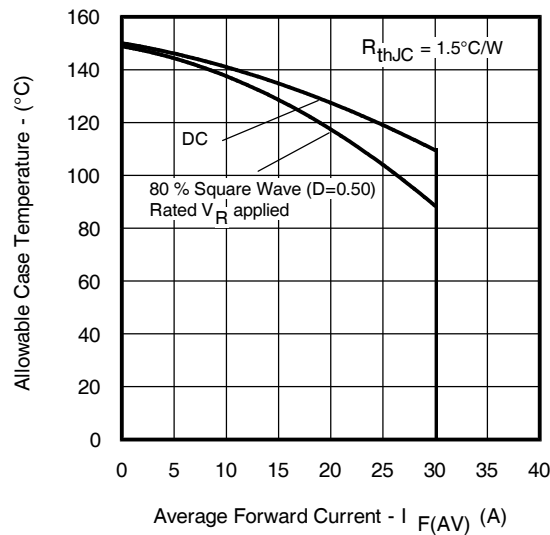


Fig 5. Max. Allowable Case Temperature Vs. Average Forward Current (Per Package)

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