DYNAMIC CHARACTERISTICS

Symbol	Characteristic	Test Conditions	MIN	TYP	MAX	UNIT
t_{rr}	Reverse Recovery Time	I_F = 1A, di_F/dt = -100A/µs, V_R = 30V, T_J = 25°C	-	20		ns
t_{rr}	Reverse Recovery Time	I_F = 15A, di_F/dt = -200A/µs V_R = 667V, T_C = 25°C	-	235		
Q_{rr}	Reverse Recovery Charge		-	185		nC
I_{RRM}	Maximum Reverse Recovery Current		-	3	-	Amps
t_{rr}	Reverse Recovery Time	I_F = 15A, di_F/dt = -200A/µs V_R = 667V, T_C = 125°C	-	300		ns
Q_{rr}	Reverse Recovery Charge		-	810		nC
I_{RRM}	Maximum Reverse Recovery Current		-	6	-	Amps
t_{rr}	Reverse Recovery Time	I_F = 15A, di_F/dt = -1000A/µs V_R = 667V, T_C = 125°C	-	125		ns
Q_{rr}	Reverse Recovery Charge		-	1150		nC
I_{RRM}	Maximum Reverse Recovery Current		-	19		Amps

THERMAL AND MECHANICAL CHARACTERISTICS

Symbol	Characteristic / Test Conditions	MIN	TYP	MAX	UNIT
$R_{\theta JC}$	Junction-to-Case Thermal Resistance			1.18	°C/W
W_T	Package Weight		0.07		oz
			1.9		g
Torque	Maximum Mounting Torque			10	lb•in
				1.1	N•m

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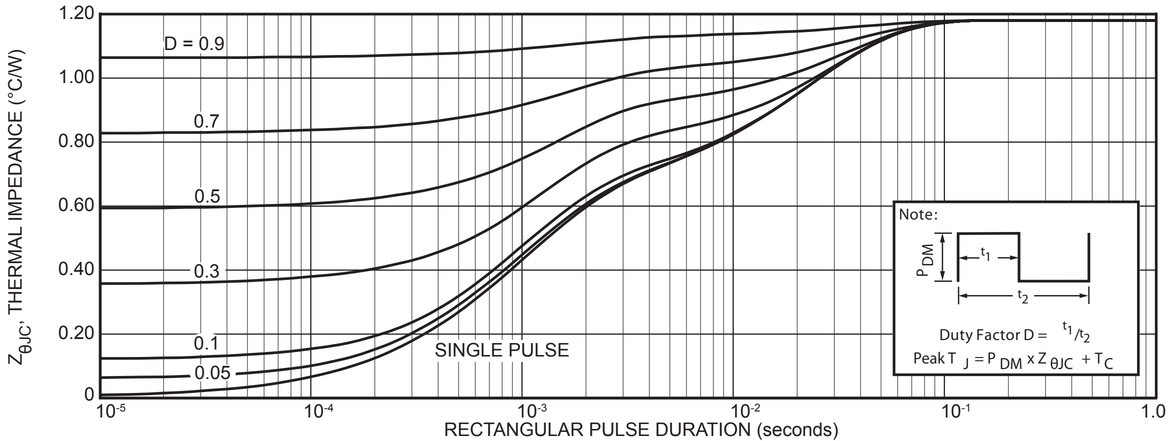

FIGURE 1a. MAXIMUM EFFECTIVE TRANSIENT THERMAL IMPEDANCE, JUNCTION-TO-CASE vs. PULSE DURATION

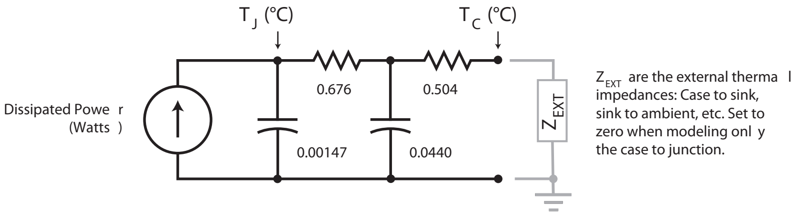

FIGURE 1b, TRANSIENT THERMAL IMPEDANCE MODEL

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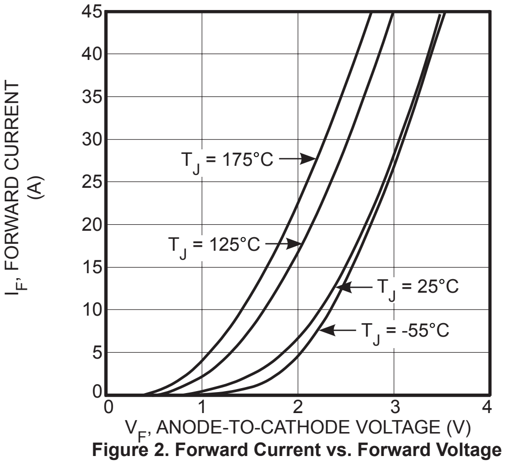

Figure 2. Forward Current vs. Forward Voltage

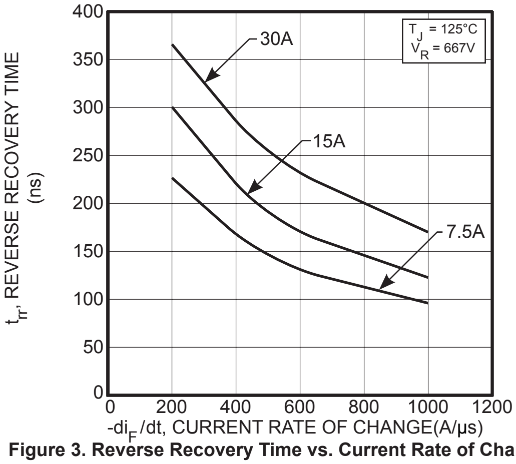

Figure 3. Reverse Recovery Time vs. Current Rate of Change

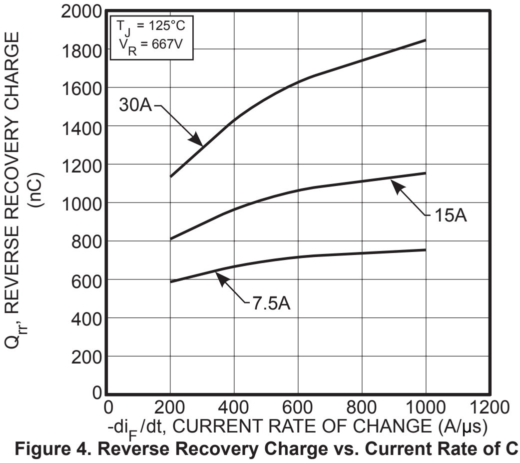

Figure 4. Reverse Recovery Charge vs. Current Rate of Change

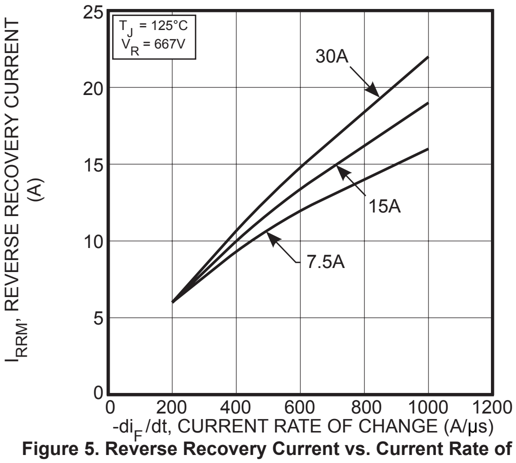

Figure 5. Reverse Recovery Current vs. Current Rate of Change

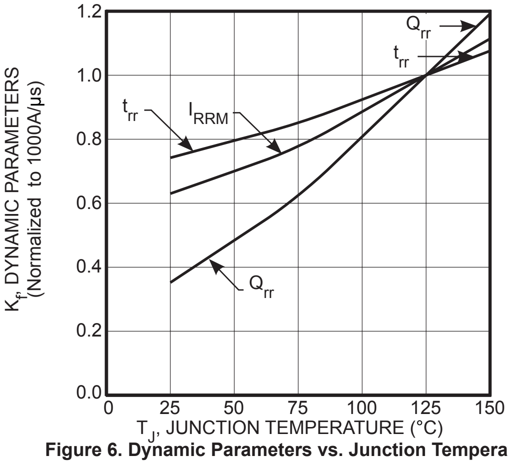

Figure 6. Dynamic Parameters vs. Junction Temperature

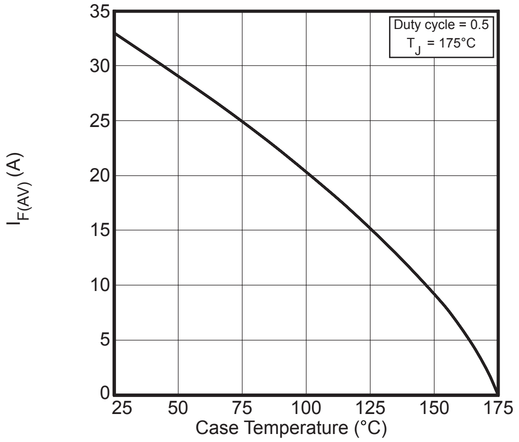

Figure 7. Maximum Average Forward Current vs. CaseTemperature

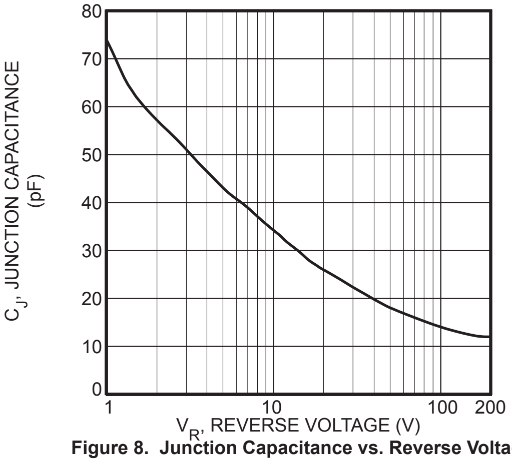

Figure 8. Junction Capacitance vs. Reverse Voltage

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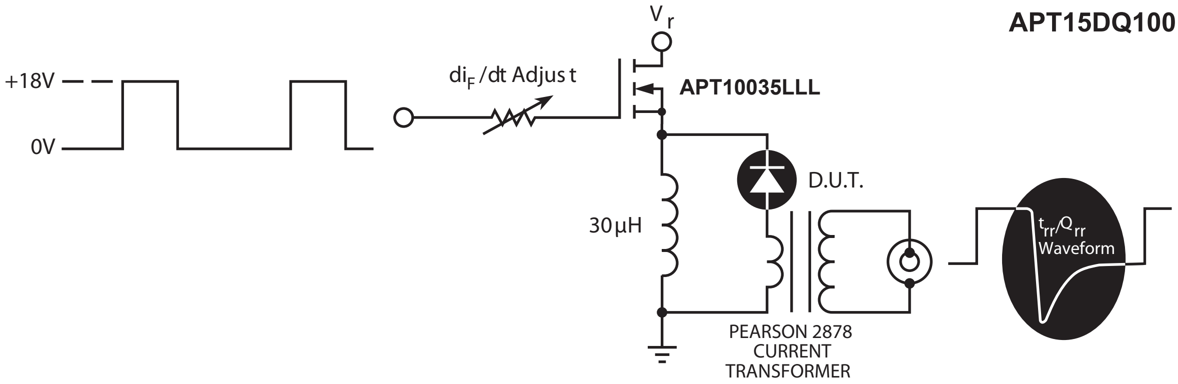


Figure 9. Diode Test Circuit

① I_F - Forward Conduction Current

② di_F/dt - Rate of Diode Current Change Through Zero Crossing.

③ I_{RRM} - Maximum Reverse Recovery Current

④ t_{rr} - Reverse Recovery Time measured from zero crossing where diode current goes from positive to negative, to the point at which the straight line through I_{RRM} and 0.25, I_{RRM} passes through zero.

⑤ Q_{rr} - Area Under the Curve Defined by I_{RRM} and $t_{RR.}$

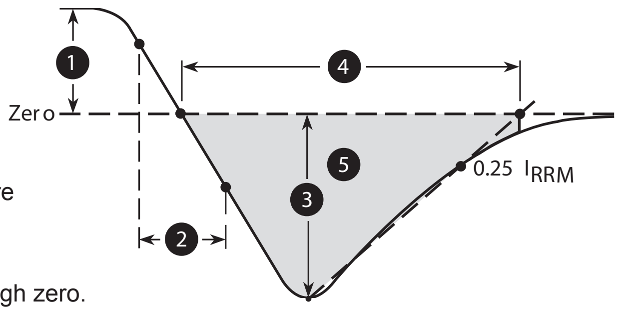
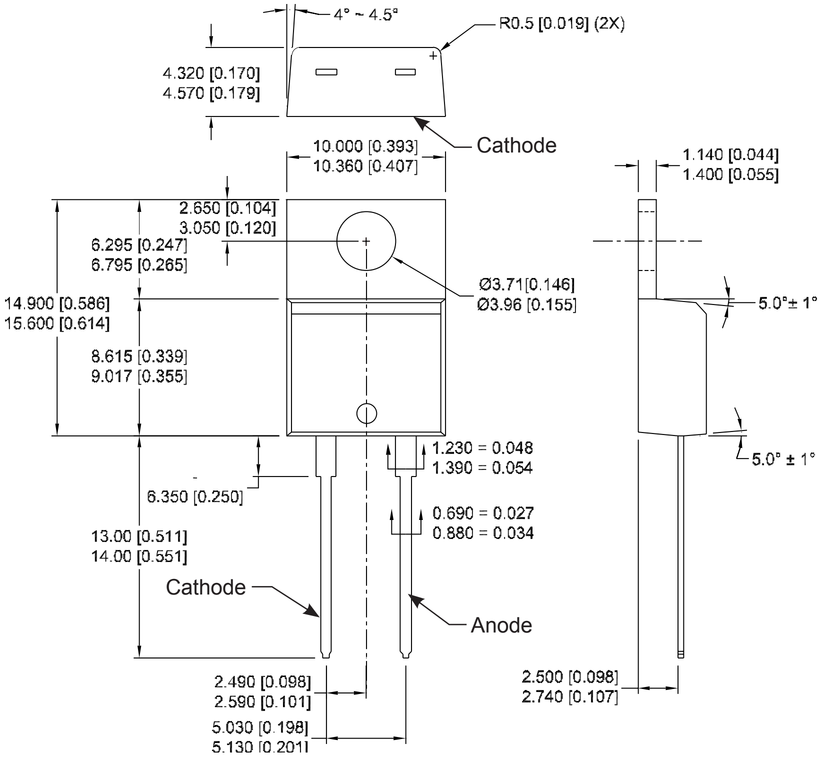


Figure 10. Diode Reverse Recovery Waveform Definition

TO-220 (K) Package Outline

e3 100% Sn



Dimensions in millimeters and [inches]

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