

DYNAMIC CHARACTERISTICS

APT15DQ60(B/S)G

Symbol	Characteristic	Test Conditions	MIN	TYP	MAX	UNIT
t_{rr}	Reverse Recovery Time	$I_F = 1A$, $di_F/dt = -100A/\mu s$, $V_R = 30V$, $T_J = 25^\circ C$	-	15		ns
t_{rr}	Reverse Recovery Time	$I_F = 15A$, $di_F/dt = -200A/\mu s$ $V_R = 400V$, $T_C = 25^\circ C$	-	19		
Q_{rr}	Reverse Recovery Charge		-	21		nC
I_{RRM}	Maximum Reverse Recovery Current		-	2	-	Amps
t_{rr}	Reverse Recovery Time	$I_F = 15A$, $di_F/dt = -200A/\mu s$ $V_R = 400V$, $T_C = 125^\circ C$	-	105		ns
Q_{rr}	Reverse Recovery Charge		-	250		nC
I_{RRM}	Maximum Reverse Recovery Current		-	5	-	Amps
t_{rr}	Reverse Recovery Time	$I_F = 15A$, $di_F/dt = -1000A/\mu s$ $V_R = 400V$, $T_C = 125^\circ C$	-	55		ns
Q_{rr}	Reverse Recovery Charge		-	420		nC
I_{RRM}	Maximum Reverse Recovery Current		-	15		Amps

THERMAL AND MECHANICAL CHARACTERISTICS

Symbol	Characteristic / Test Conditions	MIN	TYP	MAX	UNIT
$R_{\theta JC}$	Junction-to-Case Thermal Resistance			1.35	$^\circ C/W$
W_T	Package Weight		0.22		oz
			5.9		g
Torque	Maximum Mounting Torque			10	lb•in
				1.1	N•m

Microsemi reserves the right to change, without notice, the specifications and information contained herein.

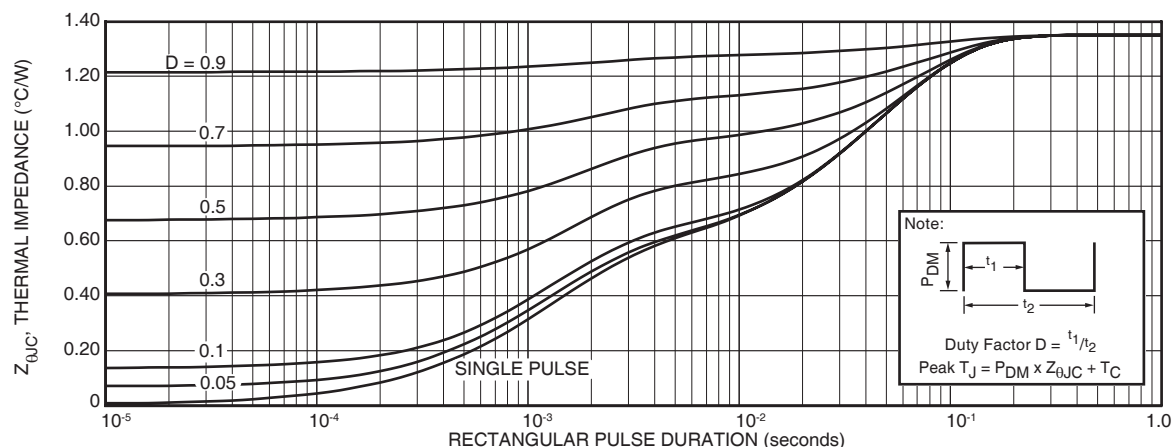


FIGURE 1a. MAXIMUM EFFECTIVE TRANSIENT THERMAL IMPEDANCE, JUNCTION-TO-CASE vs. PULSE DURATION

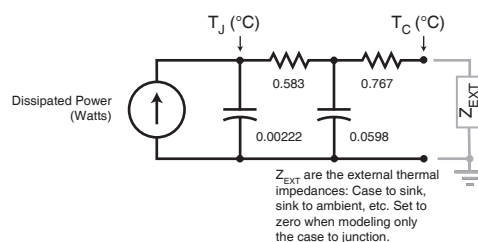


FIGURE 1b, TRANSIENT THERMAL IMPEDANCE MODEL

TYPICAL PERFORMANCE CURVES

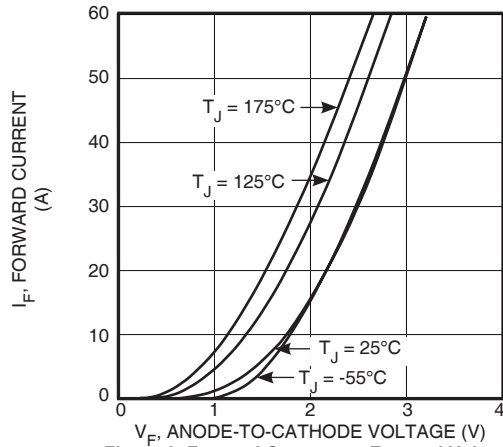


Figure 2. Forward Current vs. Forward Voltage

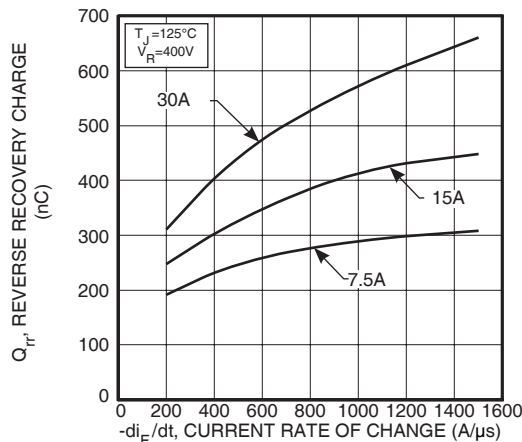


Figure 4. Reverse Recovery Charge vs. Current Rate of Change

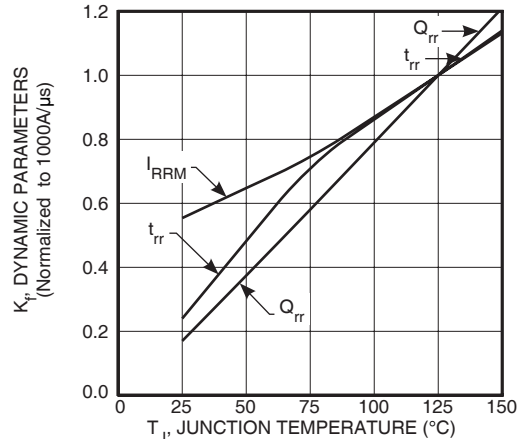


Figure 6. Dynamic Parameters vs. Junction Temperature

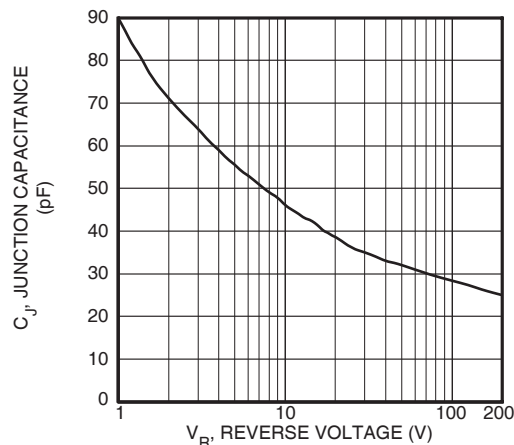


Figure 8. Junction Capacitance vs. Reverse Voltage

APT15DQ60(B/S)G

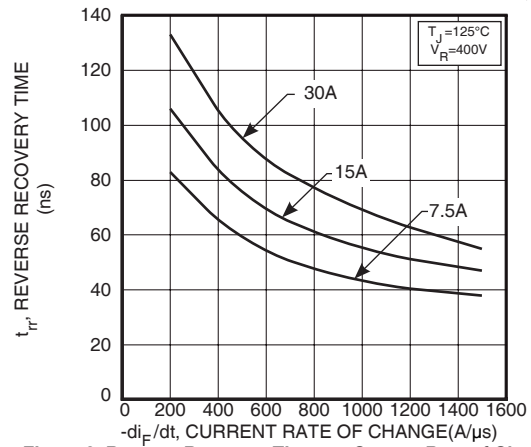


Figure 3. Reverse Recovery Time vs. Current Rate of Change

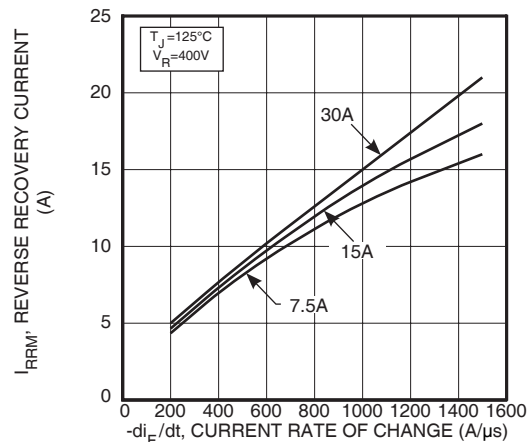


Figure 5. Reverse Recovery Current vs. Current Rate of Change

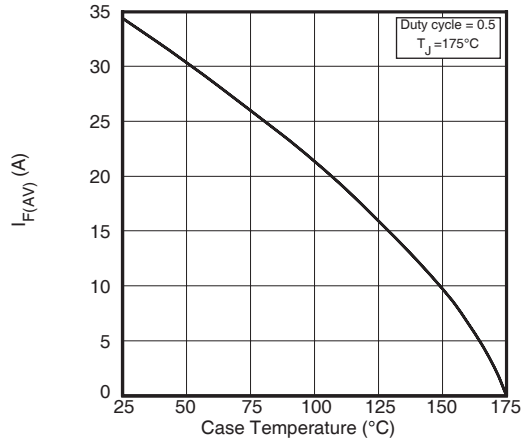


Figure 7. Maximum Average Forward Current vs. Case Temperature

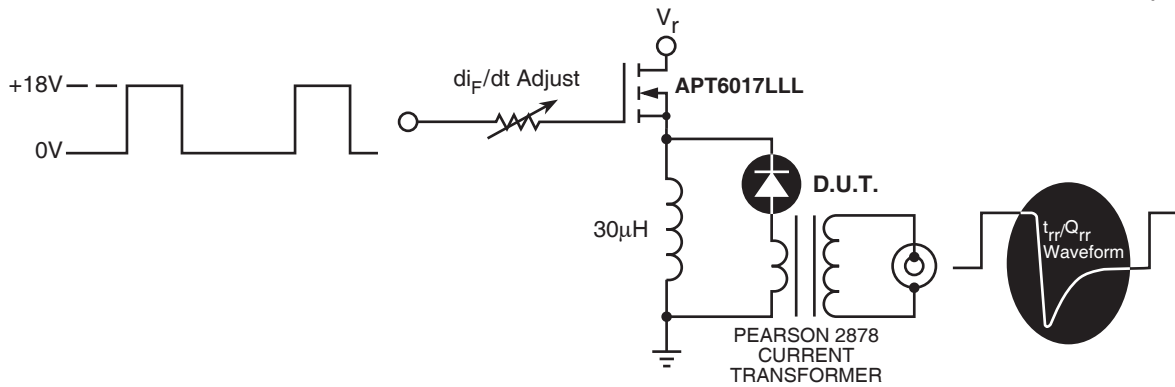


Figure 9. Diode Test Circuit

- 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 $0.25 \cdot I_{RRM}$ passes through zero.
- 5 Q_{rr} - Area Under the Curve Defined by I_{RRM} and t_{rr} .

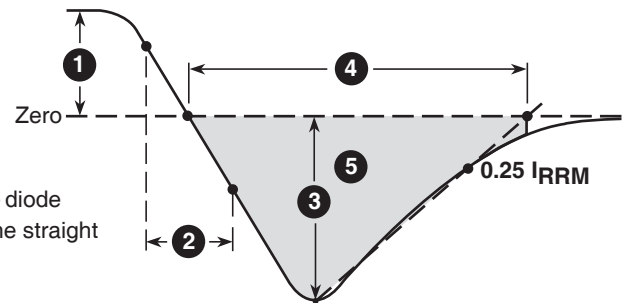
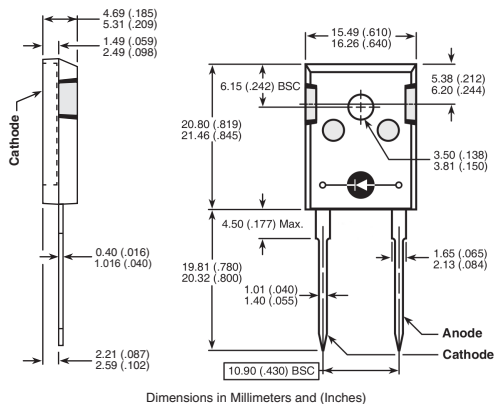


Figure 10. Diode Reverse Recovery Waveform and Definitions

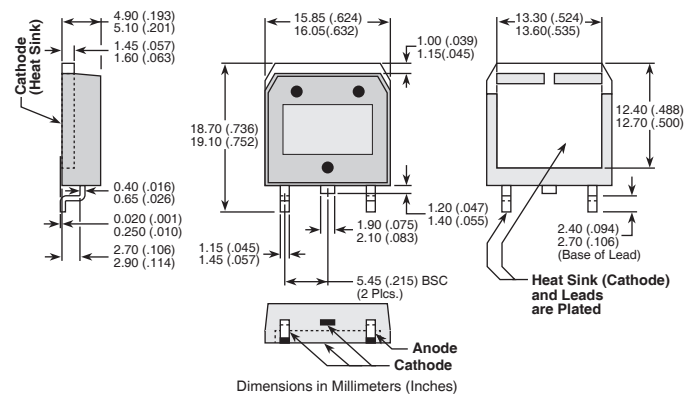
TO-247 Package Outline



Dimensions in Millimeters and (Inches)

D³PAK Package Outline

e3 100% Sn



Dimensions in Millimeters (Inches)



Microsemi Headquarters

One Enterprise, Aliso Viejo,
CA 92656 USA

Within the USA: +1 (800) 713-4113

Outside the USA: +1 (949) 380-6100

Sales: +1 (949) 380-6136

Fax: +1 (949) 215-4996

Email: sales.support@microsemi.com

www.microsemi.com

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