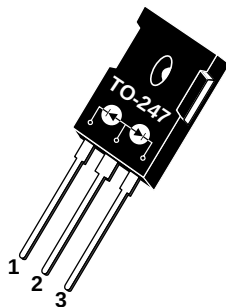


- 1 - Cathode 1
2 - Anode
3 - Cathode 2
Back of Case - Anode



APT15D60BCA 600V 2x15A

ULTRAFast SOFT RECOVERY RECTIFIER DIODES

PRODUCT APPLICATIONS	PRODUCT FEATURES	PRODUCT BENEFITS
- Parallel Diode -Switchmode Power Supply -Inverters - Free Wheeling Diode -Motor Controllers -Converters - Snubber Diode - Uninterruptible Power Supply (UPS) - Induction Heating - High Speed Rectifiers	- Ultrafast Recovery Times - Soft Recovery Characteristics - Popular TO-247 Package - Low Forward Voltage - High Blocking Voltage - Low Leakage Current	- Low Losses - Low Noise Switching - Cooler Operation - Higher Reliability Systems - Increased System Power Density

MAXIMUM RATINGS

All Ratings Are Per Leg: $T_C = 25^\circ\text{C}$ unless otherwise specified.

Symbol	Characteristic / Test Conditions	APT15D60BCA	UNIT
V_R	Maximum D.C. Reverse Voltage	600	Volts
V_{RRM}	Maximum Peak Repetitive Reverse Voltage		
V_{RWM}	Maximum Working Peak Reverse Voltage		
$I_F(AV)$	Maximum Average Forward Current ($T_C = 90^\circ\text{C}$, Duty Cycle = 0.5)	15	Amps
$I_F(RMS)$	RMS Forward Current	25	
I_{FSM}	Non-Repetitive Forward Surge Current ($T_J = 45^\circ\text{C}$, 8.3ms)	110	
T_J, T_{STG}	Operating and Storage Temperature Range	-55 to 150	$^\circ\text{C}$
T_L	Lead Temperature: 0.063" from Case for 10 Sec.	300	

STATIC ELECTRICAL CHARACTERISTICS

Symbol	Characteristic / Test Conditions	MIN	TYP	MAX	UNIT
V_F	Maximum Forward Voltage	$I_F = 15\text{A}$		1.8	Volts
		$I_F = 30\text{A}$		1.6	
		$I_F = 15\text{A}, T_J = 150^\circ\text{C}$		1.6	
I_{RM}	Maximum Reverse Leakage Current	$V_R = V_R \text{ Rated}$		150	μA
		$V_R = V_R \text{ Rated}, T_J = 125^\circ\text{C}$		500	
C_T	Junction Capacitance, $V_R = 200\text{V}$		16		pF
L_S	Series Inductance (Lead to Lead 5mm from Base)		10		nH

APT Website - <http://www.advancedpower.com>

DYNAMIC CHARACTERISTICS

APT15D60BCA

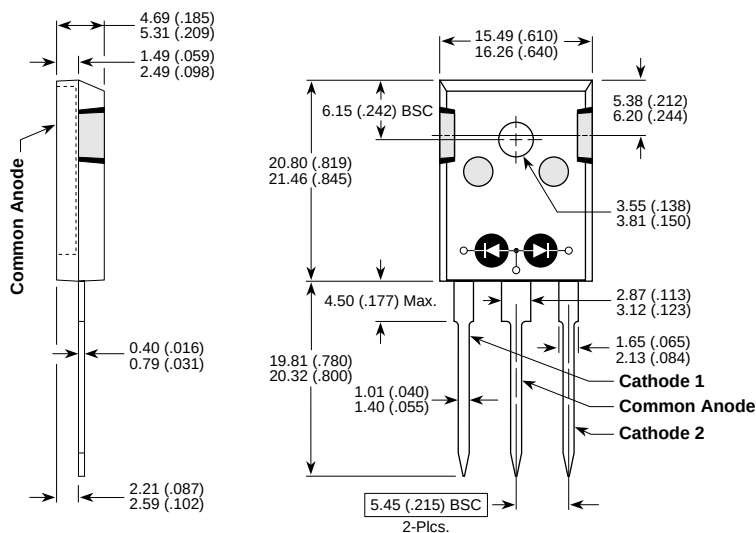
Symbol	Characteristic	MIN	TYP	MAX	UNIT
t_{rr1}	Reverse Recovery Time, $I_F = 1.0A$, $di_F/dt = -15A/\mu s$, $V_R = 30V$, $T_J = 25^\circ C$		40	50	ns
t_{rr2}	Reverse Recovery Time		40		
t_{rr3}	$I_F = 15A$, $di_F/dt = -100A/\mu s$, $V_R = 350V$		80		
t_{fr1}	Forward Recovery Time		170		
t_{fr2}	$I_F = 15A$, $di_F/dt = 100A/\mu s$, $V_R = 350V$		170		
I_{RRM1}	Reverse Recovery Current		2.5	5	Amps
I_{RRM2}	$I_F = 15A$, $di_F/dt = -100A/\mu s$, $V_R = 350V$		3	6	
Q_{rr1}	Recovery Charge		50		nC
Q_{rr2}	$I_F = 15A$, $di_F/dt = -100A/\mu s$, $V_R = 350V$		120		
V_{fr1}	Forward Recovery Voltage		2.2		Volts
V_{fr2}	$I_F = 15A$, $di_F/dt = 100A/\mu s$, $V_R = 350V$		2.2		
diM/dt	Rate of Fall of Recovery Current		200		A/ μs
	$I_F = 15A$, $di_F/dt = -100A/\mu s$, $V_R = 350V$		100		

THERMAL AND MECHANICAL CHARACTERISTICS

Symbol	Characteristic / Test Conditions	MIN	TYP	MAX	UNIT
$R_{\theta JC}$	Junction-to-Case Thermal Resistance			1.7	$^\circ C/W$
$R_{\theta JA}$	Junction-to-Ambient Thermal Resistance			40	
W_T	Package Weight		0.22		oz
			6.1		gm
Torque	Maximum Mounting Torque (Screw Type = 6-32 or 3mm Machine)			10	lb•in
				1.1	N•m

APT Reserves the right to change, without notice, the specifications and information contained herein.

TO-247 Package Outline



Dimensions in Millimeters and (Inches)

APT's devices are covered by one or more of the following U.S. patents: 4,895,810 5,045,903 5,089,434 5,182,234 5,019,522 5,262,336
5,256,583 4,748,103 5,283,202 5,231,474 5,434,095 5,528,058