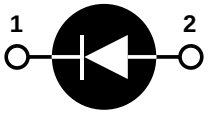
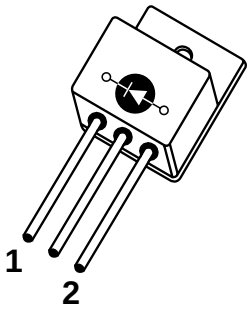


1 - Cathode
2 - Anode
Case Isolated



ADVANCED POWER TECHNOLOGY®

APT30D40H 400V 30A

ULTRAFAST SOFT RECOVERY RECTIFIER DIODE

PRODUCT APPLICATIONS	PRODUCT FEATURES	PRODUCT BENEFITS
• Anti-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-258 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: T_C = 25°C unless otherwise specified.

Symbol	Characteristic / Test Conditions	APT30D40H	UNIT
V_R	Maximum D.C. Reverse Voltage	400	Volts
V_{RRM}	Maximum Peak Repetitive Reverse Voltage		
V_{RWM}	Maximum Working Peak Reverse Voltage		
$I_F(AV)$	Maximum Average Forward Current (T_C = 105°C, Duty Cycle = 0.5)	30	Amps
$I_F(RMS)$	RMS Forward Current	70	
I_{FSM}	Non-Repetitive Forward Surge Current (T_J = 45°C, 8.3ms)	320	
T_J,T_{STG}	Operating and Storage Temperature Range	-55 to 150	°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 = 30A			1.75	Volts
		I_F = 60A		2.0		
		I_F = 30A, T_J = 150°C			1.53	
I_{RM}	Maximum Reverse Leakage Current	V_R = V_R Rated			250	µA
		V_R = V_R Rated, T_J = 125°C			500	
C_T	Junction Capacitance, V_R = 200V			52		pF
L_S	Series Inductance (Lead to Lead 5mm from Base)			10		nH

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

USA
405 S.W. Columbia Street **Bend, Oregon 97702-1035** **Phone: (541) 382-8028** **FAX: (541) 388-0364**
EUROPE
Avenue J.F. Kennedy Bât B4 Parc Cadéra Nord **F-33700 Merignac - France** **Phone: (33) 5 57 92 15 15** **FAX: (33) 5 56 47 97 61**

053-4017 Rev -

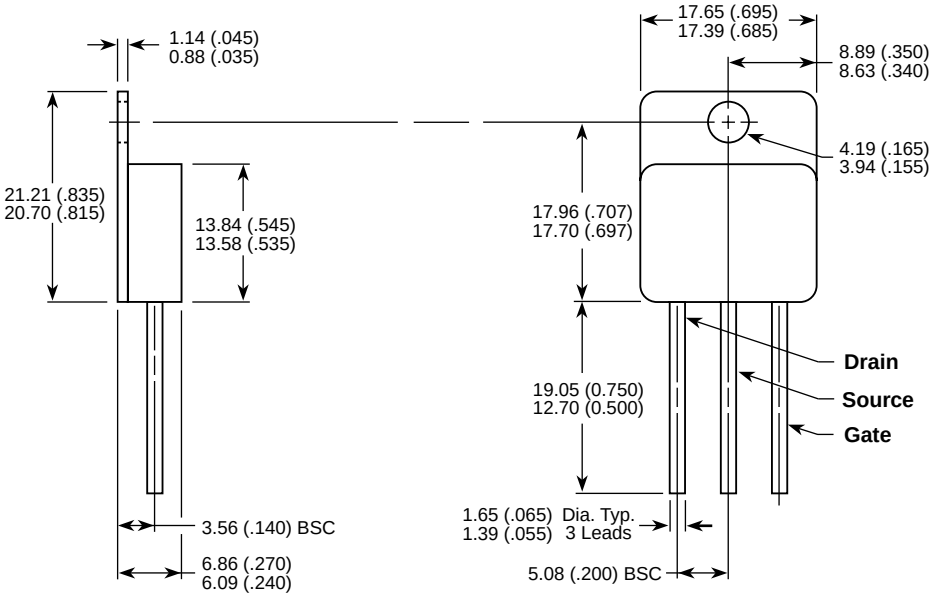
DYNAMIC CHARACTERISTICS

Symbol	Characteristic		MIN	TYP	MAX	UNIT
t_{rr1}	Reverse Recovery Time, I_F = 1.0A, di_F/dt = -15A/µs, V_R = 30V, T_J = 25°C			45	65	ns
t_{rr2}	Reverse Recovery Time	T_J = 25°C		45		
t_{rr3}	I_F = 30A, di_F/dt = -240A/µs, V_R = 240V	T_J = 100°C		70		
t_{fr1}	Forward Recovery Time	T_J = 25°C		150		
t_{fr2}	I_F = 30A, di_F/dt = 240A/µs, V_R = 240V	T_J = 100°C		150		
I_{RRM1}	Reverse Recovery Current	T_J = 25°C		6	10	Amps
I_{RRM2}	I_F = 30A, di_F/dt = -240A/µs, V_R = 240V	T_J = 100°C		10	18	
Q_{rr1}	Recovery Charge	T_J = 25°C		135		nC
Q_{rr2}	I_F = 30A, di_F/dt = -240A/µs, V_R = 240V	T_J = 100°C		350		
V_{fr1}	Forward Recovery Voltage	T_J = 25°C		3.2		Volts
V_{fr2}	I_F = 30A, di_F/dt = 240A/µs, V_R = 240V	T_J = 100°C		3.2		
diM/dt	Rate of Fall of Recovery Current	T_J = 25°C		500		A/µs
	I_F = 30A, di_F/dt = -240A/µs, V_R = 240V (See Figure 10)	T_J = 100°C		500		

THERMAL AND MECHANICAL CHARACTERISTICS

Symbol	Characteristic / Test Conditions	MIN	TYP	MAX	UNIT
$R_{\theta JC}$	Junction-to-Case Thermal Resistance			0.90	°C/W
$R_{\theta JA}$	Junction-to-Ambient Thermal Resistance			40	
W_T	Package Weight		0.22		oz
			6.1		gm

TO-258 Package Outline



Dimensions in Millimeters and (Inches)