



APT2X30D120J 1200V 30A
APT2X31D120J 1200V 30A

DUAL DIE ISOTOP® PACKAGE

ULTRAFAST SOFT RECOVERY DUAL RECTIFIER DIODES

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 SOT-227 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: $T_C = 25^\circ\text{C}$ unless otherwise specified.

Symbol	Characteristic / Test Conditions	APT2X30/2X31D120J	UNIT
V_R	Maximum D.C. Reverse Voltage	1200	Volts
V_{RRM}	Maximum Peak Repetitive Reverse Voltage		
V_{RWM}	Maximum Working Peak Reverse Voltage		
$I_F(AV)$	Maximum Average Forward Current ($T_C = 80^\circ\text{C}$, Duty Cycle = 0.5)	30	Amps
$I_F(RMS)$	RMS Forward Current	70	
I_{FSM}	Non-Repetitive Forward Surge Current ($T_J = 45^\circ\text{C}$, 8.3ms)	210	
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	$I_F = 30\text{A}$		2.5	Volts
		$I_F = 60\text{A}$		2.0	
		$I_F = 30\text{A}, T_J = 150^\circ\text{C}$		2.0	
I_{RM}	Maximum Reverse Leakage Current	$V_R = V_R$ Rated		250	μA
		$V_R = V_R$ Rated, $T_J = 125^\circ\text{C}$		500	
C_T	Junction Capacitance, $V_R = 200\text{V}$		30		pF
L_S	Series Inductance (Lead to Lead 5mm from Base)		10		nH

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APT2X30/2X31D120J

THERMAL AND MECHANICAL CHARACTERISTICS

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

Technical drawing of the APT2X30D120J and APT2X31D120J components, showing dimensions in millimeters and inches.

Top View Dimensions:

- Overall width: 31.5 (1.240) / 31.7 (1.248)
- Distance between top features: 7.8 (.307) / 8.2 (.322)
- Radius: $r = 4.0 (.157)$ (2 places)
- Distance between bottom features: 14.9 (.587) / 15.1 (.594)
- Overall width (bottom): 30.1 (1.185) / 30.3 (1.193)
- Overall width (bottom): 38.0 (1.496) / 38.2 (1.504)
- Distance between bottom features (bottom): 3.3 (.129) / 3.6 (.143)

Side View Dimensions:

- Overall height: 11.8 (.463) / 12.2 (.480)
- Distance between top features: 8.9 (.350) / 9.6 (.378)
- Hex Nut M4 H100 (4 places)
- Distance between bottom features: 0.75 (.030) / 0.85 (.033)
- Distance between bottom features: 12.6 (.496) / 12.8 (.504)
- Overall height (bottom): 25.2 (0.992) / 25.4 (1.000)
- Distance between bottom features (bottom): 1.95 (.077) / 2.14 (.084)

End Views:

- Anti-parallel APT2X30D120J:** Shows Anode 2, Cathode 1, Cathode 2, and Anode 1.
- Parallel APT2X31D120J:** Shows Cathode 2, Anode 2, Cathode 1, and Anode 1.

Dimensions in Millimeters and (Inches)