

Technical Data
Data Sheet 2921, Rev. A

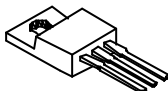
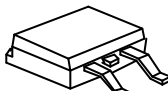
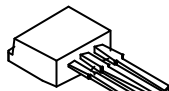
20CTQ150/20CTQ150S/20CTQ150-1 SCHOTTKY RECTIFIER

Applications:

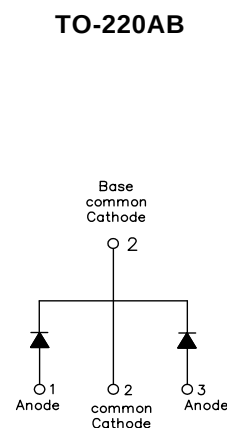
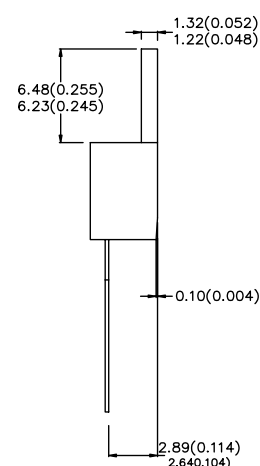
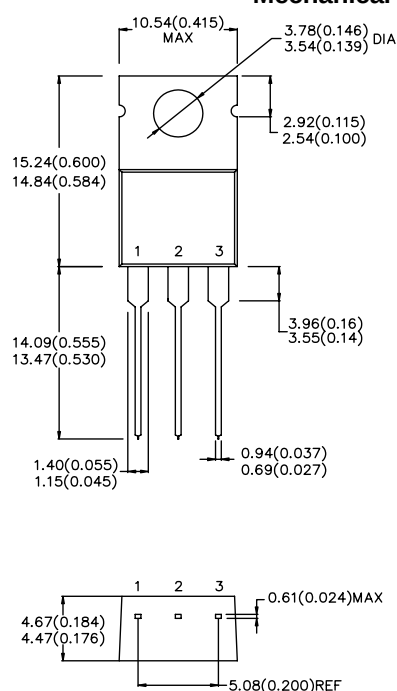
· Switching power supply · Converters · Free-Wheeling diodes · Reverse battery protection

Features:

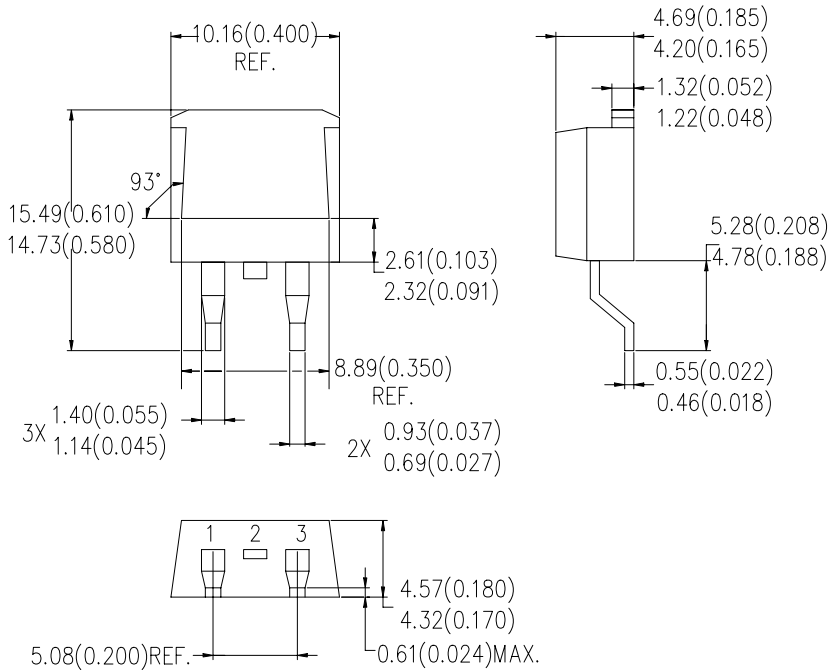
- 175 °C T_J operation
- Center tap configuration
- Low forward voltage drop
- High purity, high temperature epoxy encapsulation for enhanced mechanical strength and moisture resistance
- High frequency operation
- Guard ring for enhanced ruggedness and long term reliability

Case styles		
20CTQ150  TO-220AB	20CTQ150S  D²PAK	20CTQ150-1  TO-262

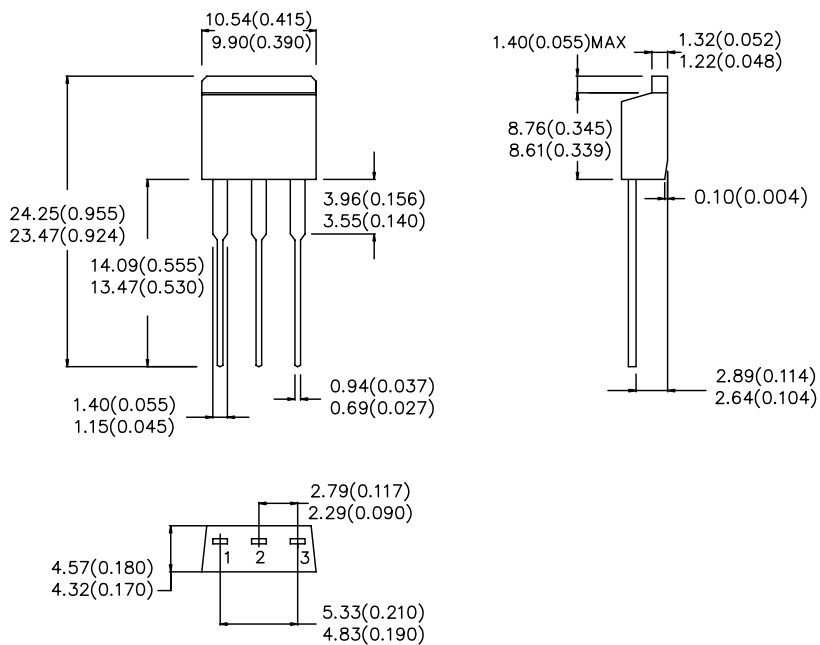
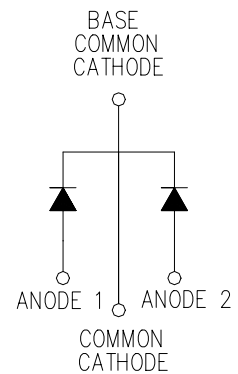
Mechanical Dimensions: In Inches / mm



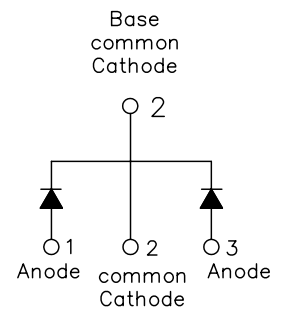
Data Sheet 2921, Rev. A



D²PAK



TO-262



Data Sheet 2921, Rev. A
Maximum Ratings:

Characteristics	Symbol	Condition	Max.	Units
Peak Inverse Voltage	V_{RWM}	-	150	V
Max. Average Forward	$I_{F(AV)}$	50% duty cycle @ $T_C = 154^\circ\text{C}$, rectangular wave form	10(Per leg) 20(Per device)	A
Max. Peak One Cycle Non-Repetitive Surge Current (per leg)	I_{FSM}	8.3 ms, half Sine pulse	220	A

Electrical Characteristics:

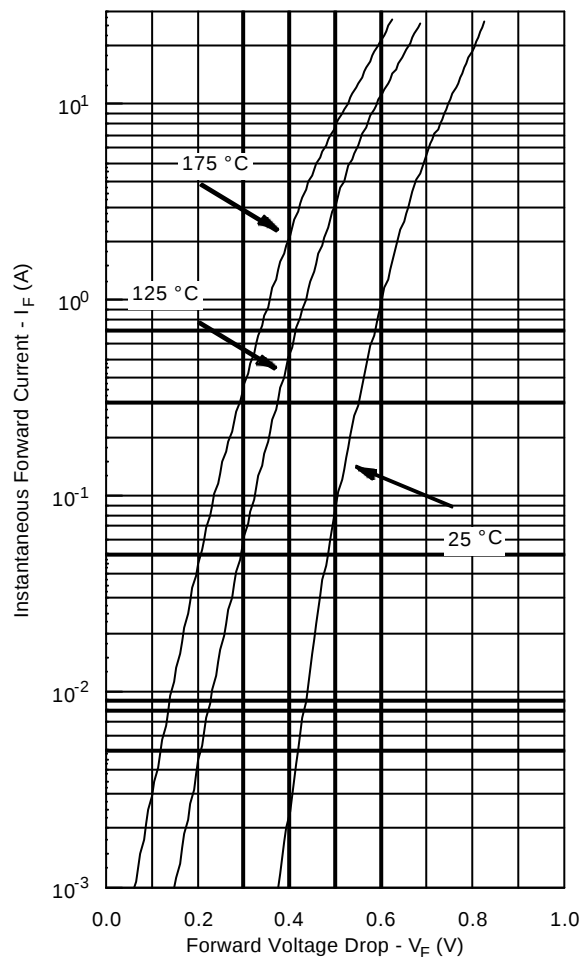
Characteristics	Symbol	Condition	Max.	Units
Max. Forward Voltage Drop (per leg)*	V_{F1}	@ 10A, Pulse, $T_J = 25^\circ\text{C}$ @ 20 A, Pulse, $T_J = 25^\circ\text{C}$	0.83 0.96	V
	V_{F2}	@ 10 A, Pulse, $T_J = 125^\circ\text{C}$ @ 20 A, Pulse, $T_J = 125^\circ\text{C}$	0.66 0.77	V
Max. Reverse Current (per leg)*	I_{R1}	@ $V_R = \text{rated } V_R$ $T_J = 25^\circ\text{C}$	25	μA
	I_{R2}	@ $V_R = \text{rated } V_R$ $T_J = 125^\circ\text{C}$	5.0	mA
Max. Junction Capacitance (per leg)	C_T	@ $V_R = 5\text{V}$, $T_C = 25^\circ\text{C}$ $f_{SIG} = 1\text{MHz}$	400	pF
Typical Series Inductance (per leg)	L_S	Measured lead to lead 5 mm from package body	8.0	nH
Max. Voltage Rate of Change	dv/dt	-	10,000	V/ μs

* Pulse Width < 300 μs , Duty Cycle <2%

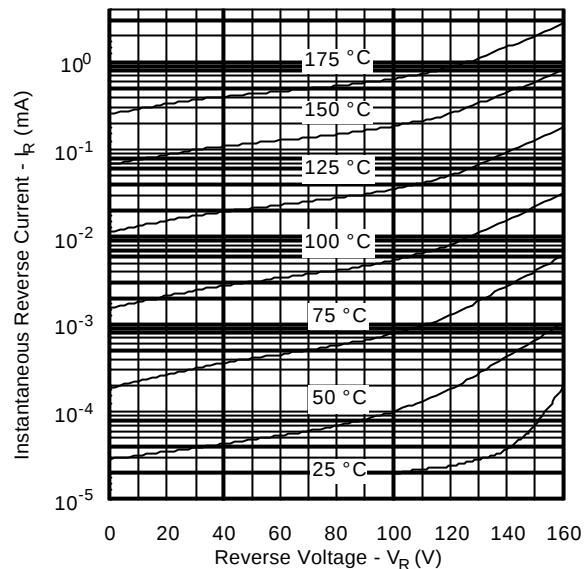
Thermal-Mechanical Specifications:

Characteristics	Symbol	Condition	Specification	Units
Max. Junction Temperature	T_J	-	-55 to +175	$^\circ\text{C}$
Max. Storage Temperature	T_{stg}	-	-55 to +175	$^\circ\text{C}$
Maximum Thermal Resistance Junction to Case (per leg)	$R_{\theta JC}$	DC operation	2.0	$^\circ\text{C/W}$
Maximum Thermal Resistance Junction to Case (per package)	$R_{\theta JC}$	DC operation	1.0	$^\circ\text{C/W}$
Maximum Thermal Resistance, Case to Heat Sink	$R_{\theta CS}$	Mounting surface, smooth and greased (only for TO-220)	0.50	$^\circ\text{C/W}$
Approximate Weight	wt	-	2	g
Mounting Torque	T_M	-	6(Min.) 12(Max.)	Kg-cm
Case Style	TO-220AB D ² PAK TO-262			

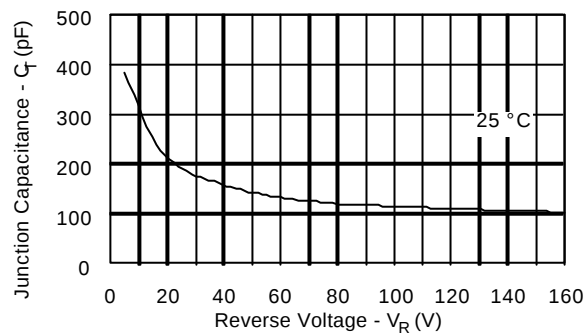
Typical Forward Characteristics



Typical Reverse Characteristics



Typical Junction Capacitance



Data Sheet 2921, Rev. A

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