

Technical Data
Data Sheet 2890, Rev. A

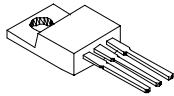
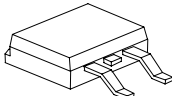
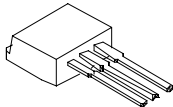
10CTQ150/10CTQ150S/10CTQ150-1 SCHOTTKY RECTIFIER

Applications:

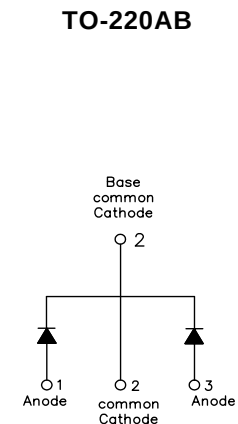
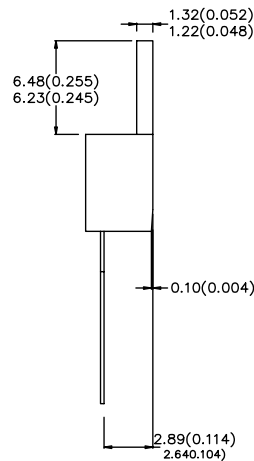
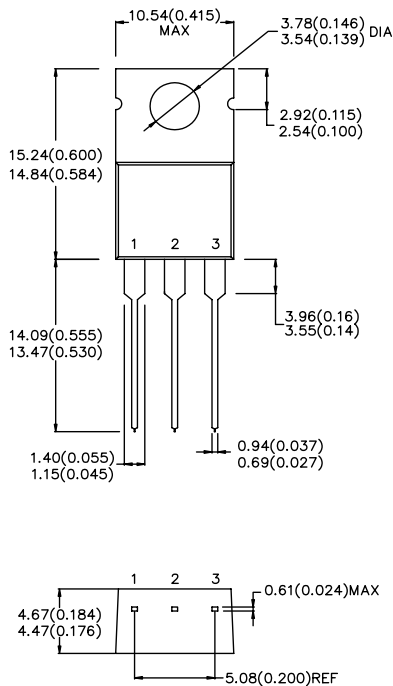
- Switching power supply • Converters • Free-Wheeling diodes • Reverse battery protection

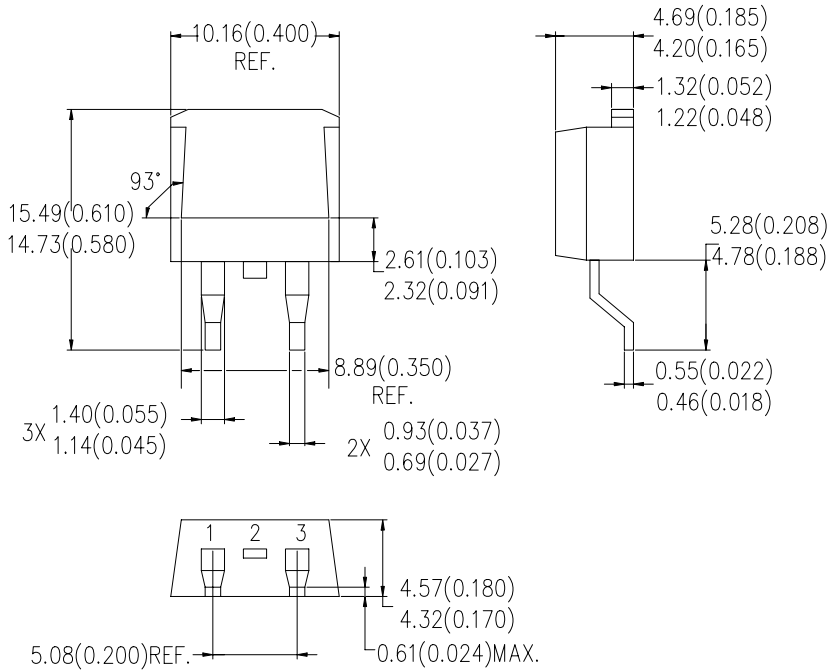
Features:

- 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

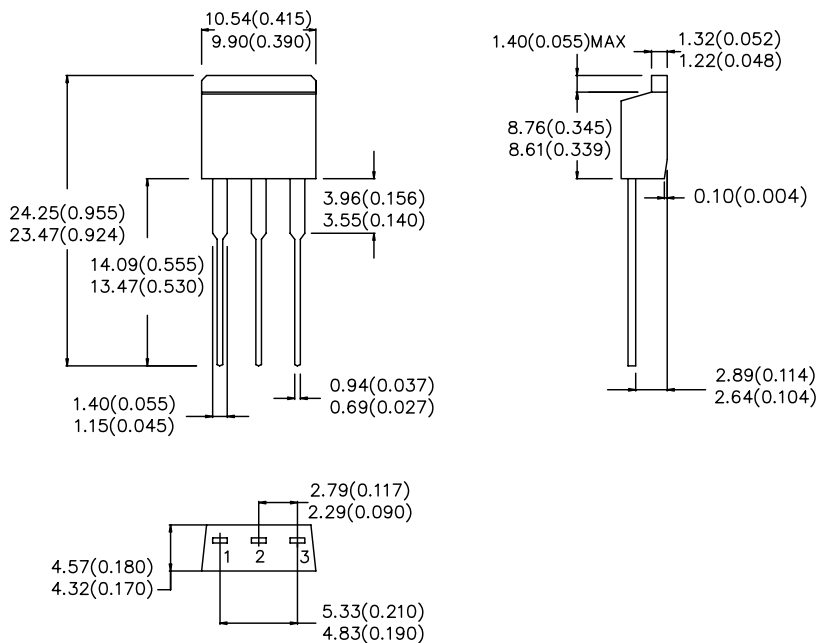
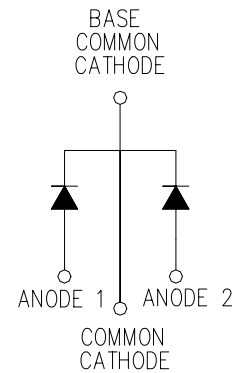
Case styles		
10CTQ150	10CTQ150S	10CTQ150-1
		
TO-220AB	D ² PAK	TO-262

Mechanical Dimensions: In Inches / mm

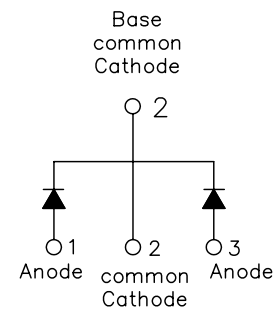




D²PAK



TO-262



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Maximum Ratings:

Characteristics	Symbol	Condition	Max.	Units
Peak Inverse Voltage	V_{RWM}	-	150	V
Max. Average Forward Current	$I_{F(AV)}$	50% duty cycle @ $T_C = 155^\circ\text{C}$, rectangular wave form	5 (per leg) 10 (per device)	A
Max. Peak One Cycle Non-Repetitive Surge Current (per leg)	I_{FSM}	8.3 ms, half Sine pulse	138	A

Electrical Characteristics:

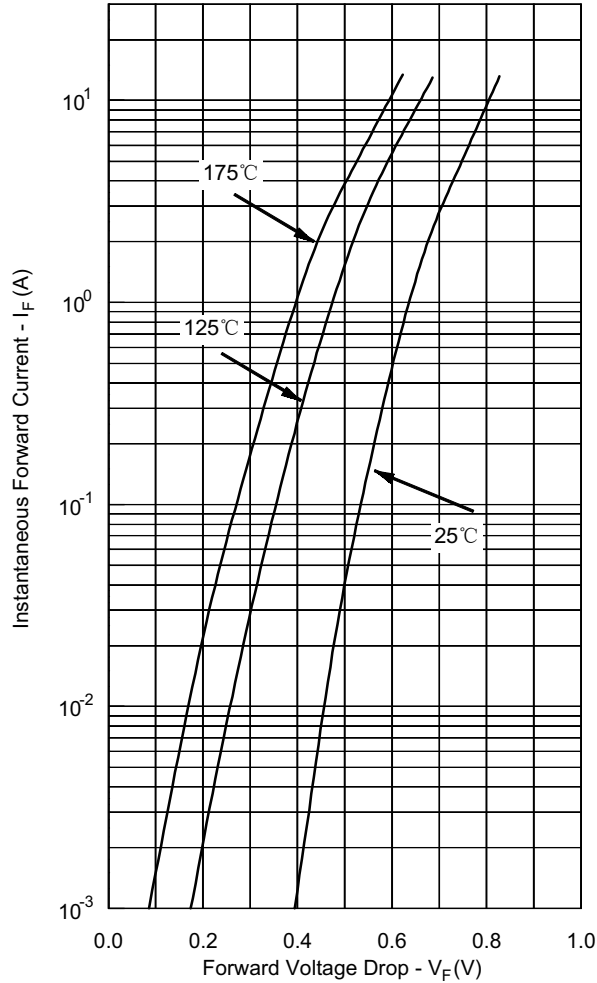
Characteristics	Symbol	Condition	Max.	Units
Max. Forward Voltage Drop (per leg) *	V_{F1}	@5 A, Pulse, $T_J = 25^\circ\text{C}$ @10 A, Pulse, $T_J = 25^\circ\text{C}$	0.93 1.10	V
	V_{F2}	@ 5 A, Pulse, $T_J = 125^\circ\text{C}$ @10 A, Pulse, $T_J = 125^\circ\text{C}$	0.73 0.86	V
Max. Reverse Current (per leg) *	I_{R1}	@ $V_R = \text{rated } V_R$ $T_J = 25^\circ\text{C}$	0.05	mA
	I_{R2}	@ $V_R = \text{rated } V_R$ $T_J = 125^\circ\text{C}$	7	mA
Max. Junction Capacitance (per leg)	C_T	@ $V_R = 5\text{V}$, $T_C = 25^\circ\text{C}$ $f_{SIG} = 1\text{MHz}$	200	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 (Rated V_R)	dv/dt	-	10,000	V/ μs

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

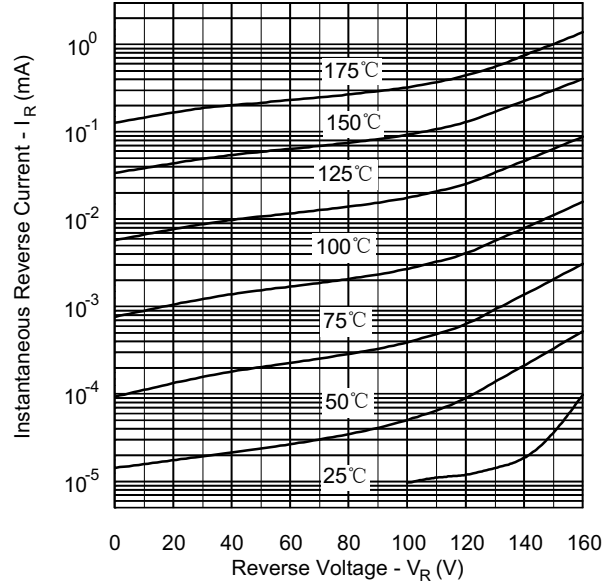
Thermal-Mechanical Specifications:

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	3.50	$^\circ\text{C/W}$
Maximum Thermal Resistance Junction to Case (per package)	$R_{\theta JC}$	DC operation	1.75	$^\circ\text{C/W}$
Maximum Thermal Resistance, Case to Heat Sink	$R_{\theta CS}$	Mounting surface, smooth and greased	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 (Suffix "s" for D ² PAK; Suffix "-1" for TO-262)			

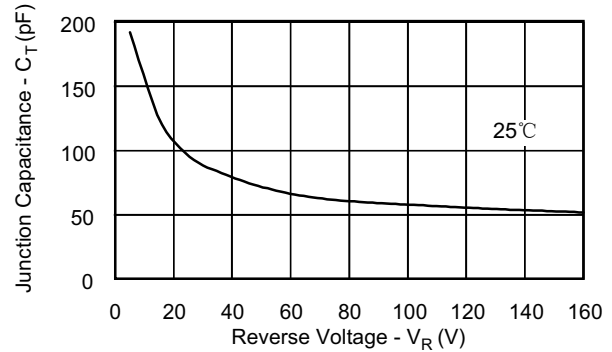
Typical Forward Characteristics



Typical Reverse Characteristics



Typical Junction Capacitance



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