

Technical Data  
Data Sheet 2890, Rev. A

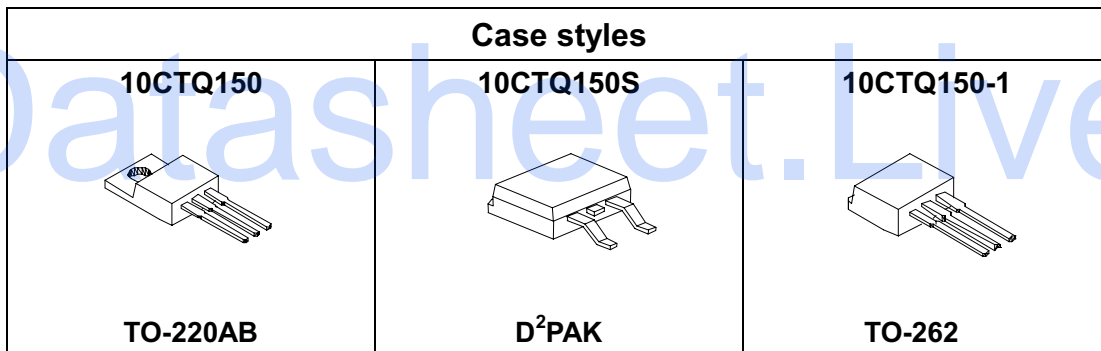
**10CTQ150/10CTQ150S/10CTQ150-1**  
**SCHOTTKY RECTIFIER**

**Applications:**

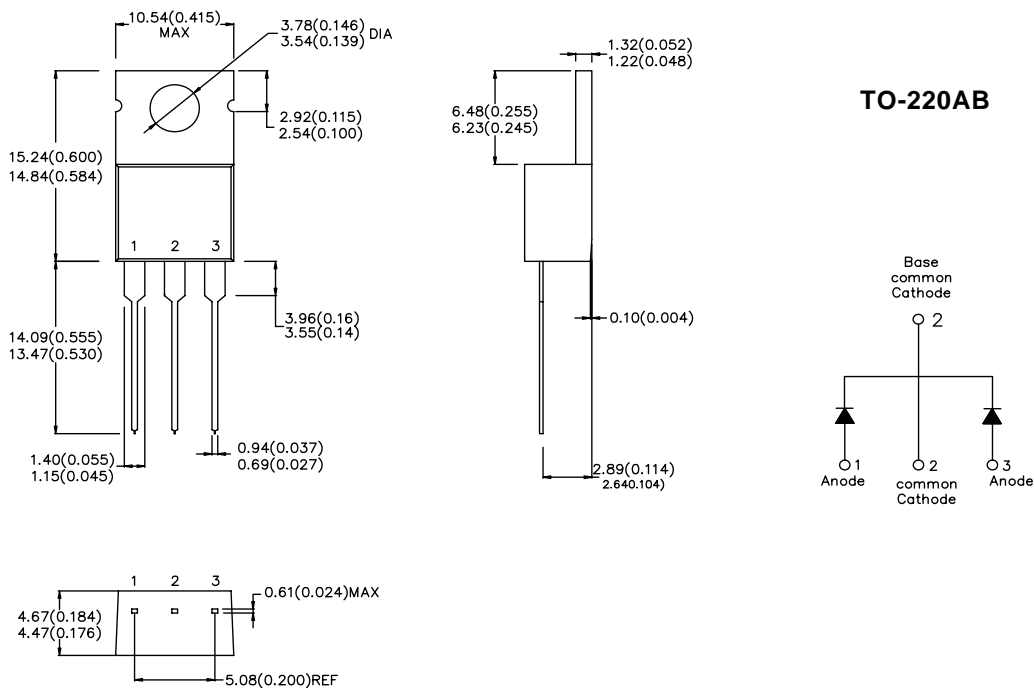
- Switching power supply • Converters • Free-Wheeling diodes • Reverse battery protection

**Features:**

- 175° C T<sub>J</sub> 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



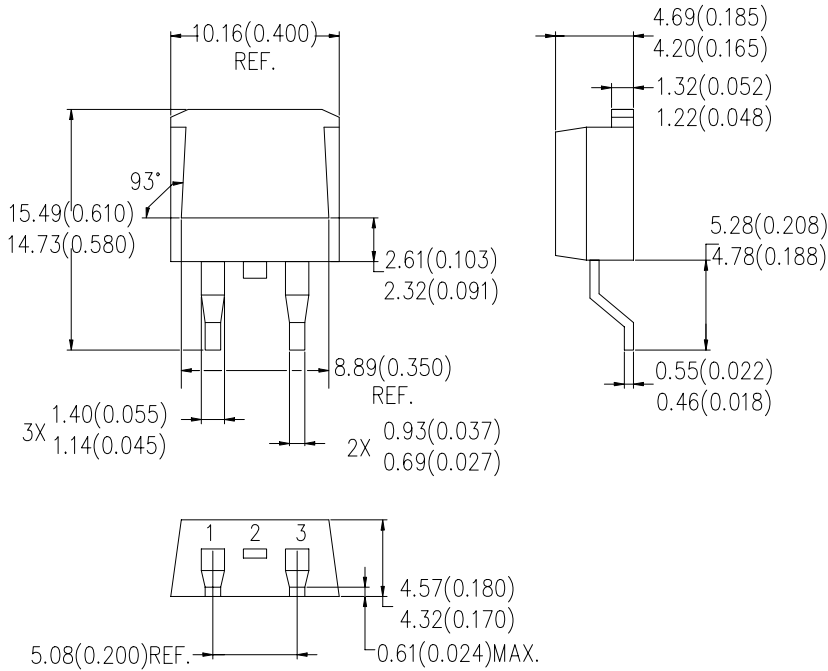
**Mechanical Dimensions: In Inches / mm**



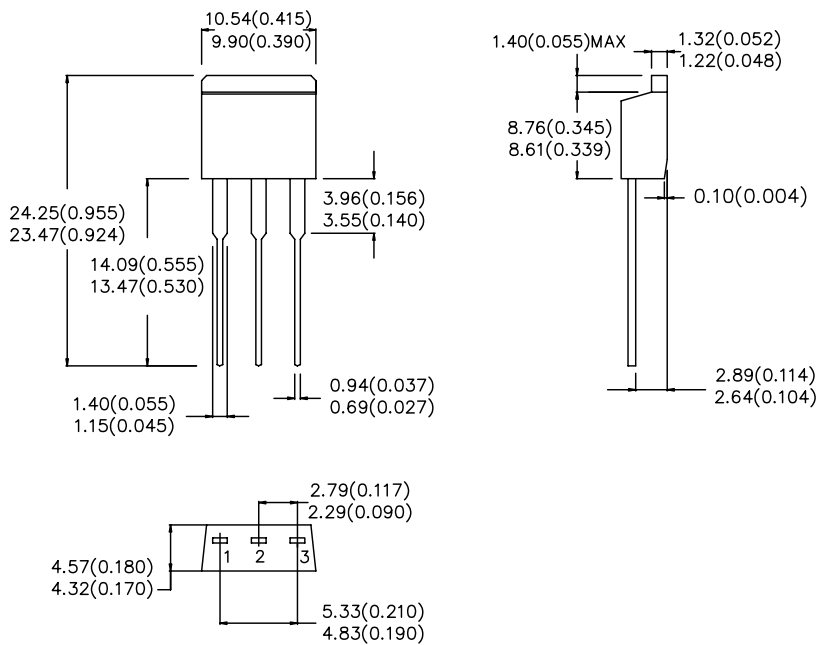
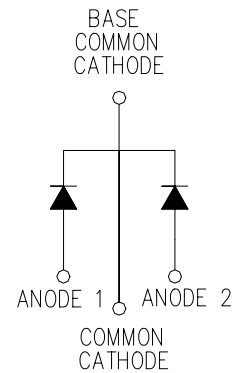
**SENSITRON**  
**SEMICONDUCTOR**

**10CTQ150**  
**10CTQ150S**  
**10CTQ150-1**

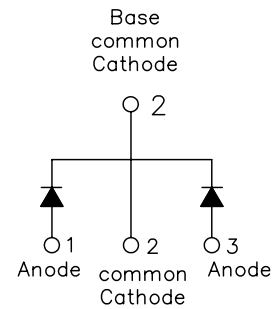
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**D<sup>2</sup>PAK**



**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)	A
			10 (per device)	
Max. Peak One Cycle Non-Repetitive Surge Current (per leg)	$I_{FSM}$	8.3 ms, half Sine pulse	138	A

**Electrical Characteristics:**

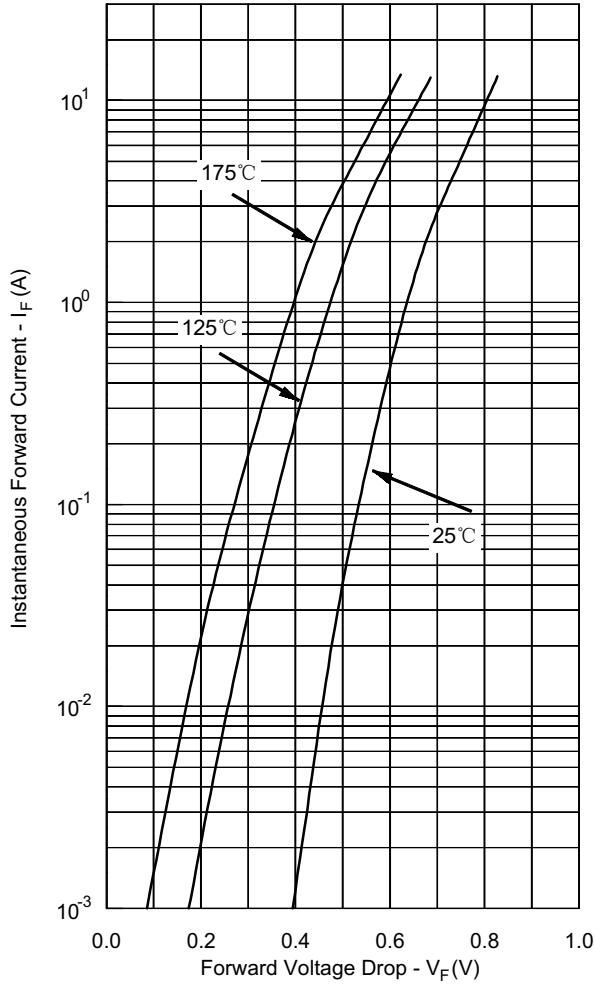
Characteristics	Symbol	Condition	Max.	Units
Max. Forward Voltage Drop (per leg) *	$V_{F1}$	@5 A, Pulse, $T_J = 25^\circ\text{C}$	0.93	V
		@10 A, Pulse, $T_J = 25^\circ\text{C}$	1.10	
	$V_{F2}$	@ 5 A, Pulse, $T_J = 125^\circ\text{C}$	0.73	V
		@10 A, Pulse, $T_J = 125^\circ\text{C}$	0.86	
Max. Reverse Current (per leg) *	$I_{R1}$	@ $V_R = \text{rated } V_R$ $T_J = 25^\circ\text{C}$	0.05	mA
		$I_{R2}$	@ $V_R = \text{rated } V_R$ $T_J = 125^\circ\text{C}$	
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/ $\mu\text{s}$

\* Pulse Width < 300 $\mu\text{s}$ , Duty Cycle <2%

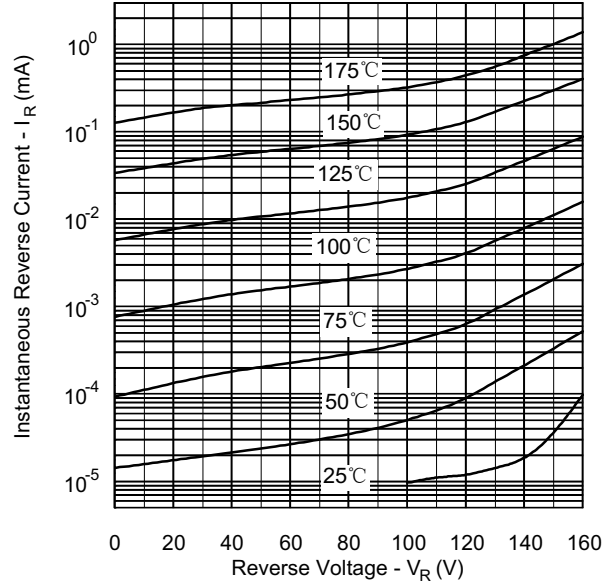
**Thermal-Mechanical Specifications:**

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 <sup>2</sup> PAK TO-262 (Suffix "s" for D <sup>2</sup> PAK; Suffix "-1" for TO-262)			

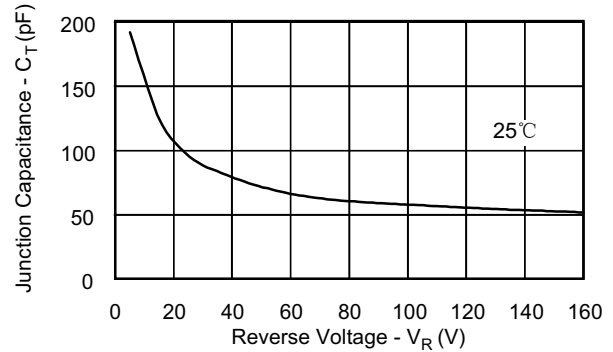
**Typical Forward Characteristics**



**Typical Reverse Characteristics**



**Typical Junction Capacitance**



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