



**THE DATASHEET OF  
10CTQ150STR**



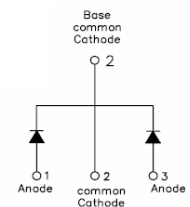
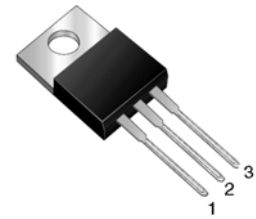
## 10CTQ150/10CTQ150S SCHOTTKY RECTIFIER

### Applications:

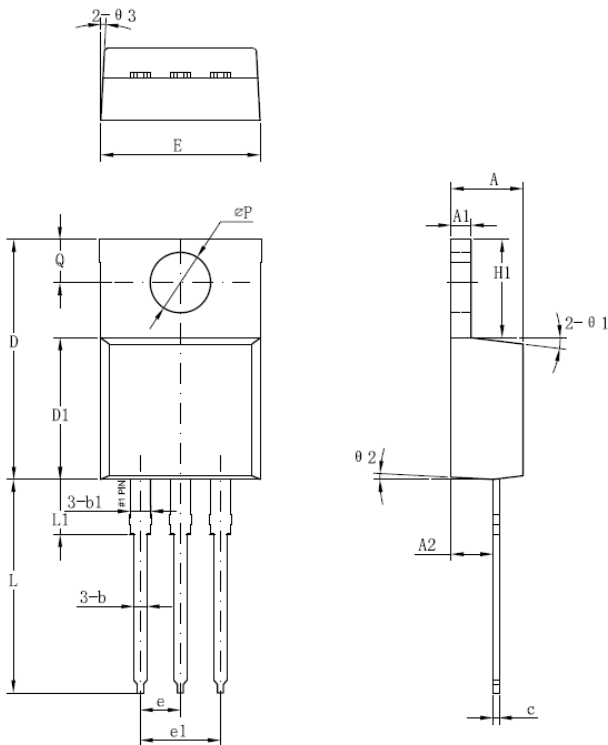
- Switching power supply
- Converters
- Free-Wheeling diodes
- Reverse battery protection

### 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
- This is a Pb - Free Device
- All SMC parts are traceable to the wafer lot
- Additional testing can be offered upon request

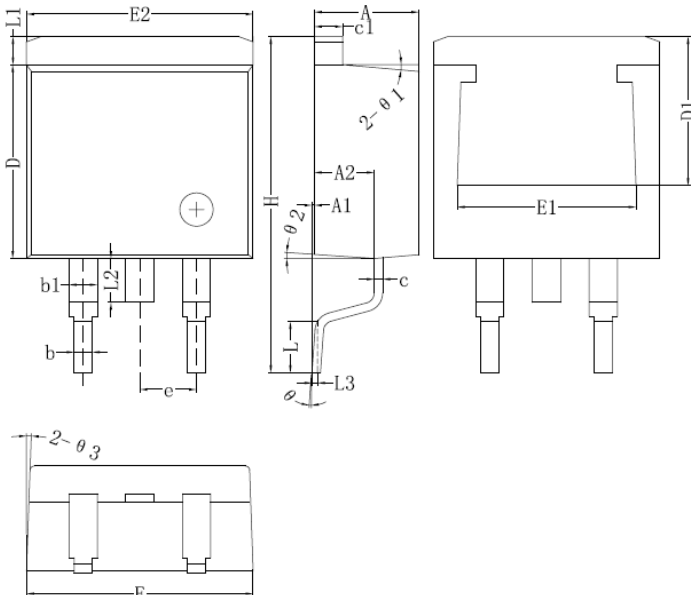
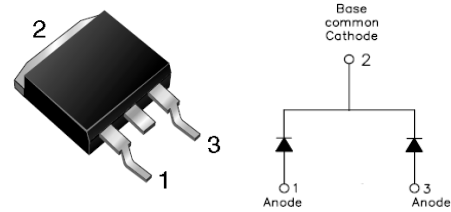


### Mechanical Dimensions: In Inches / mm



Symbol	Dimensions in millimeters		
	Min	Typical	Max
A	4.42	4.57	4.72
A1	1.17	1.27	1.37
A2	2.59	2.69	2.89
b	0.71	0.81	0.96
b1		1.27	
c	0.36	0.38	0.61
D	14.94	15.24	15.54
D1	8.85	9.00	9.15
E	10.01	10.16	10.31
e		2.54	
e1		5.06	
H1	6.04	6.24	6.44
L	12.7	13.56	13.78
L1		3.5	
ΦP	3.74	3.84	4.04
Q	2.54	2.74	2.94
Θ1		7°	
Θ2		3°	
Θ3		4°	

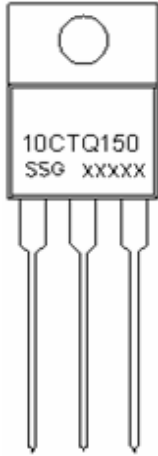
### TO-220AB(HD)



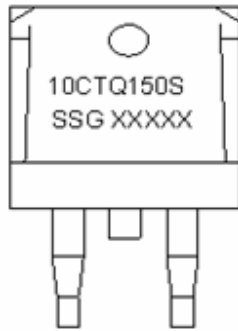
Symbol	Dimensions in millimeters		
	Min.	Typical	Max.
A	4.55	4.70	4.85
A1	0	0.10	0.25
A2	2.59	2.69	2.89
b	0.71	0.81	0.96
b1		1.27	
c	0.36	0.38	0.61
c1	1.17	1.27	1.37
D	8.55	8.70	8.85
D1	6.40		
E	10.01	10.16	10.31
E1	7.6		
E2	9.98	10.08	10.18
e		2.54	
H	14.6	15.1	15.6
L	2.00	2.30	2.70
L1	1.17	1.27	1.40
L2			2.20
L3		0.25BSC	
e	0	-	8°
e1		5°	
e2		4°	
e3		4°	

**D<sup>2</sup>PAK (HD)**

**Marking Diagram:**



10CTQ150



10CTQ150S

Where XXXXX is YYWWL

10CTQ150 = Part Name  
SSG = SSG  
YY = Year  
WW = Week  
L = Lot Number

**Cautions:** Molding resin  
Epoxy resin UL:94V-0

**Ordering Information:**

Device	Package	Shipping
10CTQ150	TO-220AB (Pb-Free)	50pcs / tube
10CTQ150S	D <sup>2</sup> PAK (Pb-Free)	800pcs / reel

For information on tape and reel specifications, including part orientation and tape sizes, please refer to our Tape and Reel Packaging Specification.

**Maximum Ratings:**

Characteristics	Symbol	Condition	Max.	Units
Peak Repetitive Reverse Voltage	$V_{RRM}$	-	150	V
Working Peak Reverse Voltage	$V_{RWM}$			
DC Blocking Voltage	$V_R$			
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
Peak One Cycle Non-Repetitive Surge Current (per leg)	$I_{FSM}$	8.3 ms, half Sine pulse	138	A



**Electrical Characteristics:**

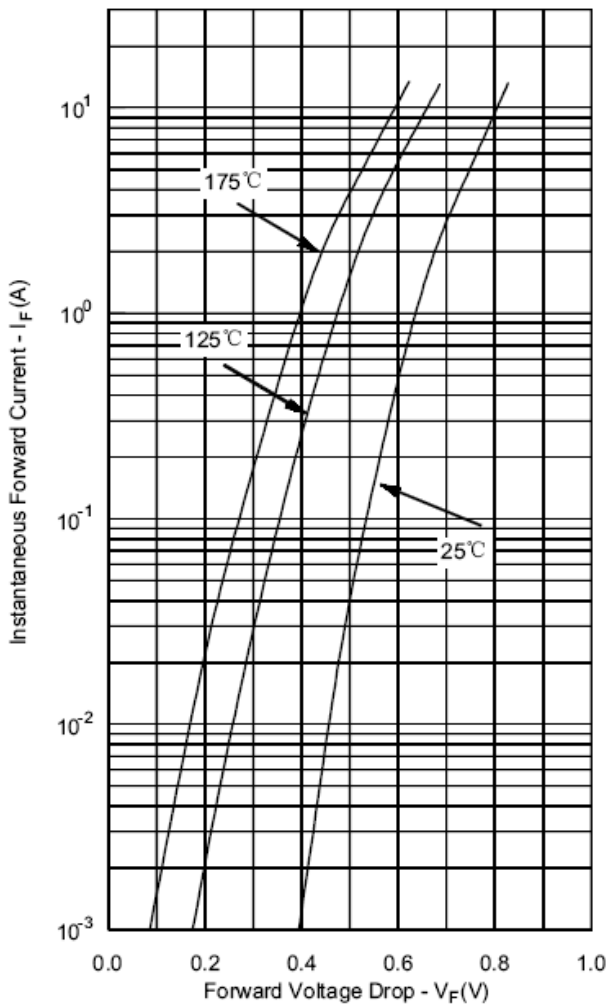
Characteristics	Symbol	Condition	Max.	Units
Forward Voltage Drop (per leg)*	V <sub>F1</sub>	@ 5A, Pulse, T <sub>J</sub> = 25 °C @ 10A, Pulse, T <sub>J</sub> = 25 °C	0.93 1.10	V
	V <sub>F2</sub>	@ 5A, Pulse, T <sub>J</sub> = 125 °C @ 10A, Pulse, T <sub>J</sub> = 125 °C	0.73 0.86	V
Reverse Current(per leg)*	I <sub>R1</sub>	@V <sub>R</sub> = rated V <sub>R</sub> T <sub>J</sub> = 25 °C	0.05	mA
	I <sub>R2</sub>	@V <sub>R</sub> = rated V <sub>R</sub> T <sub>J</sub> = 125 °C	7.0	mA
Junction Capacitance	C <sub>T</sub>	@V <sub>R</sub> = 5V, T <sub>C</sub> = 25 °C f <sub>sig</sub> = 1MHz	200	pF
Typical Series Inductance	L <sub>S</sub>	Measured lead to lead 5 mm from package body	8.0	nH
Max. Voltage Rate of Change(Rated V <sub>R</sub> )	dv/dt	-	10,000	V/μs

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

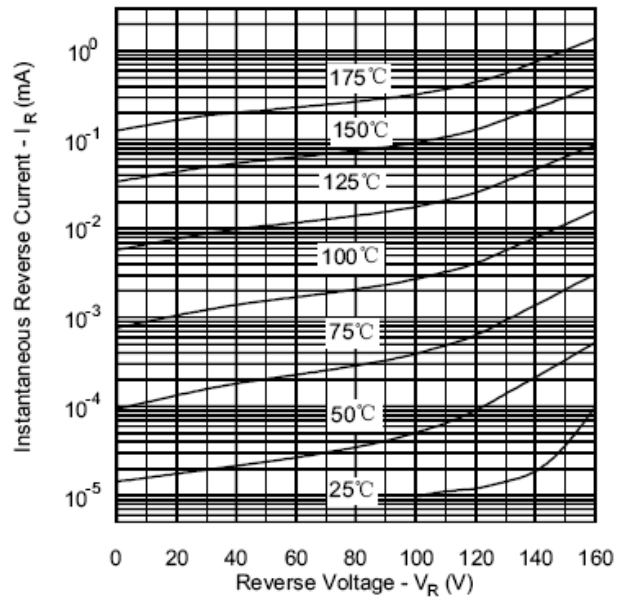
**Thermal-Mechanical Specifications:**

Characteristics	Symbol	Condition	Specification	Units
Junction Temperature	T <sub>J</sub>	-	-55 to +175	°C
Storage Temperature	T <sub>stg</sub>	-	-55 to +175	°C
Maximum Thermal Resistance Junction to Case (per leg)	R <sub>θJC</sub>	DC operation	3.50	°C/W
Maximum Thermal Resistance Junction to Case (per package)	R <sub>θJC</sub>	DC operation	1.75	°C/W
Typical Thermal Resistance, case to Heat Sink	R <sub>θcs</sub>	Mounting surface, smooth and greased	0.50	°C/W
Approximate Weight	wt	-	2/1.85	g
Case Style	TO-220AB,D <sup>2</sup> PAK (Suffix "s" for D <sup>2</sup> PAK)			

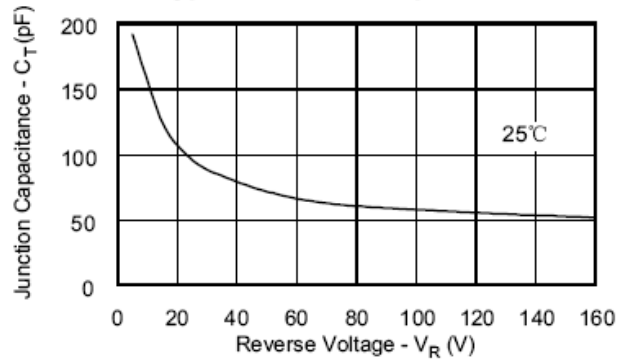
**Typical Forward Characteristics**



**Typical Reverse Characteristics**



**Typical Junction Capacitance**





**10CTQ150**  
**10CTQ150S**

**Technical Data**  
**Data Sheet N1308, Rev. -**


**Green Products**

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