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# 8TQ080/S/ 8TQ100/S SCHOTTKY RECTIFIER

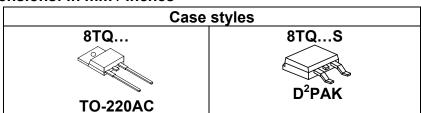
## **Applications:**

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

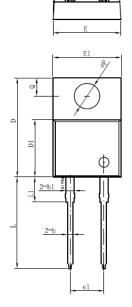
#### Features:

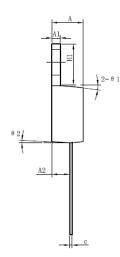
- 150°C T<sub>J</sub> operation
- High purity, high temperature epoxy encapsulation for enhanced mechanical strength and moisture resistance
- Low forward voltage drop
- High frequency operation
- Guard ring for enhanced ruggedness and long term reliability
- This is a Pb Free Device
- All SMC parts are traceable to the wafer lot
- Additional testing can be offered upon request

#### Mechanical Dimensions: In mm / Inches



Symbol





•	millimatara			
	millimeters			
	Min.	Typical	Max.	
Α	4.55	4.70	4.85	
A1	1.17	1.27	1.37	
A2	2.59	2.69	2.89	
b	0.71	0.81	0.96	
b1		1.27		
С	0.36	0.38	0.61	
D	14.64	14.94	15.24	
D1	8.55	8.07	8.85	
Ш	10.01	10.16	10.31	
E1	9.98	10.18	10.38	
e1		5.08		
H1	6.04	6.24	6.44	
L	13.00	13.86	14.08	
L1		3.80		
ФР	3.74	3.84	4.04	
Q	2.54	2.74	2.94	
Θ1		5°		
Θ2		4°		
Θ3		4°		

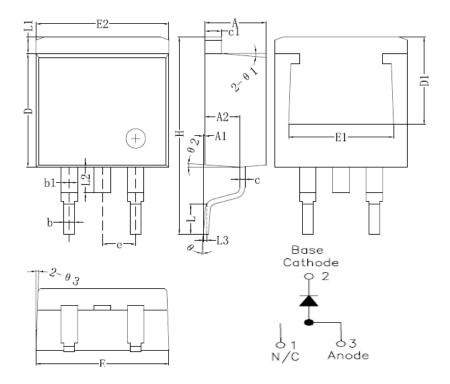
**Dimensions in** 

**TO-220AC** 

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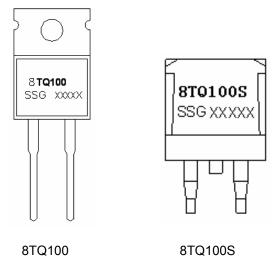
Symbol	Dimensions in			
	millimeters Min Typical May			
	Min.	Typical	Max.	
Α	4.55	4.70	4.85	
<b>A</b> 1	0	0.10	0.25	
A2	2.59	2.69	2.89	
b	0.71	0.81	0.96	
b1		1.27		
С	0.36	0.38	0.61	
c1	1.17	1.27	1.37	
D	8.55	8.70	8.85	
D1	6.40			
E	10.01	10.16	10.31	
E1	7.6			
E2	9.98	10.08	10.18	
е		2.54		
Н	14.6	15.1	15.6	
L	2.00	2.30	2.70	
L1	1.17	1.27	1.40	
L2			2.20	
L3		0.25BSC		
е	0	-	8°	
e1		5°		
e2		4°		
e3		Δ°		

## $D^2PAK$



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# Data Sheet N0639, Rev Marking Diagram:



Where XXXXX is YYWWL

8TQ100 =Part Name SSG = SSG YY = Year WW = Week L = Lot Number

Cautions: Molding resin

Epoxy resin UL:94V-0

## **Ordering Information:**

Device	Package	Shipping
8TQ100	TO-220AC (Pb-Free)	50pcs / tube
8TQ100S	D² 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 Inverse Voltage	$V_{RWM}$	-	80	(8TQ080)	V
			100	(8TQ100)	
Max. Average Forward	I <sub>F(AV)</sub>	50% duty cycle @T <sub>C</sub> =116°C, rectangular wave form		8	Α
Max. Peak One Cycle Non- Repetitive Surge Current (per leg)	I <sub>FSM</sub>	8.3 ms, half Sine pulse		330	А
Non-Repetitive Avalanche Energy	E <sub>AS</sub>	T <sub>J</sub> =25°C,I <sub>AS</sub> =0.50A,L=60mH		7.5	mJ
Repetitive Avalanche Current	I <sub>AR</sub>	Current decaying linearly to zero in 1 µsec Frequency limited by T <sub>J</sub> max.V <sub>A</sub> =1.5×V <sub>R</sub> typical		0.50	A

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**Electrical Characteristics:** 

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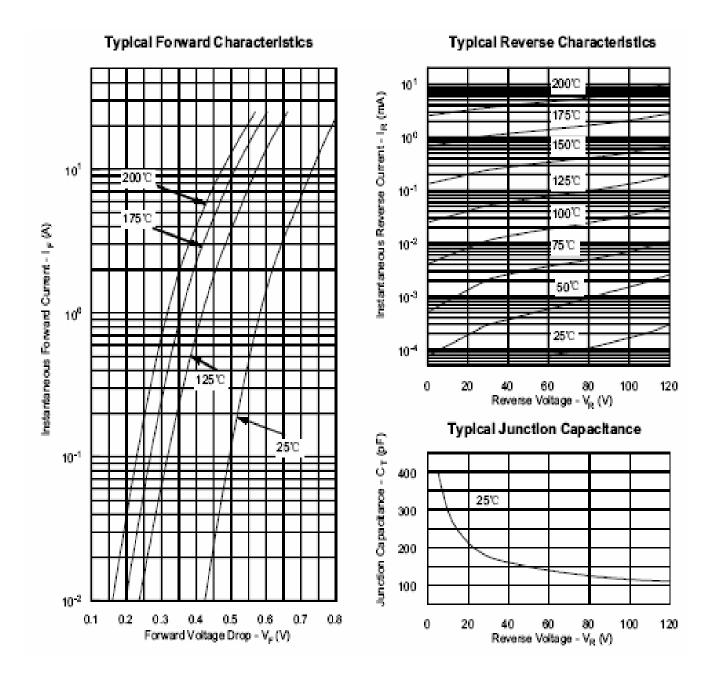
Characteristics	Symbol	Condition	Max.	Units
	$V_{F1}$	@ 8A, Pulse, T <sub>J</sub> = 25 °C	0.75	V
Max. Forward Voltage Drop *	$V_{F2}$	@ 8A, Pulse, T <sub>J</sub> = 125 °C	0.58	V
Max. Reverse Current at DC condition	I <sub>R1</sub>	$@V_R = rated V_R$ $T_J = 25 °C$	1.0	mA
Max. Reverse Current	I <sub>R2</sub>	$@V_R = \text{rated } V_R$ $T_J = 125  ^{\circ}\text{C}$	7	mA
Max. Junction Capacitance	Ст	$@V_R = 5V, T_C = 25 °C$ $f_{SIG} = 1MHz$	500	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 $V_R$ )	dv/dt	-	10,000	V/µs

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

## **Thermal-Mechanical Specifications:**

Characteristics	Symbol	Condition	Specification	Units
Max. Junction Temperature	$T_J$	-	-55 to +150	°C
Max. Storage Temperature	T <sub>stg</sub>	-	-55 to +150	°C
Maximum Thermal Resistance Junction to Case (per leg)	$R_{ heta JC}$	DC operation	2.0	°C/W
Typical Thermal Resistance,case to Heat Sink	$R_{\theta cs}$	Mounting surface,smooth and greased	0.50	°C/W
Approximate Weight	wt	-	2	g
Case Style	TO	-220AC,D <sup>2</sup> PAK(Suffix"s"for D <sup>2</sup> PAK; "	'MBRB"for D <sup>2</sup> PAk	()

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