



勝特力材料 886-3-5753170  
勝特力电子(上海) 86-21-34970699  
勝特力电子(深圳) 86-755-83298787  
[Http://www.100y.com.tw](http://www.100y.com.tw)

**STTH208/U**

## HIGH VOLTAGE ULTRAFAST RECTIFIER

### MAIN PRODUCT CHARACTERISTICS

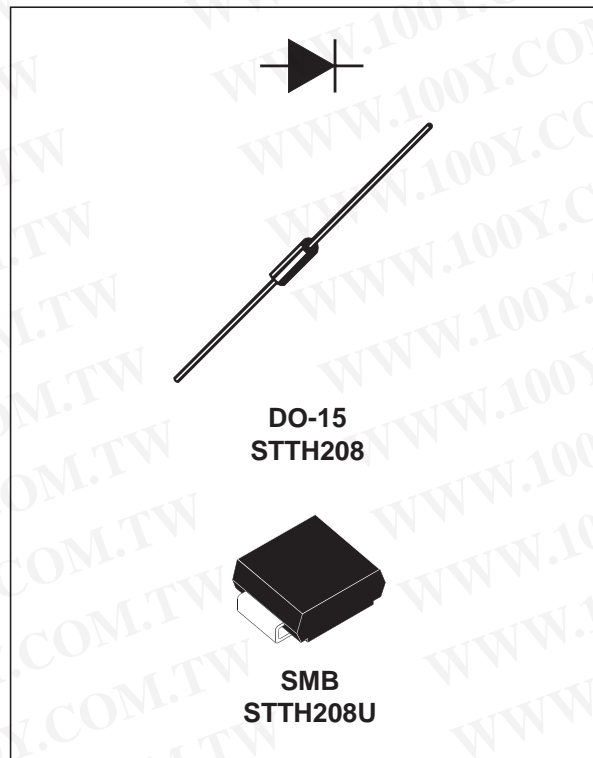
$I_{F(AV)}$	2 A
$V_{RRM}$	800 V
$T_j(\text{max})$	175 °C
$V_F(\text{max})$	1.25 V

### FEATURES AND BENEFITS

- Low forward voltage drop
- High reliability
- High surge current capability
- Soft switching for reduced EMI disturbances
- Planar technology

### DESCRIPTION

The STTH208, which is using ST ultrafast high voltage planar technology, is specially suited for free-wheeling, clamping, snubbing, demagnetization in power supplies and other power switching applications.



### ABSOLUTE RATINGS (limiting values)

Symbol	Parameter	Value	Unit	
$V_{RRM}$	Repetitive peak reverse voltage	800	V	
$V_{(RMS)}$	RMS voltage	560	V	
$I_{F(AV)}$	Average forward current	$T_I = 60^\circ\text{C}$ $\delta = 0.5$ DO-15	2	A
		$T_I = 100^\circ\text{C}$ $\delta = 0.5$ SMB	2	
$I_{FSM}$	Forward surge current $t = 8.3$ ms	DO-15	45	A
		SMB	35	
$T_{stg}$	Storage temperature range	- 50 + 175	°C	
$T_j$	Maximum operating junction temperature	+ 175	°C	

## THERMAL PARAMETERS

Symbol	Parameter		Value	Unit
R <sub>th(j-l)</sub>	Junction to lead	L = 10 mm DO-15	40	°C/W
		SMB	25	
R <sub>th(j-a)</sub>	Junction to ambient	L = 10 mm DO-15	110	

## STATIC ELECTRICAL CHARACTERISTICS

Symbol	Parameter	Tests conditions		Min.	Typ.	Max.	Unit
I <sub>R</sub>	Reverse leakage current	V <sub>R</sub> = 800V	T <sub>j</sub> = 25°C			5	µA
			T <sub>j</sub> = 125°C			50	
V <sub>F</sub>	Forward voltage drop	I <sub>F</sub> = 2 A	T <sub>j</sub> = 25°C			1.65	V
			T <sub>j</sub> = 150°C		0.89	1.25	

To evaluate the maximum conduction losses use the following equation :  
 $P = 1.05 \times I_{F(AV)} + 0.10 \times I_{F(RMS)}^2$

## DYNAMIC ELECTRICAL CHARACTERISTICS

Symbol	Parameter	Tests conditions		Min.	Typ.	Max.	Unit
t <sub>rr</sub>	Reverse recovery time	I <sub>F</sub> = 0.5 A I <sub>rr</sub> = 0.25 A I <sub>R</sub> = 1A	T <sub>j</sub> = 25°C			75	ns
t <sub>fr</sub>	Forward recovery time	I <sub>F</sub> = 2 A dI <sub>F</sub> /dt = 50 A/µs	T <sub>j</sub> = 25°C			200	ns
V <sub>FP</sub>	Forward recovery voltage	V <sub>FR</sub> = 1.1 x V <sub>F</sub> max				9	V

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Fig. 1: Conduction losses versus average current.

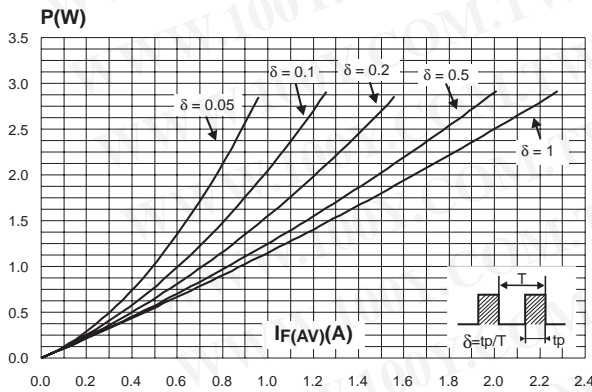


Fig. 2: Forward voltage drop versus forward current.

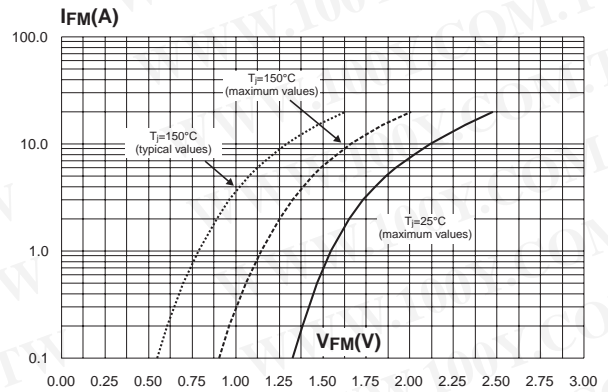


Fig. 3-1: Relative variation of thermal impedance junction ambient versus pulse duration (epoxy FR4, Leads = 10mm) (DO-15).

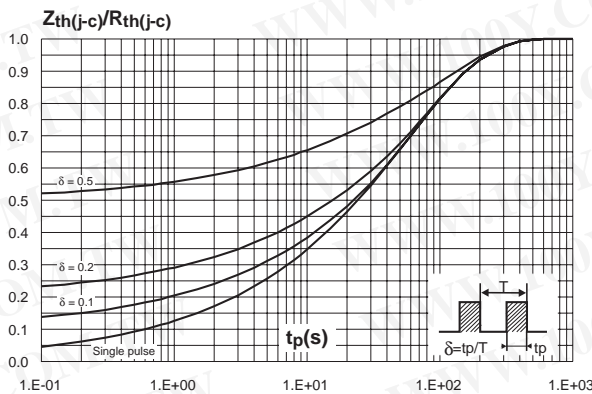


Fig. 3-2: Relative variation of thermal impedance junction ambient versus pulse duration (epoxy FR4, S=1cm²) (SMB).

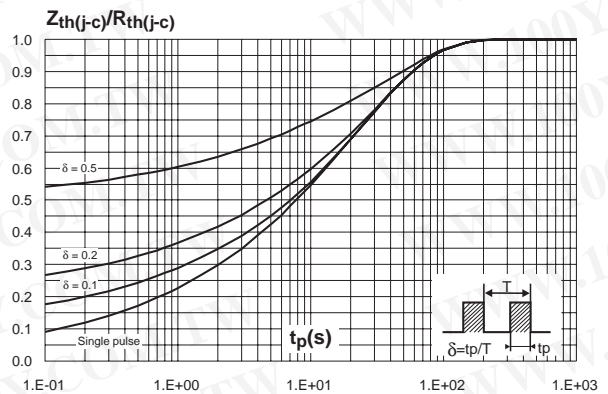
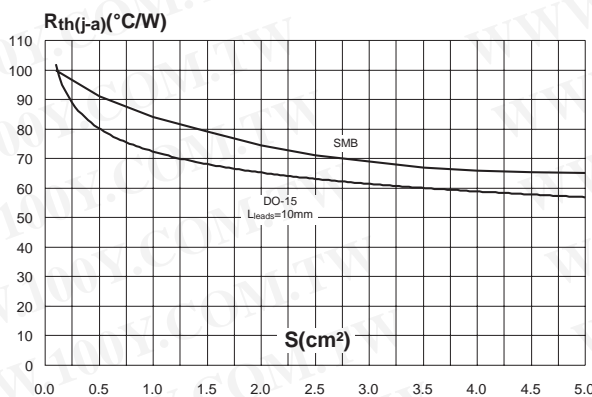
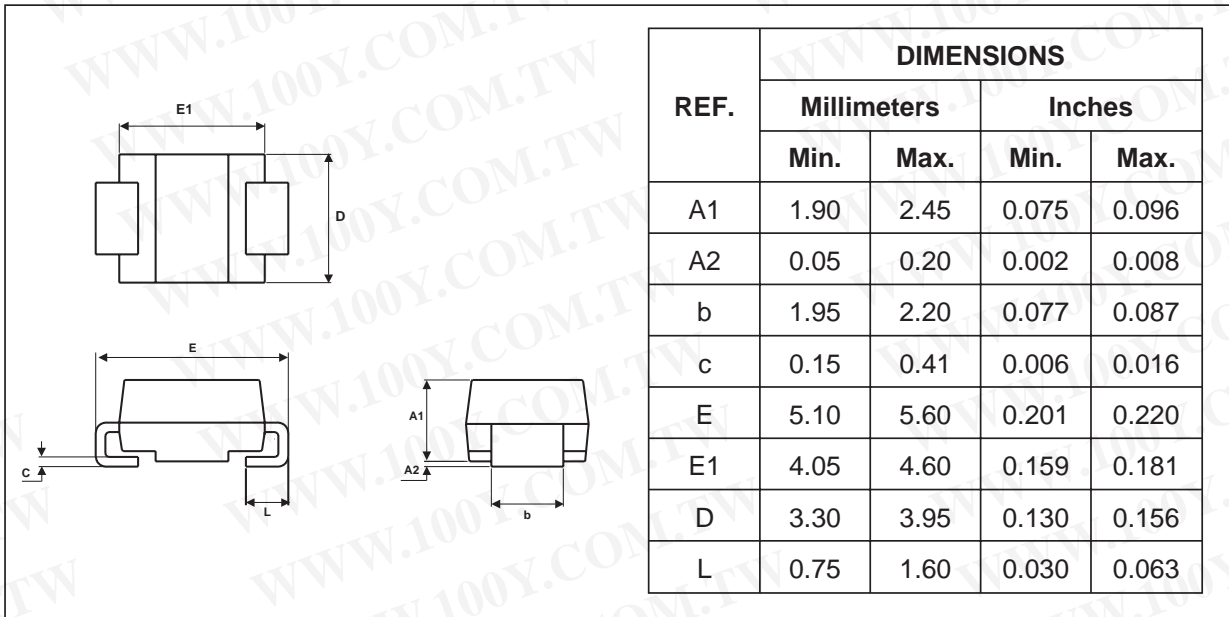


Fig. 4: Thermal resistance junction to ambient versus copper surface under each lead (epoxy printed circuit board FR4, copper thickness: 35µm).

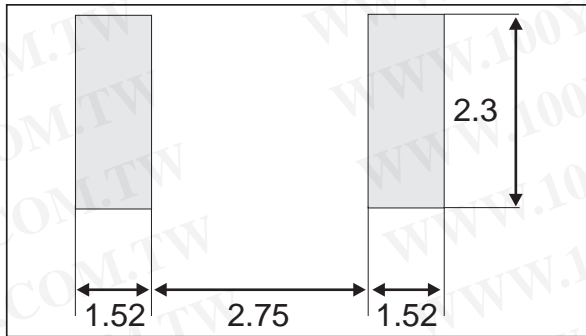


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PACKAGE MECHANICAL DATA  
SMB



FOOTPRINT (in millimeters)

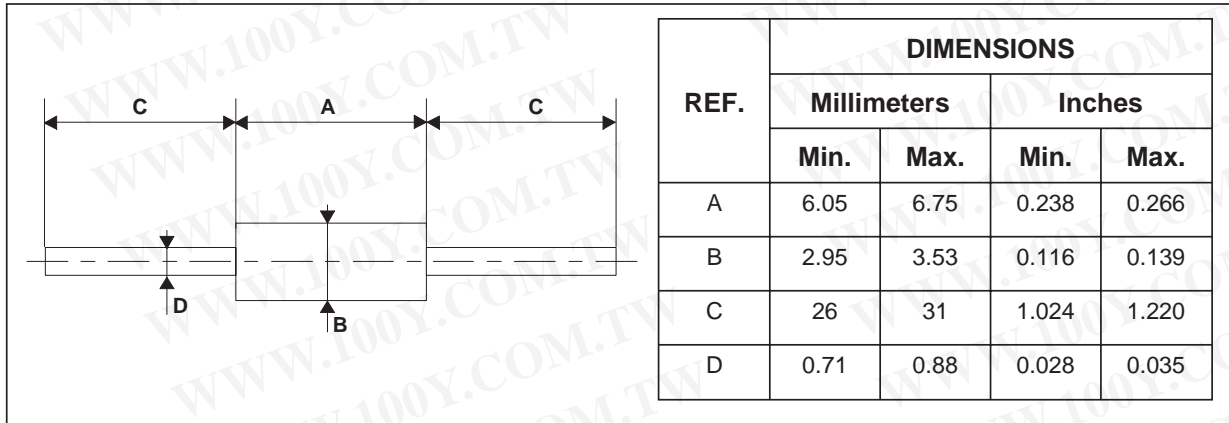


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## PACKAGE MECHANICAL DATA

DO-15



Ordering code	Marking	Package	Weight	Base qty	Delivery mode
STTH208	STTH208	DO-15	0.4 g	1000	Ammopack
STTH208U	U08	SMB	0.11 g	2500	Tape & reel
STTH208RL	STTH208	DO-15	0.4 g	6000	Tape & reel

- Epoxy meets UL 94,V0

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