

MSKSEMI 美森科

SEMICONDUCTOR



ESD



TVS



TSS



MOV



GDT



PLED

STTH208U-MS

Product specification

Description

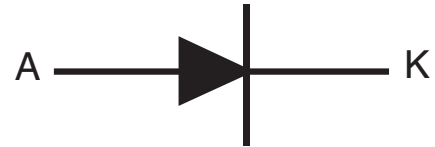
The STTH208U-MS, which is using ST ultrafast high voltage planar technology, is specially suited for free-wheeling, clamping, snubbing, demagnetization in power supplies and other power switching applications.

Features

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

Reference News

STTH208U-MS	MARKING
 DO-214AA(SMB)	



MAIN PRODUCT CHARACTERISTICS

$I_F(AV)$	2 A
V_{RRM}	800 V
$T_j(max)$	175 °C
$V_F(max)$	1.25 V

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	TI = 100°C	δ =0.5	SMB	2	A
I _{FSM}	Forward surge current t = 8.3 ms			SMB	35	A
T _{stg}	Storage temperature range			- 50 + 175	°C	
T _j	Maximum operating junction temperature			+ 175	°C	

THERMAL PARAMETERS

Symbol	Parameter		Value	Unit
Rth (j-l)	Junction to lead	SMB	25	°C/W

STATIC ELECTRICAL CHARACTERISTICS

Symbol	Parameter	Tests conditions		Min.	Typ.	Max.	Unit
IR	Reverse leakage current	VR = 800V	Tj = 25°C			5	μA
			Tj = 125°C			50	
VF	Forward voltage drop	IF = 2 A	Tj = 25°C			1.65	V
			Tj = 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 _{rr}	Reverse recovery time	IF = 0.5 A I _{rr} = 0.25 A IR = 1A	Tj = 25°C			75	ns
t _{fr}	Forward recovery time	IF = 2 A dIF/dt = 50 A/μs VFR = 1.1 x VF max	Tj = 25°C			200	ns
V _{FP}	Forward recovery voltage					9	V

Fig. 1: Conduction losses versus average current.

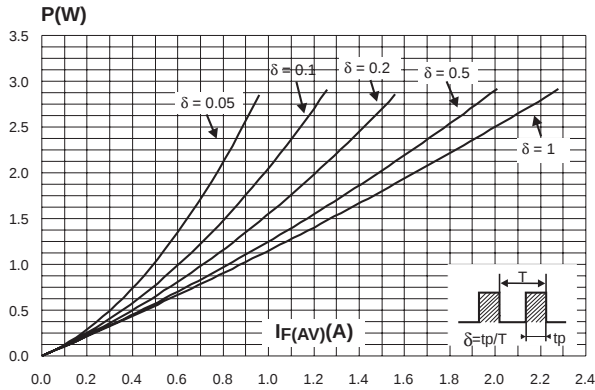


Fig. 2: Forward voltage drop versus forward current.

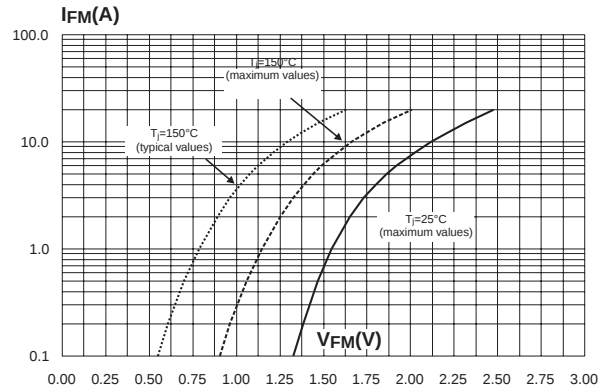


Fig. 3 : Relative variation of thermal impedance junction ambient versus pulse duration (epoxy FR4, $S=1cm^2$) (SMB).

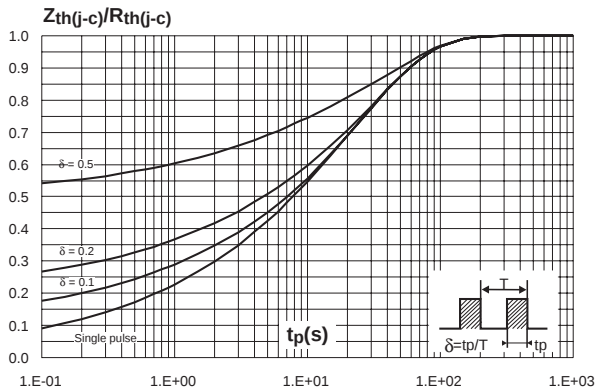
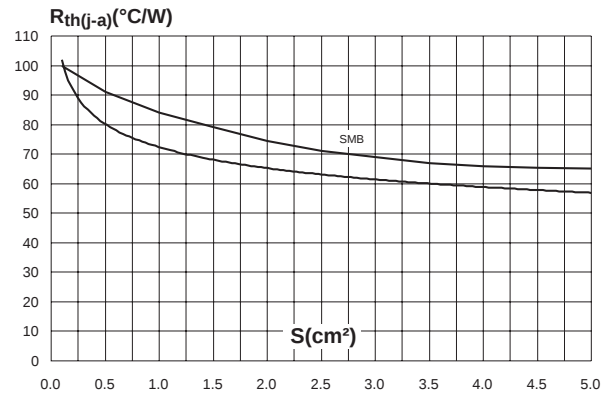
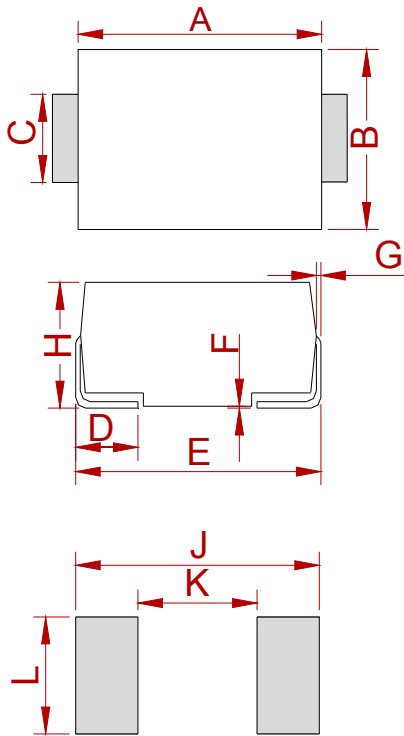


Fig. 4: Thermal resistance junction to ambient versus copper surface under each lead (epoxy printed circuit board FR4, copper thickness: $35\mu m$).



PACKAGE MECHANICAL DATA



DO-214AA (SMB)

Ref.	Dimensions			
	Millimeters		Inches	
	Min.	Max.	Min.	Max.
A	4.25	4.75	0.167	0.187
B	3.30	3.94	0.130	0.155
C	1.85	2.21	0.073	0.087
D	0.76	1.52	0.030	0.060
E	5.08	5.59	0.200	0.220
F	0.051	0.203	0.002	0.008
G	0.15	0.31	0.006	0.012
H	2.11	2.44	0.083	0.096
J	6.80		0.270	
K		2.60		0.100
L	2.40		0.090	

REEL SPECIFICATION

P/N	PKG	QTY
STTH208U-MS	DO-214AA (SMB)	2500

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