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STTH112A

High voltage ultrafast rectifier-1200V

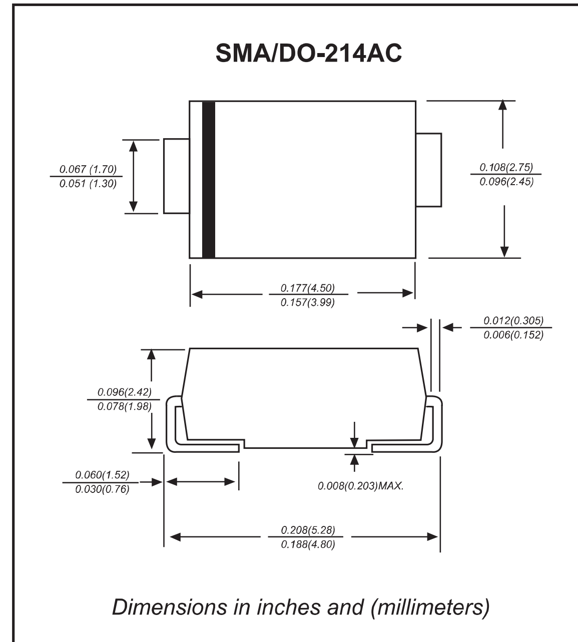
Features

- The plastic package carries Underwriters Laboratory Flammability Classification 94V-0
- For surface mounted applications
- Ultra fast switching for high efficiency
- Low reverse leakage
- Built-in strain relief,ideal for automated placement
- High forward surge current capability
- High temperature soldering guaranteed 260°C/10 seconds at terminals
- Glass passivated chip junction
- Compliant to Halogen-free

Mechanical data

- **Case**: JEDEC SMA/DO-214AC molded plastic body
- **Terminals**: Solder plated, solderable per MIL-STD-750, Method 2026
- **Polarity**: Color band denotes cathode end
- **Mounting Position**: Any

Package outline



Dimensions in inches and (millimeters)

Maximum ratings and Electrical Characteristics

Symbol	Parameter	Value	Unit
V_{RRM}	Repetitive peak reverse voltage	1200	V
$V_{(RMS)}$	Voltage rms	850	V
$I_{F(AV)}$	Average forward current Tl = 115°C δ =0.5	1	A
I_{FSM}	Forward surge current t = 8.3 ms	50	A
T_{stg}	Storage temperature range	- 50 + 175	°C
T_j	Maximum operating junction temperature	+ 175	°C
$R_{th\ (j-l)}$	Junction to lead	30	°C/W

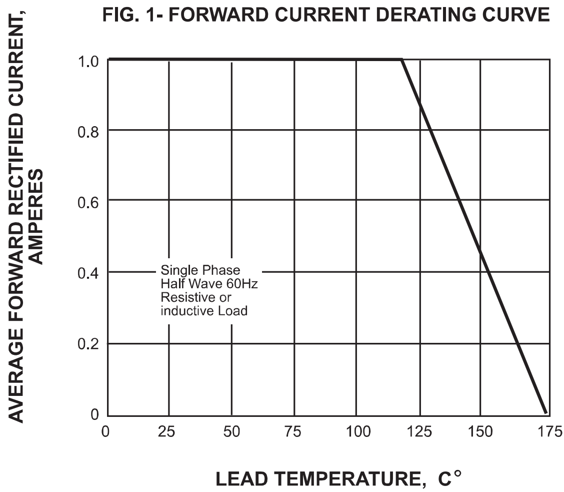
Static electrical characteristics

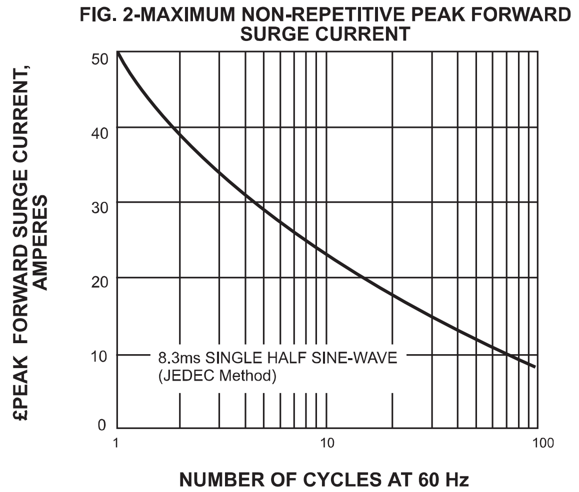
Symbol	Parameter	Tests conditions		Min.	Typ.	Max.	Unit
I_R	Reverse leakage current	V_R = 1200 V	T_j = 25 °C			5	µA
			T_j = 125 °C			50	
V_F	Forward voltage drop	I_F = 1 A	T_j = 25 °C			1.9	V
			T_j = 125 °C		1.17	1.65	
			T_j = 150 °C		1.10	1.55	

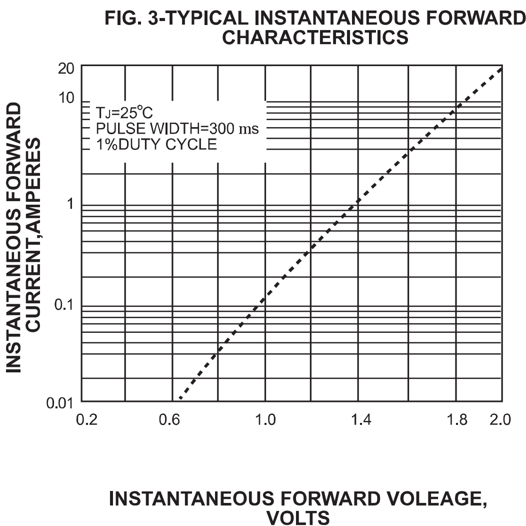
Dynamic electrical characteristics

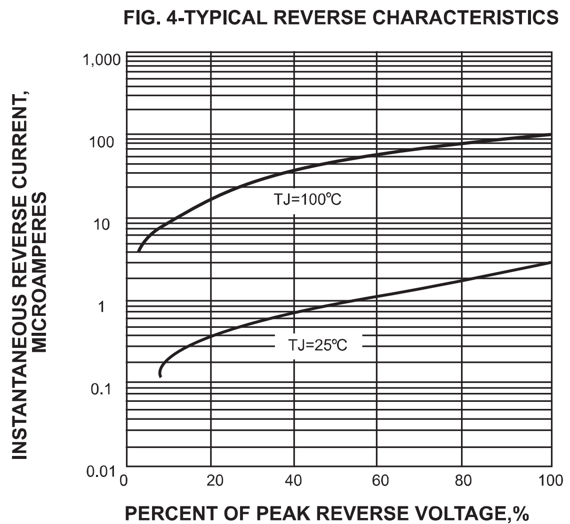
Symbol	Parameter	Tests conditions		Min.	Typ.	Max.	Unit
t_{rr}	Reverse recovery time	I_F = 0.5 A I_{rr} = 0.25 A I_R = 1A	T_j = 25 °C			75	ns
t_{fr}	Forward recovery time	I_F = 1 A dI_F/dt = 50 A/µs V_{FR} = 1.1 x V_{Fmax}	T_j = 25 °C			500	ns
V_{FP}	Forward recovery voltage					30	V

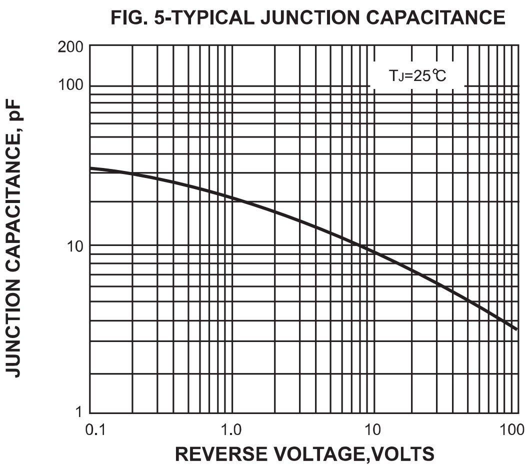
Rating and characteristic curves

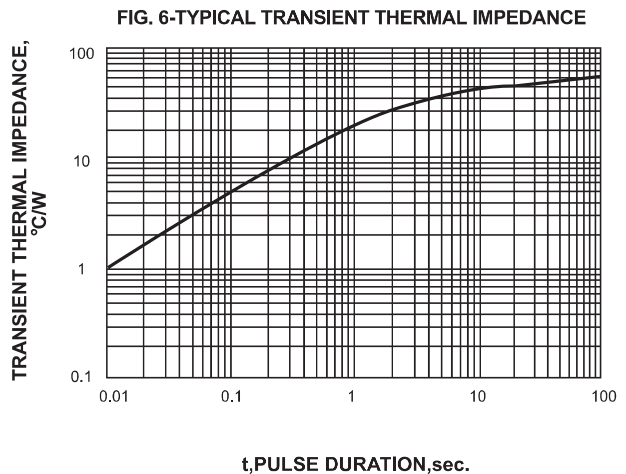












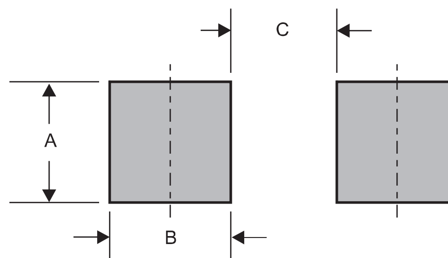
Pinning information

Pin	Simplified outline	Symbol
Pin1 cathode Pin2 anode	1 2	1 2

Marking

Type number	Marking code	Example
STTH112A	H12	H12 Marking code

Suggested solder pad layout

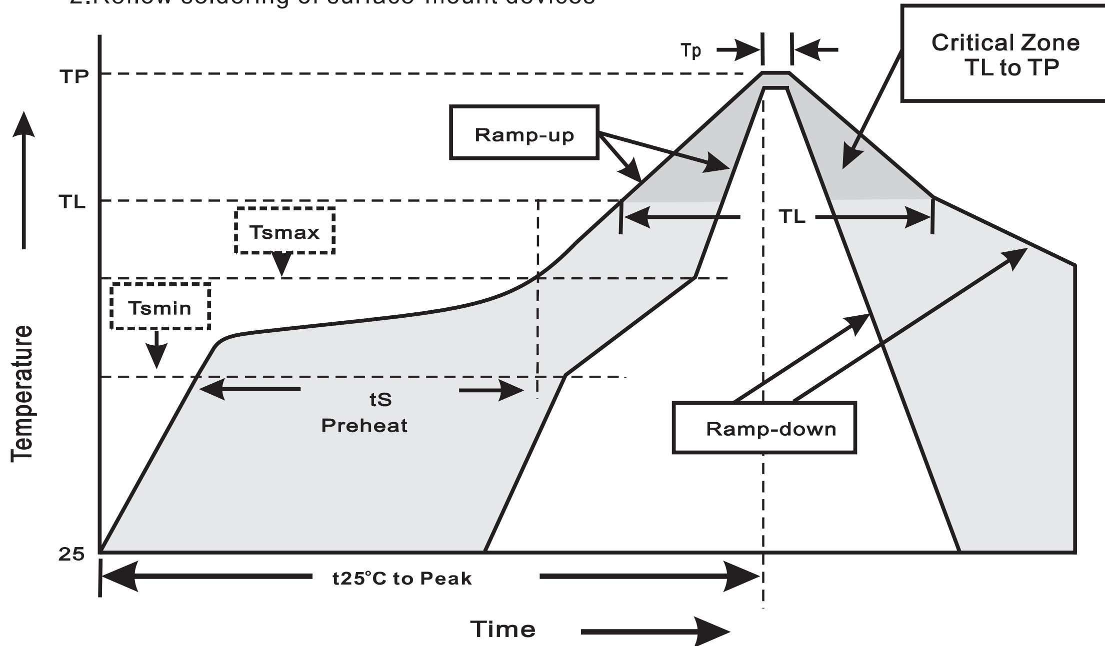


Dimensions in inches and (millimeters)

PACKAGE	A	B	C
SMA	0.110 (2.80)	0.063 (1.60)	0.087 (2.20)

Suggested thermal profiles for soldering processes

1.Storage environment: Temperature=5°C~40°C Humidity=55%±25%
2.Reflow soldering of surface-mount devices



3.Reflow soldering

Profile Feature	Soldering Condition
Average ramp-up rate(T_L to T_P)	<3°C/sec
Preheat -Temperature Min(Tsmin) -Temperature Max(Tsmax) -Time(min to max)(t_s)	150°C 200°C 60~120sec
Tsmax to T_L -Ramp-upRate	<3°C/sec
Time maintained above: -Temperature(T_L) -Time(t_L)	217°C 60~260sec
Peak Temperature(T_P)	255°C-0/+5°C
Time within 5°C of actual Peak Temperature(t_P)	10~30sec
Ramp-down Rate	<6°C/sec
Time 25°C to Peak Temperature	<6minutes