

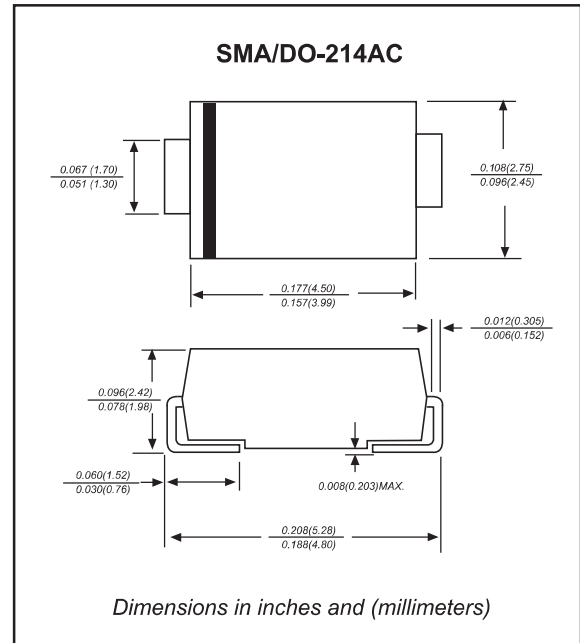
Features

- ◆ 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



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 $T_J = 115^\circ\text{C}$ $\delta = 0.5$	1	A
I_{FSM}	Forward surge current $t = 8.3 \text{ ms}$	50	A
T_{stg}	Storage temperature range	- 50 + 175	$^\circ\text{C}$
T_J	Maximum operating junction temperature	+ 175	$^\circ\text{C}$
$R_{th(j-l)}$	Junction to lead	30	$^\circ\text{C/W}$

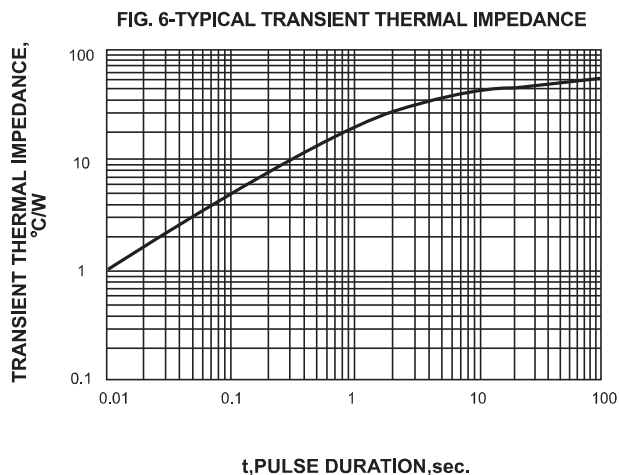
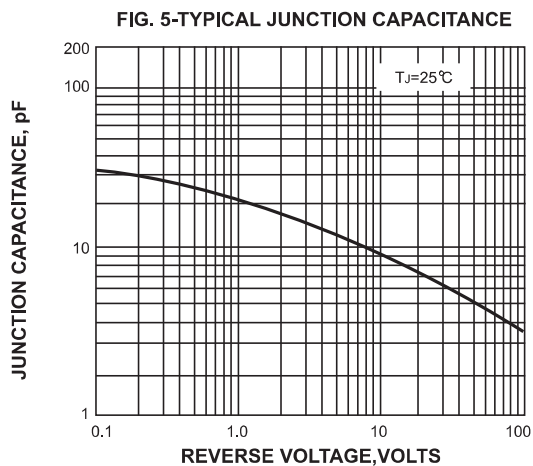
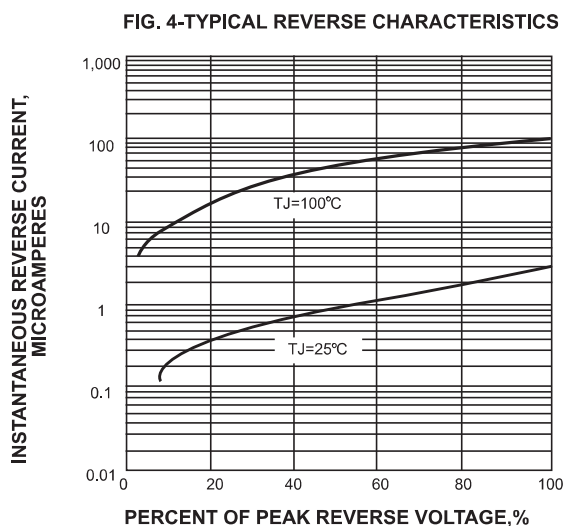
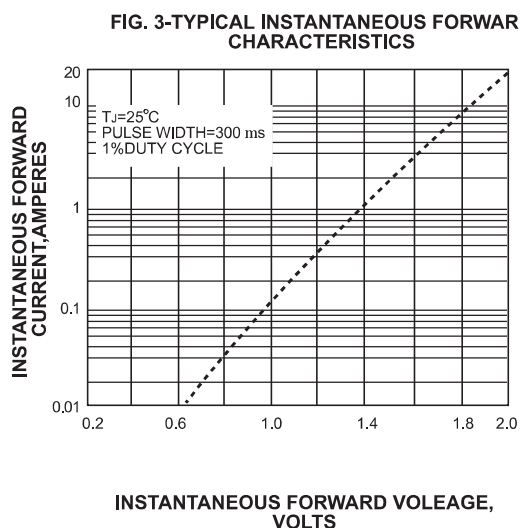
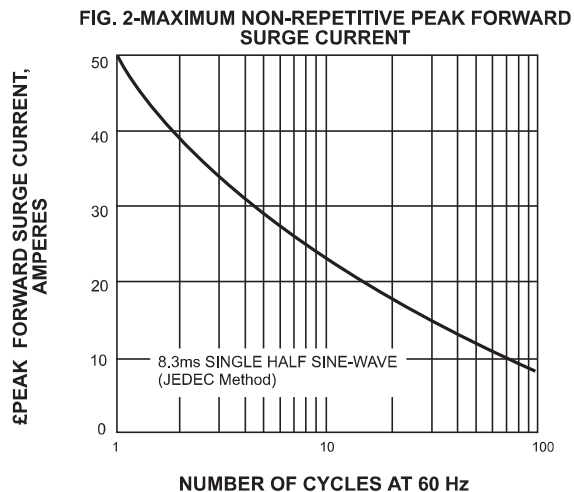
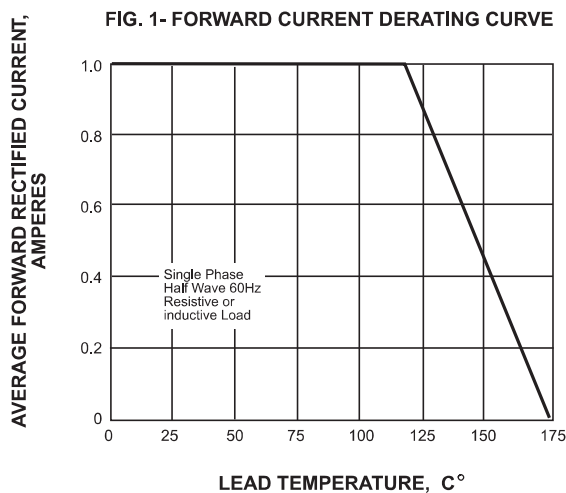
Static electrical characteristics

Symbol	Parameter	Tests conditions	Min.	Typ.	Max.	Unit
I_R	Reverse leakage current	$V_R = 1200 \text{ V}$	$T_J = 25^\circ\text{C}$		5	μA
			$T_J = 125^\circ\text{C}$		50	
V_F	Forward voltage drop	$I_F = 1 \text{ A}$	$T_J = 25^\circ\text{C}$		1.9	V
			$T_J = 125^\circ\text{C}$	1.17	1.65	
			$T_J = 150^\circ\text{C}$	1.10	1.55	

Dynamic electrical characteristics

Symbol	Parameter	Tests conditions	Min.	Typ.	Max.	Unit
t_{rr}	Reverse recovery time	$I_F = 0.5 \text{ A}$ $I_{rr} = 0.25 \text{ A}$ $I_R = 1 \text{ A}$ $T_J = 25^\circ\text{C}$			75	ns
t_{fr}	Forward recovery time	$I_F = 1 \text{ A}$ $dI_F/dt = 50 \text{ A}/\mu\text{s}$ $T_J = 25^\circ\text{C}$			500	ns
V_{FP}	Forward recovery voltage	$V_{FR} = 1.1 \times V_{Fmax}$			30	V

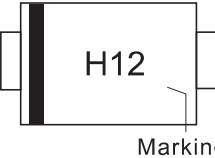
Rating and characteristic curves



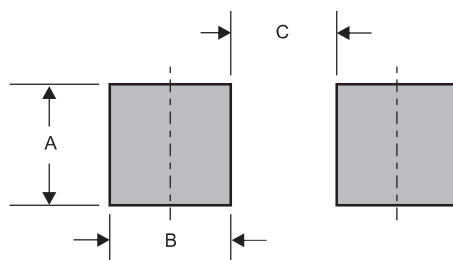
Pinning information

Pin	Simplified outline	Symbol
Pin1 cathode Pin2 anode		

Marking

Type number	Marking code	Example
STTH112A-FS	H12	

Suggested solder pad layout

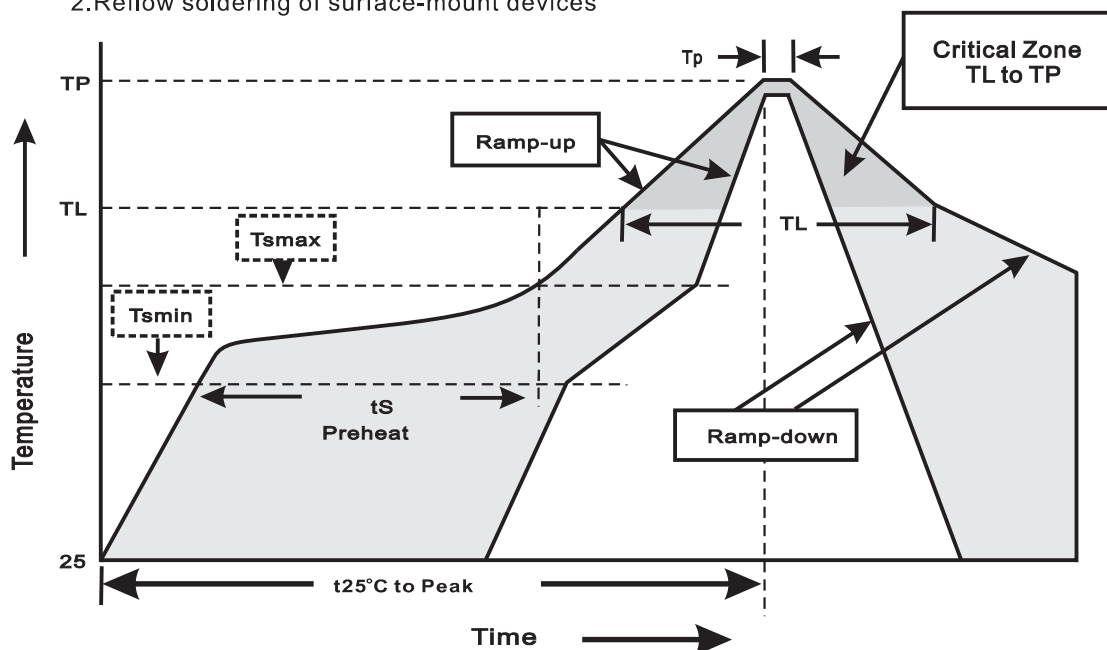


Dimensions in inches and (millimeters)

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)	$<3^{\circ}\text{C}/\text{sec}$
Preheat -Temperature Min(T_{min}) -Temperature Max(T_{max}) -Time(min to max)(t_s)	150°C 200°C $60\sim 120\text{sec}$
T_{max} to T_L -Ramp-upRate	$<3^{\circ}\text{C}/\text{sec}$
Time maintained above: -Temperature(T_L) -Time(t_L)	217°C $60\sim 260\text{sec}$
Peak Temperature(T_P)	$255^{\circ}\text{C}-0/+5^{\circ}\text{C}$
Time within 5°C of actual Peak Temperature(t_P)	$10\sim 30\text{sec}$
Ramp-down Rate	$<6^{\circ}\text{C}/\text{sec}$
Time 25°C to Peak Temperature	$<6\text{minutes}$