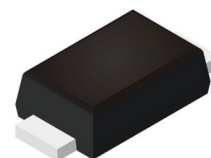


1-Line, Bi-directional, Transient Voltage Suppressors



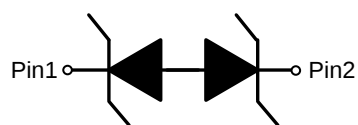
Descriptions

The ESD24F301TA is a transient voltage suppressor designed to protect power interfaces. It is suitable to replace multiple discrete components in portable electronics.

The ESD24F301TA is specifically designed to protect power lines.

The ESD24F301TA is available in SOD-123FL package. Standard products are Pb-free and Halogen-free.

SOD-123FL



Circuit diagram

Features

- Stand-off voltage: 24 V Max
- Transient protection for each line according to IEC61000-4-2 (ESD): $\pm 20\text{KV}$ Air, $\pm 20\text{KV}$ contact
- IEC61000-4-5 (Surge): 200A (8/20 μs)
- Solid-state silicon technology

Order information

Device	Marking	Package	Shipping
ESD24F301TA	24C	SOD-123FL	3000/Tape&Reel

Applications

- Power supply protection
- Power management

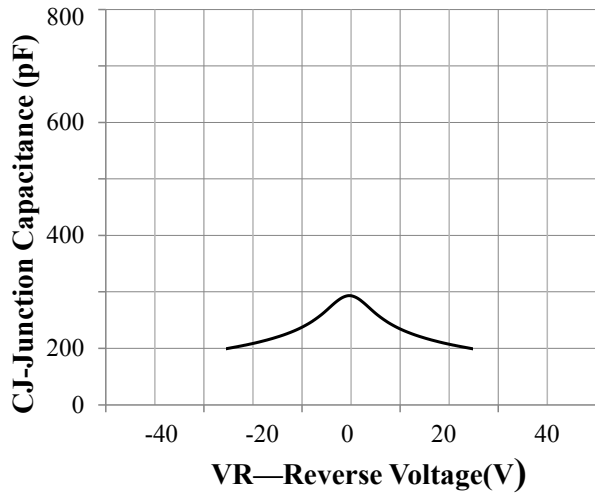
Absolute maximum ratings

Parameter	Symbol	Rating	Unit
Peak pulse power ($t_p = 8/20\mu s$) _{Max}	P_{pk}	7000	W
ESD according to IEC61000-4-2 air discharge	V_{ESD}	± 20	kV
ESD according to IEC61000-4-2 contact discharge		± 20	
Junction temperature	T_J	125	$^{\circ}C$
Operating temperature	T_{OP}	-40~85	$^{\circ}C$
Lead temperature	T_L	260	$^{\circ}C$
Storage temperature	T_{STG}	-55~150	$^{\circ}C$

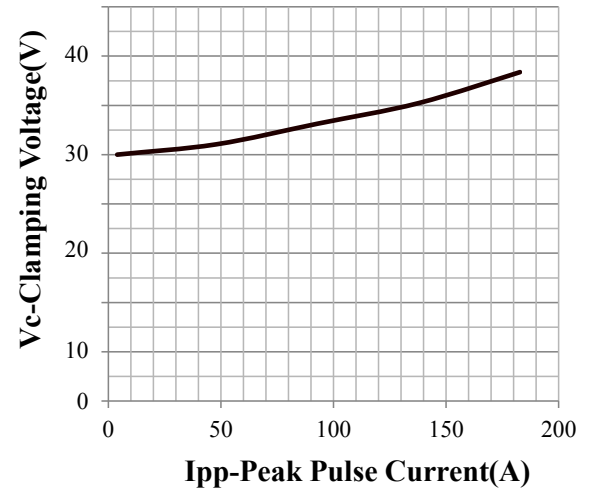
Electrical characteristics (TA=25 $^{\circ}C$, unless otherwise noted)

Parameter	Symbol	Condition	Min.	Typ.	Max.	Unit
Reverse stand-off voltage	V_{RWM}				24.0	V
Reverse leakage current	I_R	$V_{RWM} = 24V$			5.0	μA
Reveres breakdown voltage	V_{BR}	$I_T = 1mA$	25.5	28.0		V
Clamping voltage	V_C	$I_{pp} = 100A$ $t_p = 8/20\mu s$			30.0	V
		$I_{pp} = 200A$ $t_p = 8/20\mu s$			35.0	V
Junction capacitance	C_J	$V_R = 0V$, $f = 1MHz$		300	800	pF

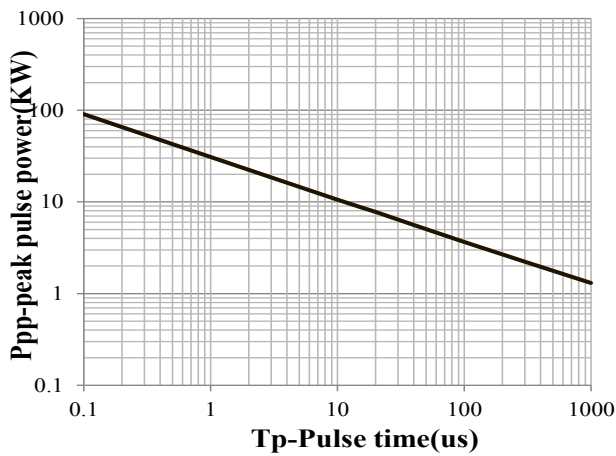
Typical characteristics ($T_A=25^{\circ}\text{C}$, unless otherwise noted)



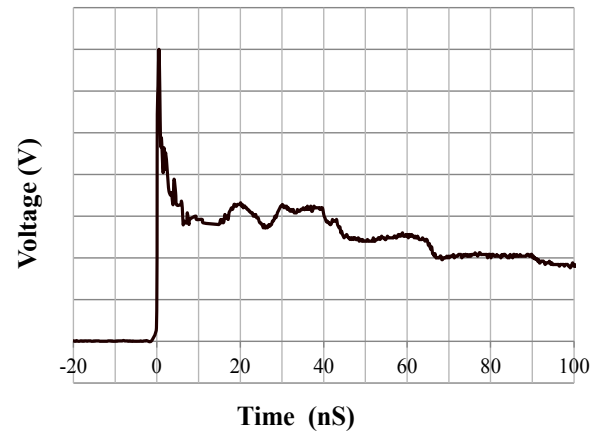
Junction Capacitance vs. Reverse Voltage



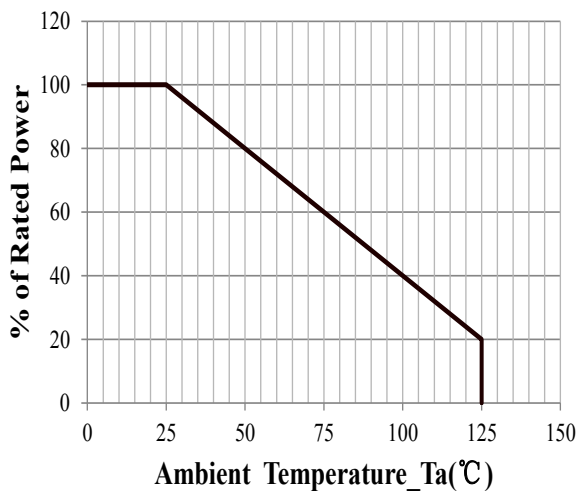
Clamping Voltage vs. Peak Pulse Current



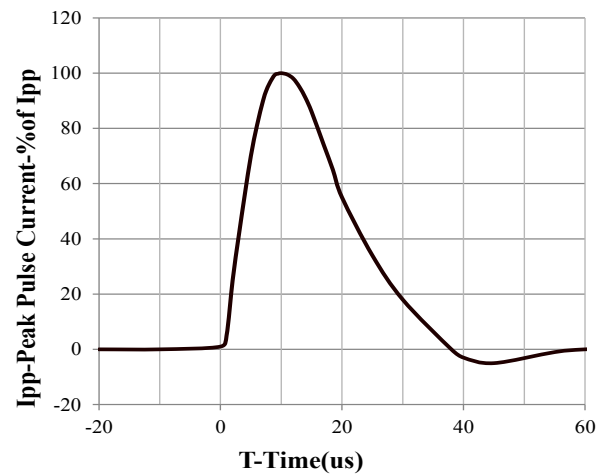
Peak Pulse Power vs. Pulse Time



IEC61000-4-2 Pulse Waveform



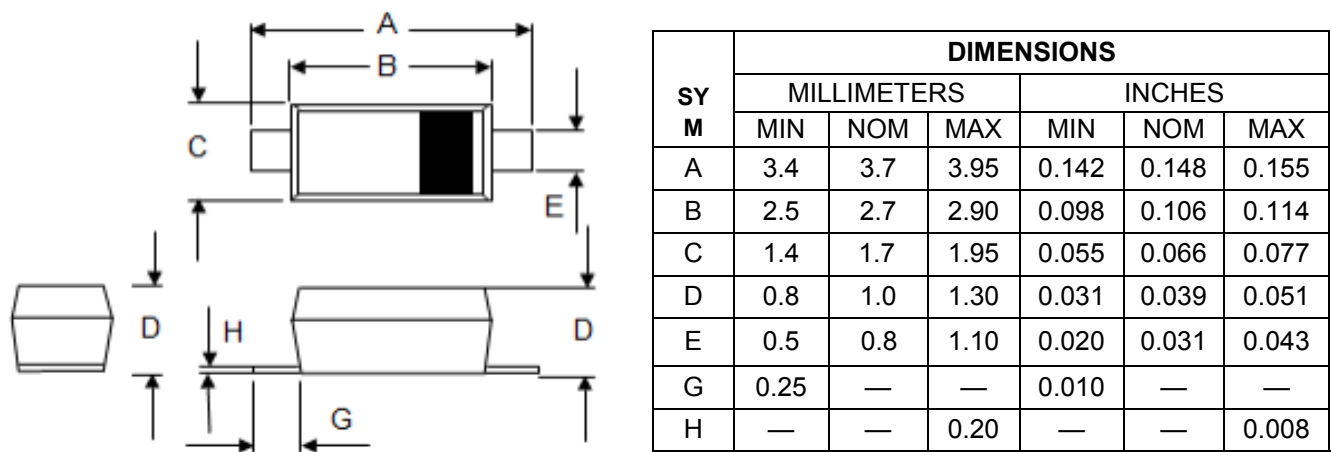
Power Derating Curve



8 X 20us Pulse Waveform

Package outline dimensions

SOD-123FL



Suggested Land Pattern

