

Electrostatic Discharged Protection Devices (ESD) Data Sheet

Description

The SJD12A15L01-R85 series are designed to protect voltage sensitive components from high voltage, high energy transients. Excellent clamping capability, high surge capability, low zener impedance and fast response time. Because of its small size, it is ideal for use in cellular phones, portable device, business machines, power supplies and many other industrial/consumer applications.

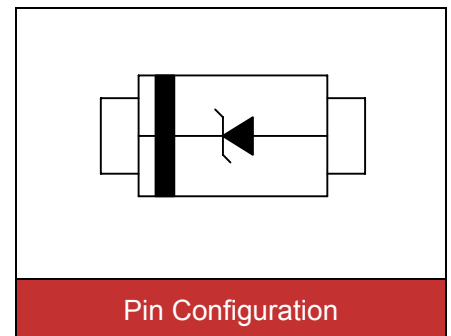


Contact : $\pm 8\text{kV}$
Air : $\pm 15\text{kV}$



Features

- IEC61000-4-2 ESD 15KV Air, 8KV contact compliance
- SOD-123S surface mount package
- Protects one I/O line
- Working voltage: 15V
- Low leakage current
- Solid-state silicon avalanche technology
- RoHS compliant
- Solder reflow temperature: Pure Tin-Sn, 260~270°C
- Flammability rating UL 94V-0
- Meets MSL level 1, per J-STD-020
- Marking: LM



Applications

- Personal digital assistants (PDA)
- Cellular handsets & Accessories
- Portable devices
- Portable instrumentation
- Handhelds and notebooks
- Digital cameras

Maximum Ratings

Rating	Symbol	Value	Unit
Peak pulse power (tp=10/1000μs waveform)	P _{PP}	250	W
ESD voltage (Contact discharge)	V _{ESD}	±8	kV
ESD voltage (Air discharge)		±15	
Storage & operating temperature range	T _{STG} , T _J	-55~+150	°C

Electrical Characteristics ($T_J=25^\circ\text{C}$)

Part Number	Reverse Stand-Off Voltage	Breakdown Voltage @ I_T	Test Current	Maximum Clamping Voltage @ I_{PP}	Peak Pulse Current	Reverse Leakage @ V_{RWM}	Capacitance @0Vdc, f=1MHz	
	$V_{RWM}(V)$	$V_{BR\ MIN.}(V)$	$I_T(mA)$	$V_C(V)$	$I_{PP}(A)$ (Note1)	$I_R(\mu A)$	CJ TYP.(pF)	CJ MAX.(pF)
SJD12A15L01-R85	15.0	16.70	1	85	3	1	75	85

Note1: Peak Pulse Current of at 10/1000 μs waveform.

Typical Characteristics Curves

Figure 1. Peak Pulse Power Rating Curve

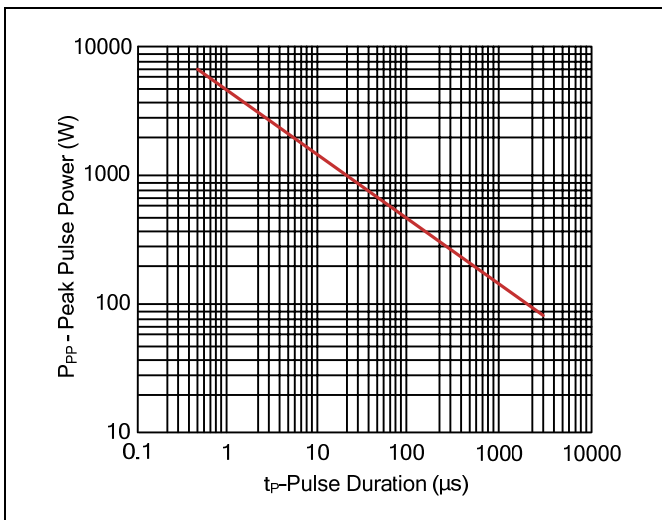


Figure 2. 10/1000 μs Pulse Waveforms

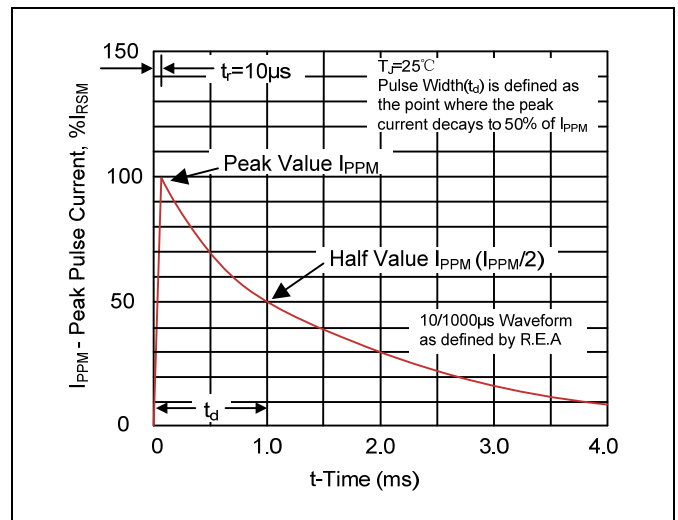


Figure 3. Power Derating Curve

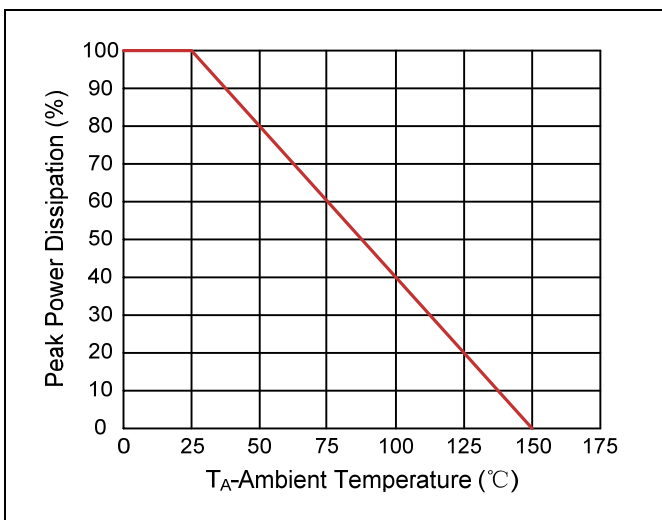
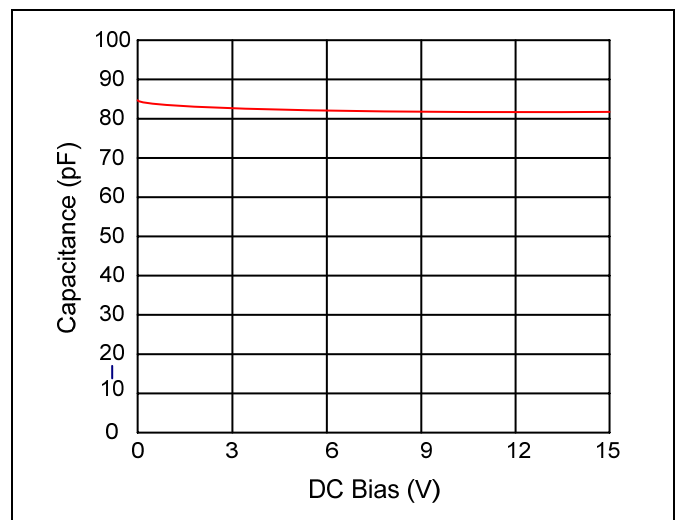
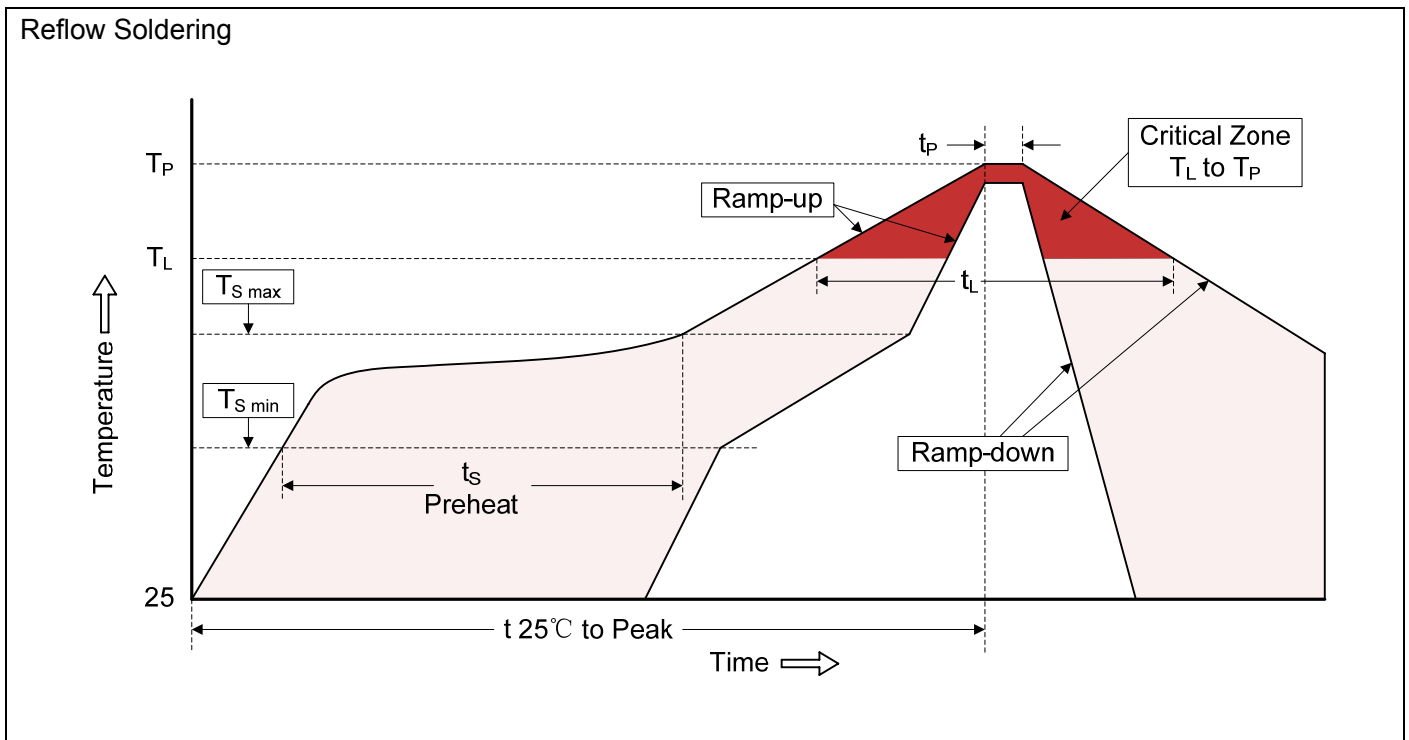


Figure 4. Power Derating Curve



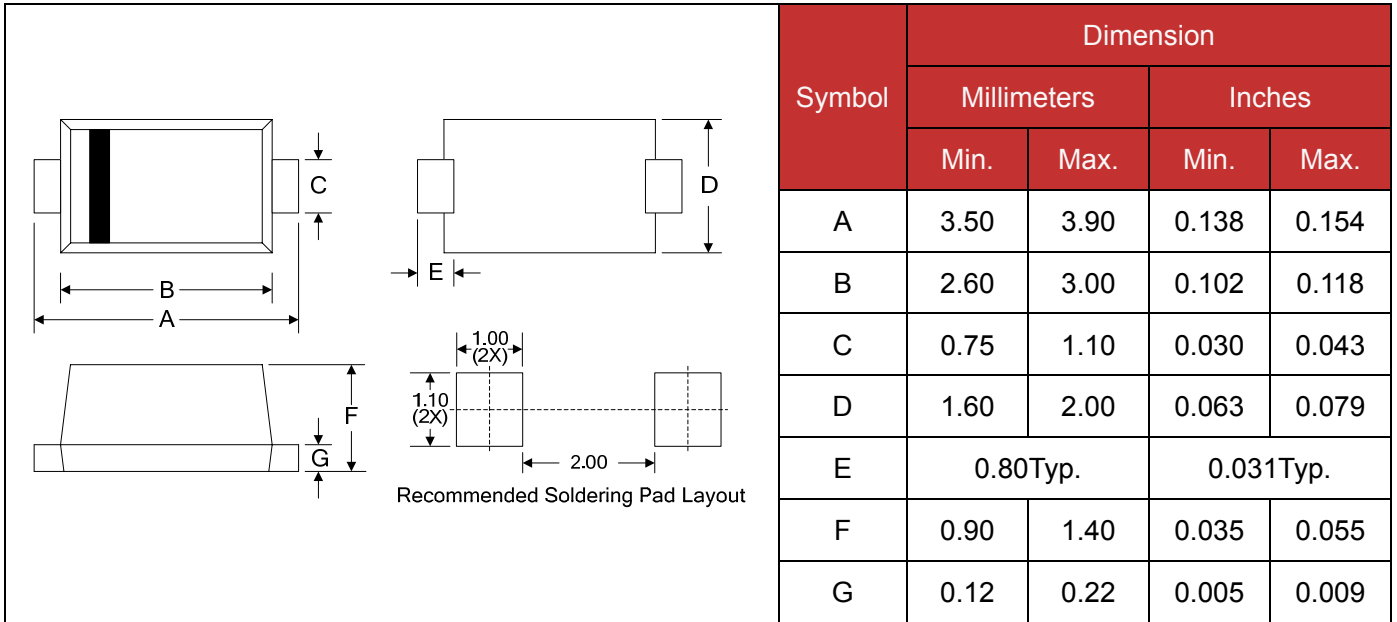
Recommended Soldering Conditions



Recommended Conditions

Profile Feature	Pb-Free Assembly
Average ramp-up rate (T_L to T_P)	3°C/second max.
Preheat -Temperature Min ($T_{S\ min}$) -Temperature Max ($T_{S\ max}$) -Time (min to max) (t_s)	150°C 200°C 60-180 seconds
$T_{S\ max}$ to T_L -Ramp-up Rate	3°C/second max.
Time maintained above: -Temperature (T_L) -Time (t_L)	217°C 60-150 seconds
Peak Temperature (T_P)	260°C
Time within 5°C of actual Peak Temperature (t_P)	20-40 seconds
Ramp-down Rate	6°C/second max.
Time 25°C to Peak Temperature	8 minutes max.

Dimensions (SOD-123S)



Packaging

