

Description

The SXTVSHC1DF15VU protects sensitive semiconductor components from damage or upset due to electrostatic discharge (ESD) and other voltage induced transient events. They feature large cross-sectional area junctions for conducting high transient currents, offer desirable electrical characteristics for board level protection, such as fast response time, low operating voltage. It gives designer the flexibility to protect one bi-directional line in applications where arrays are not practical.

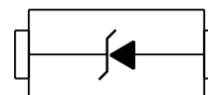
Feature

- 4000W Peak pulse power per line ($t_P = 8/20\mu s$)
- SOD-123FL package
- Response time is typically $< 1\text{ ns}$
- Protect one I/O or power line
- Low clamping Voltage
- RoHS compliant
- Transient protection for data lines to IEC 61000-4-2(ESD) $\pm 30\text{KV}$ (air), $\pm 30\text{KV}$ (contact); IEC 61000-4-4 (EFT) 40A (5/50ns)

Mechanical Characteristics

- Lead finish: 100% matte Sn(Tin)
- Mounting position: Any
- Qualified max reflow temperature: 260°C
- Device meets MSL 1 requirements
- Pure tin plating: $7 \sim 17\text{ }\mu\text{m}$
- Pin flatness: $\leq 3\text{mil}$

SOD-123FL

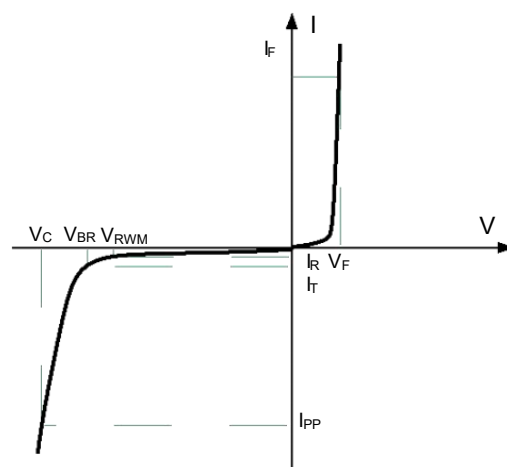


Applications

- Cell phone handsets and accessories
- Personal digital assistants (PDA's)
- Notebooks, desktops, and servers
- Portable instrumentation
- Cordless phones
- Digital cameras
- Peripherals
- MP3 players

Electronics Parameter

Symbol	Parameter
V_{RWM}	Peak Reverse Working Voltage
I_R	Reverse Leakage Current @ V_{RWM}
V_{BR}	Breakdown Voltage @ I_T
I_T	Test Current
I_{PP}	Maximum Reverse Peak Pulse Current
V_C	Clamping Voltage @ I_{PP}
P_{PP}	Peak Pulse Power
C_J	Junction Capacitance
I_F	Forward Current
V_F	Forward Voltage @ I_F



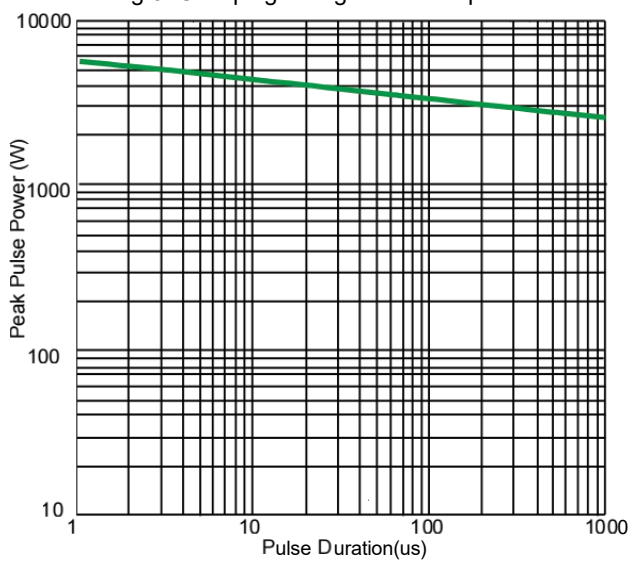
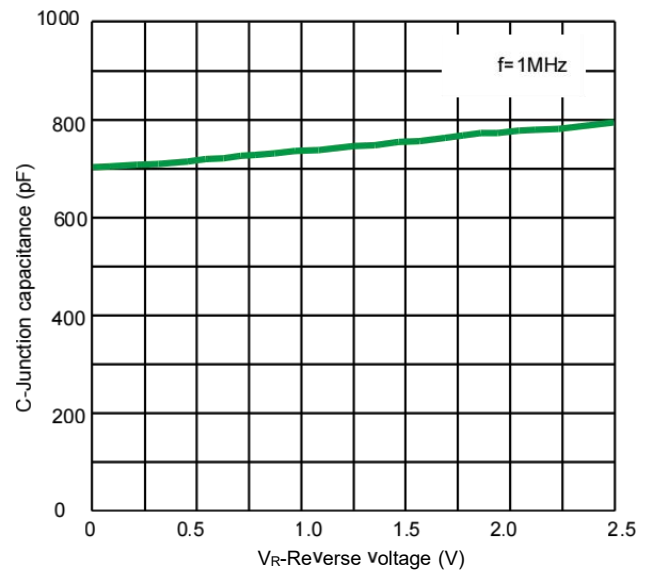
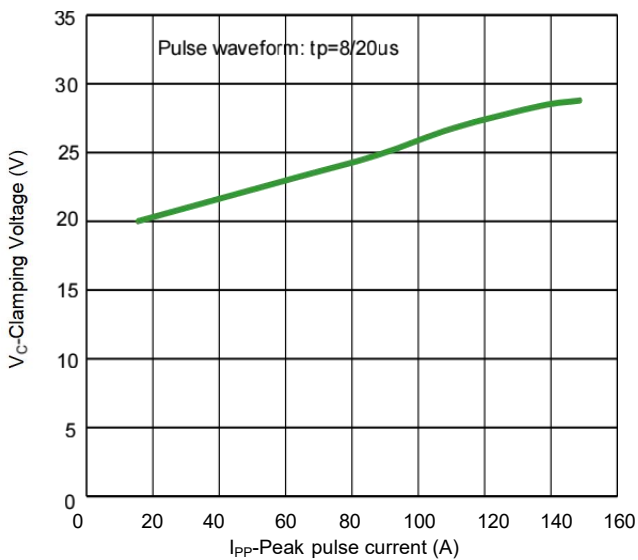
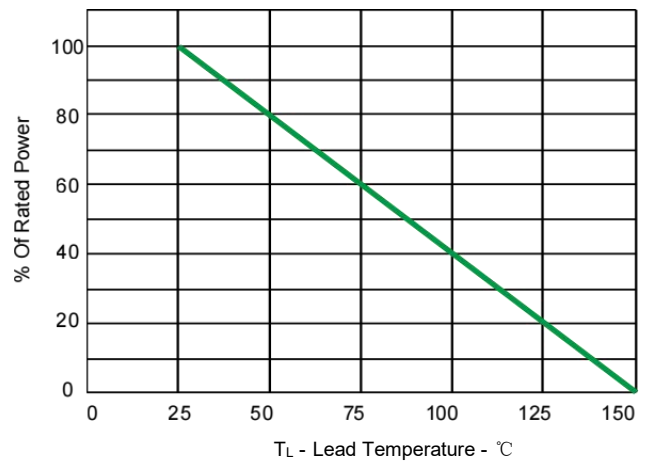
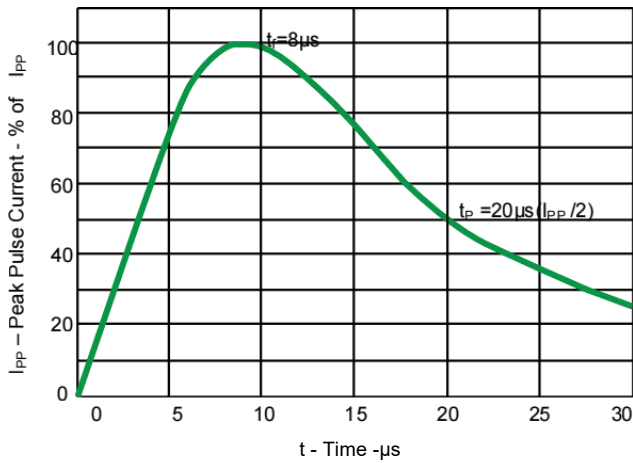
Electrical characteristics per line@25°C (unless otherwise specified)

Parameter	Symbol	Conditions	Min.	Typ.	Max.	Units
Peak Reverse Working Voltage	V_{RWM}				15	V
Breakdown Voltage	V_{BR}	$I_T = 1\text{mA}$	16.8	17		V
Reverse Leakage Current	I_R	$V_{RWM} = 15\text{V}$			1	μA
Clamping Voltage	V_C	$I_{PP} = 40\text{A}$ $t_P = 8/20\mu\text{s}$		22	22.5	V
Clamping Voltage	V_C	$I_{PP} = 100\text{A}$ $t_P = 8/20\mu\text{s}$		26	26.5	V
Junction Capacitance	C_J	$V_R = 0\text{V}$ $f = 1\text{MHz}$	650	700	750	pF

Absolute maximum rating@25°C

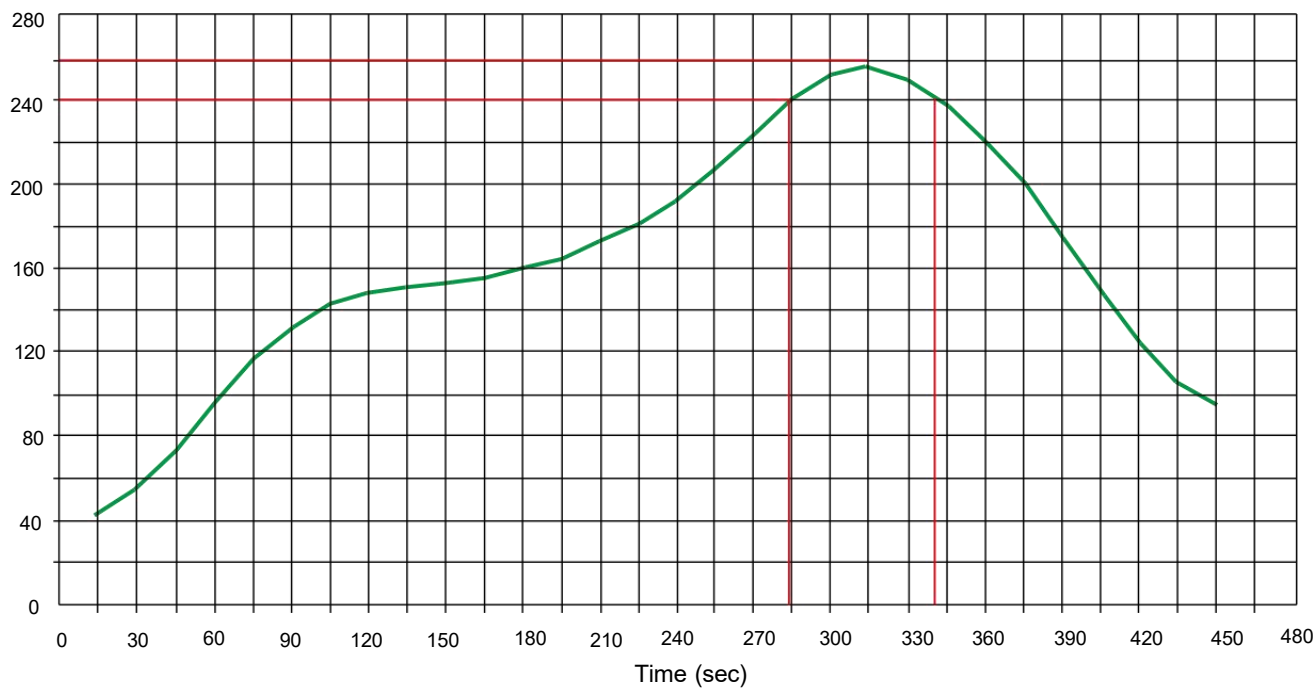
Rating	Symbol	Value	Units
Peak Pulse Power ($t_P = 8/20\mu\text{s}$)	P_{PP}	4000	W
Lead Soldering Temperature	T_L	260 (10 sec)	$^{\circ}\text{C}$
Operating Temperature	T_J	-55 to +150	$^{\circ}\text{C}$
Storage Temperature	T_{STG}	-55 to +150	$^{\circ}\text{C}$

Typical Characteristics



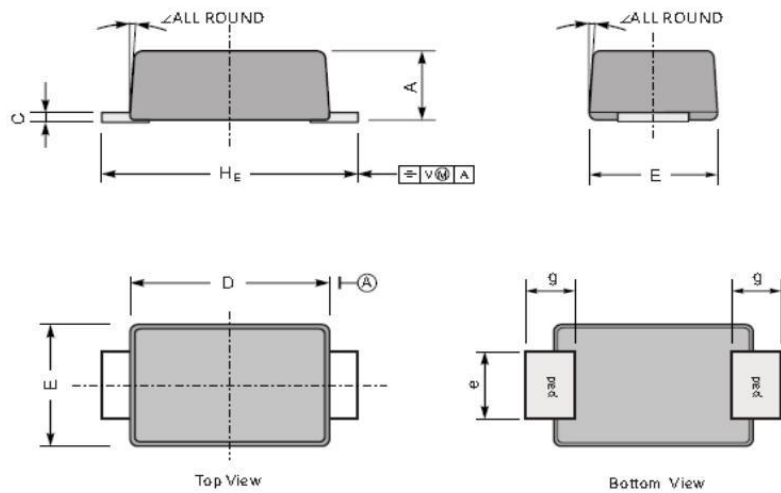
Solder Reflow Recommendation

Peak Temp=257°C, Ramp Rate=0.802deg. °C/sec



Ordering information

Device	Package	Shipping
TAPING	SOD-123FL (Pb-Free)	3000 / Tape & Reel

Product dimension (SOD-123FL)


Unit:mm

UNIT		A	C	D	E	e	g	H _E	∠
mm	max	1.1	0.20	2.9	1.9	1.1	0.9	3.8	7°
	min	0.9	0.12	2.6	1.7	0.8	0.7	3.5	
mil	max	43	7.9	114	75	43	35	150	
	min	35	4.7	102	67	31	28	138	

The recommended mounting pad size
