

Transient Voltage Suppressors for ESD Protection

Description

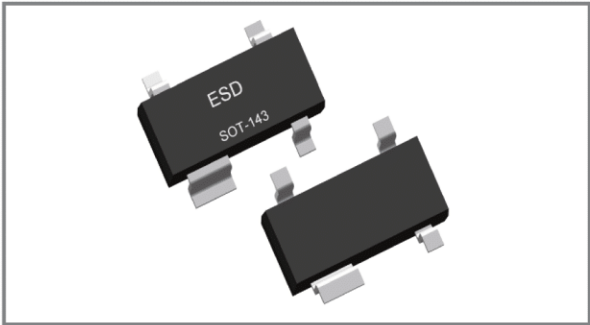
The HVG05V47W-OF is designed to protect voltage sensitive components from ESD and transient voltage events. Excellent clamping capability, low leakage, and fast response time, make these parts ideal for ESD protection on designs where board space is at a premium.

Feature

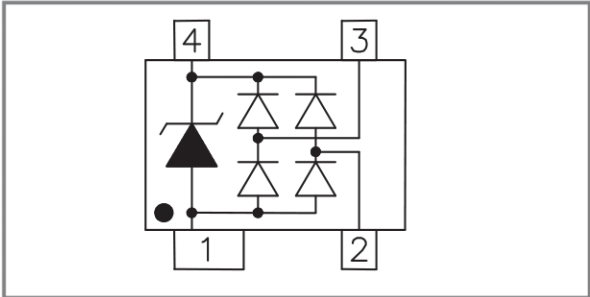
- ◆ 125 Watts Peak Pulse Power per Line (tp=8/20µs)
- ◆ Protects two I/O lines
- ◆ Low Clamping Voltage
- ◆ Stand-off Voltage: 5 V
- ◆ Low leakage current
- ◆ IEC61000-4-2 (ESD) ±20kV (air), ±15kV (contact)
- ◆ IEC61000-4-4 (EFT) 40A (5/50ns)
- ◆ IEC61000-4-5 (Lightning) 5A (8/20µs)

Applications

- ◆ USB Power & Data Line Protection
- ◆ Ethernet 10 Base T
- ◆ I²C Bus Protection
- ◆ Video Line Protection
- ◆ T1/E1 secondary IC Side Protection
- ◆ ISDN S/T Interface
- ◆ WAN/LAN Equipment



Functional Diagram



Mechanical Data

- ◆ JEDEC SOT-143 Package
- ◆ Molding Compound Flammability Rating : UL 94V-O
- ◆ Weight 10.0 Milligrams (Approximate)
- ◆ Lead Finish : Lead Free

Mechanical Characteristics

Parameter	Symbol	Value	Units
Peak Pulse Power (Tp=8/20µs waveform)	P _{pp}	125	Watts
Lead Soldering Temperature	T _L	260 (10 sec.)	°C
Storage Temperature Range	T _{STG}	-55 to +150	°C
Operating Junction Temperature Range	T _J	-40 to +125	°C

Electrical Characteristics @ 25°C Unless Otherwise Specified)

Characteristics	Symbol	Test Conditions	Min.	Typ.	Max.	Unit
Reverse Working Voltage	V _{RWM}	--	--	--	5.0	V
Reverse Breakdown Voltage	V _{BR}	I _T =1mA;	6.0	--	--	V
Reverse Leakage Current	I _R	V _{RWM} =5.0 V, T=25°C;	--	--	1.0	μA
Junction Capacitance	C _J	V _R = 0V, f = 1MHz;	--	1.2	--	pF
Clamping Voltage	V _c	I _{PP} =1.0A T _P = 8/20μs;	--	--	9.8	V
		I _{PP} =5.0A T _P = 8/20μs;	--	15.0	25.0	V

Characteristic Curves

Fig1. 8/20μs Pulse Waveform

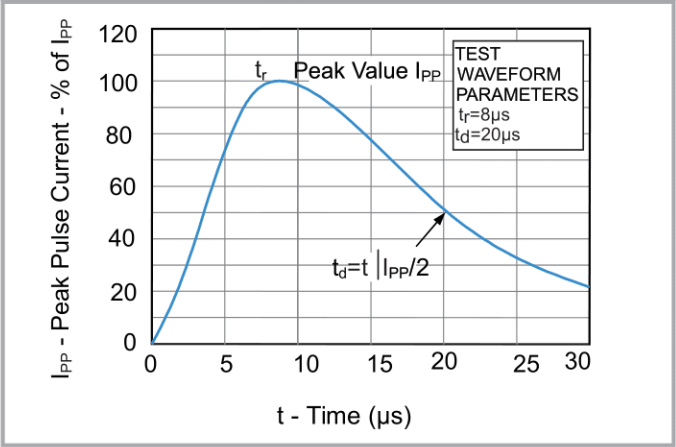


Fig2. Power Rating Derating Curve

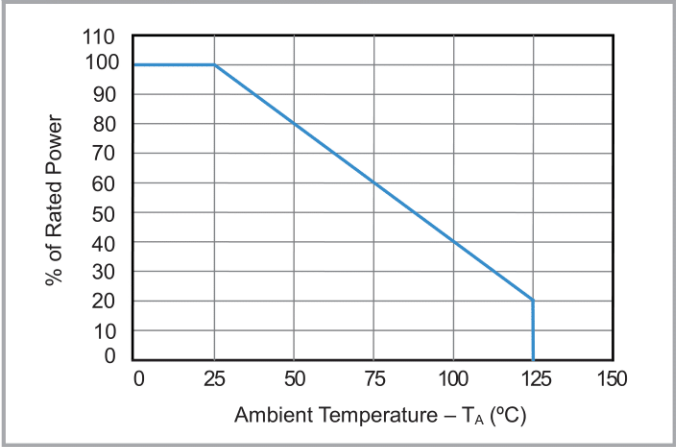
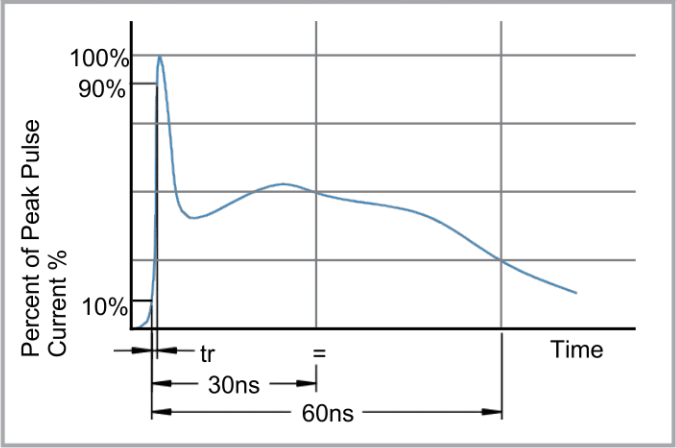
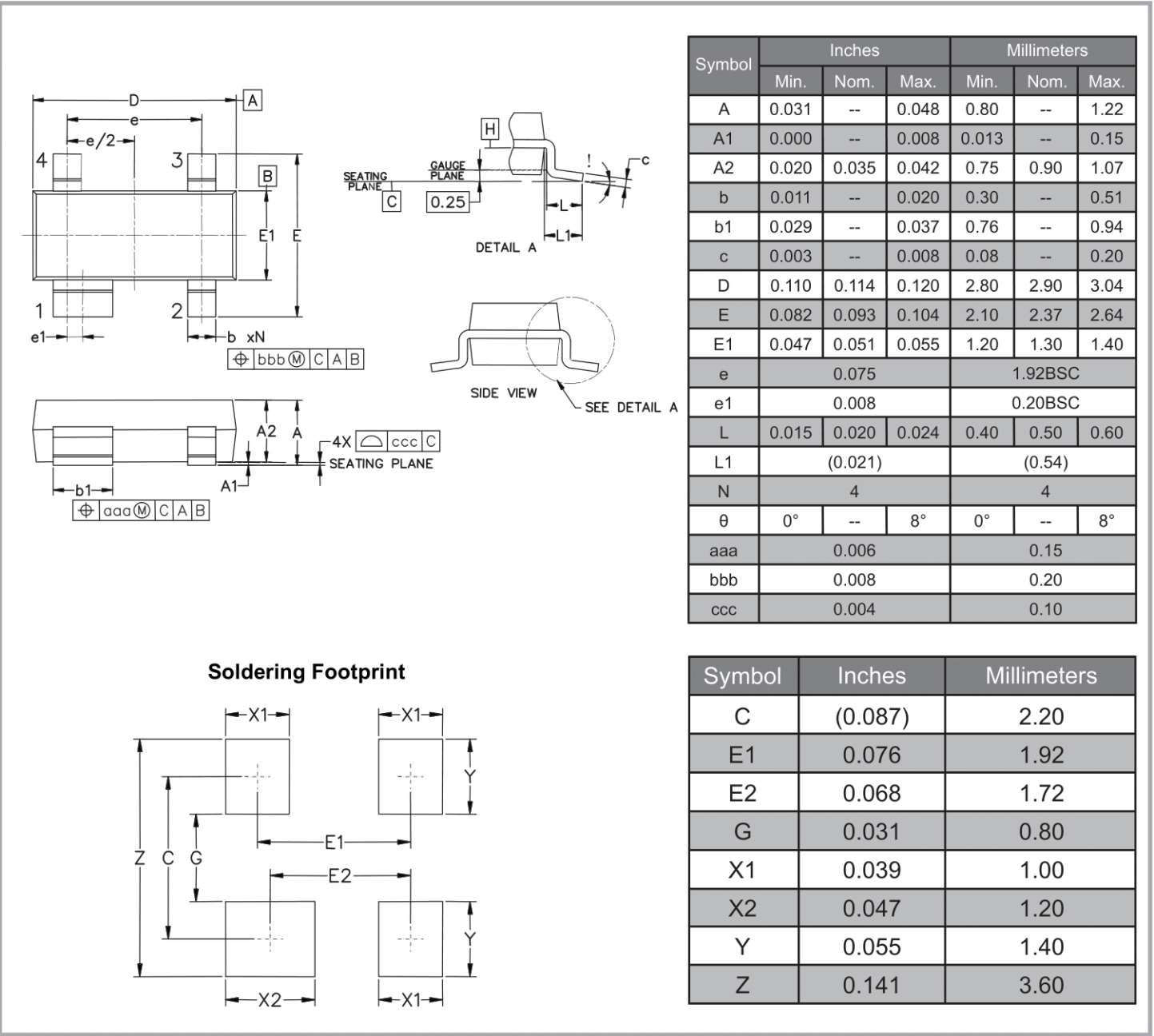


Fig3. ESD Pulse Waveform(according to IEC61000-4-2)



SOT-143 Package Outline & Dimensions



Ordering Information

Device	Marking	Package	Quantity	Reel Size
HVG05V47W-OF	SL3	SOT-143	3,000pcs/Reel	7 inch