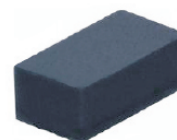


Transient Voltage Suppressors for ESD Protection

ESDXXV52D-CF Series

Description

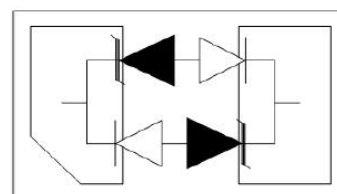
The ESDXXV52D-CF series is designed to protect voltage sensitive components from ESD and transient voltage events. Excellent clamping capability, low leakage, and fast response time, make these parts ideal for ESD protection on designs where board space is at a premium. Because of its small size, ultra-low capacitance values, it is very suitable for signal port and board space speed transmission is very small places, such as Ethernet, mobile phones, MP3 players, digital cameras and other portable.



Feature

- ◆ 25 ~ 75 Watts Peak Pulse Power per Line (tp=8/20μs)
- ◆ Protects one I/O line (Bi-directional)
- ◆ Low clamping voltage
- ◆ Working voltages: 5V, 12V, 24V
- ◆ Low leakage current
- ◆ IEC61000-4-2 (ESD) ±16kV (air), ±8kV (contact)

Functional Diagram



Applications

- ◆ Cell Phone Handsets and Accessories
- ◆ Microprocessor based equipment
- ◆ Personal Digital Assistants (PDA's)
- ◆ Notebooks, Desktops, and Servers
- ◆ Portable Instrumentation
- ◆ Peripherals
- ◆ USB Interface

Mechanical Data

- ◆ 0603/SOD-523F Package
- ◆ Weight: 0.003 grams(approx.)
- ◆ Quantity Per Reel : 4,000pcs
- ◆ Reel Size : 7 inch
- ◆ Mounting position: Any.

Mechanical Characteristics

Symbol	Parameter	Value	Units
P _{pp}	Peak Pulse Power (tp=8/20 μ s waveform)--ESD05V52D-CF	75	Watts
P _{pp}	Peak Pulse Power (tp=8/20 μ s waveform)--ESD12V52D-CF	25	Watts
P _{pp}	Peak Pulse Power (tp=8/20 μ s waveform)--ESD24V52D-CF	47	Watts
T _J	Operating Junction Temperature Range	-40 to +150	°C
T _{STG}	Storage Temperature Range	-55 to +150	°C
T _L	Soldering Temperature	260	°C

Transient Voltage Suppressors for ESD Protection

ESDXXV52D-CF Series

Electrical Characteristics (@ 25°C Unless Otherwise Specified)

Part Number	Device Marking Code	Stand-Off Voltage V_{RWM} (V)	Breakdown Voltage $V_{BR}(min)$	Test Current I_T (mA)	V_C @1A (Max.)	V_C		Reverse Leakage I_R @ V_{RWM} (uA)	Typ Junction Capacitance @ $V_R=0V$ $f=1MHz$ (pF)
						(Max.)	(@A)		
ESD05V52D-CF	E05	5.0	5.1	1.0	10	15	5	0.1	15
ESD12V52D-CF	E12	12.0	13.0	1.0	25	--	--	0.1	12
ESD24V52D-CF	E24	24.0	25.0	1.0	47	--	--	0.1	10

Characteristic Curves

Fig1. 8/20 μ s Pulse Waveform

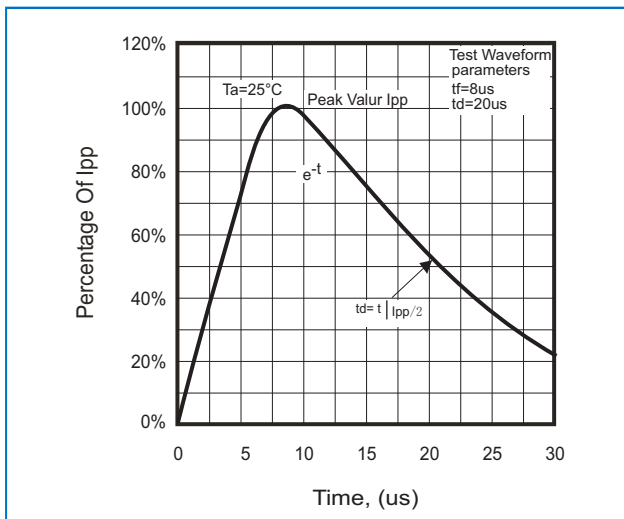


Fig2. Power rating derating curve

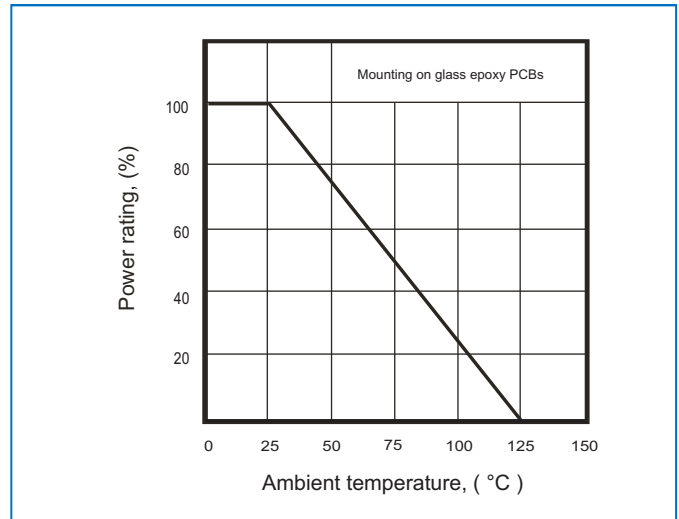
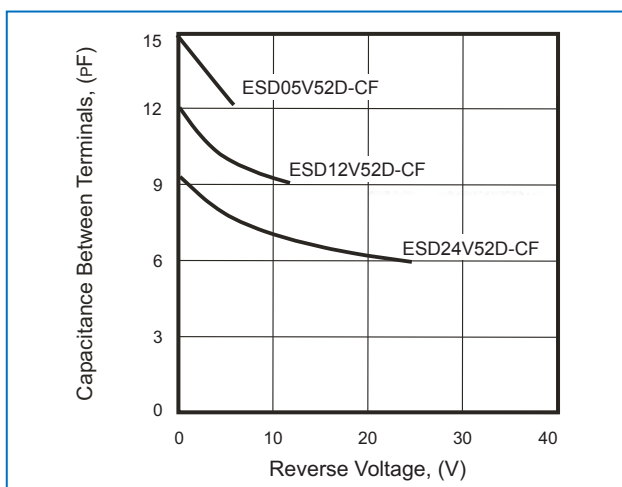


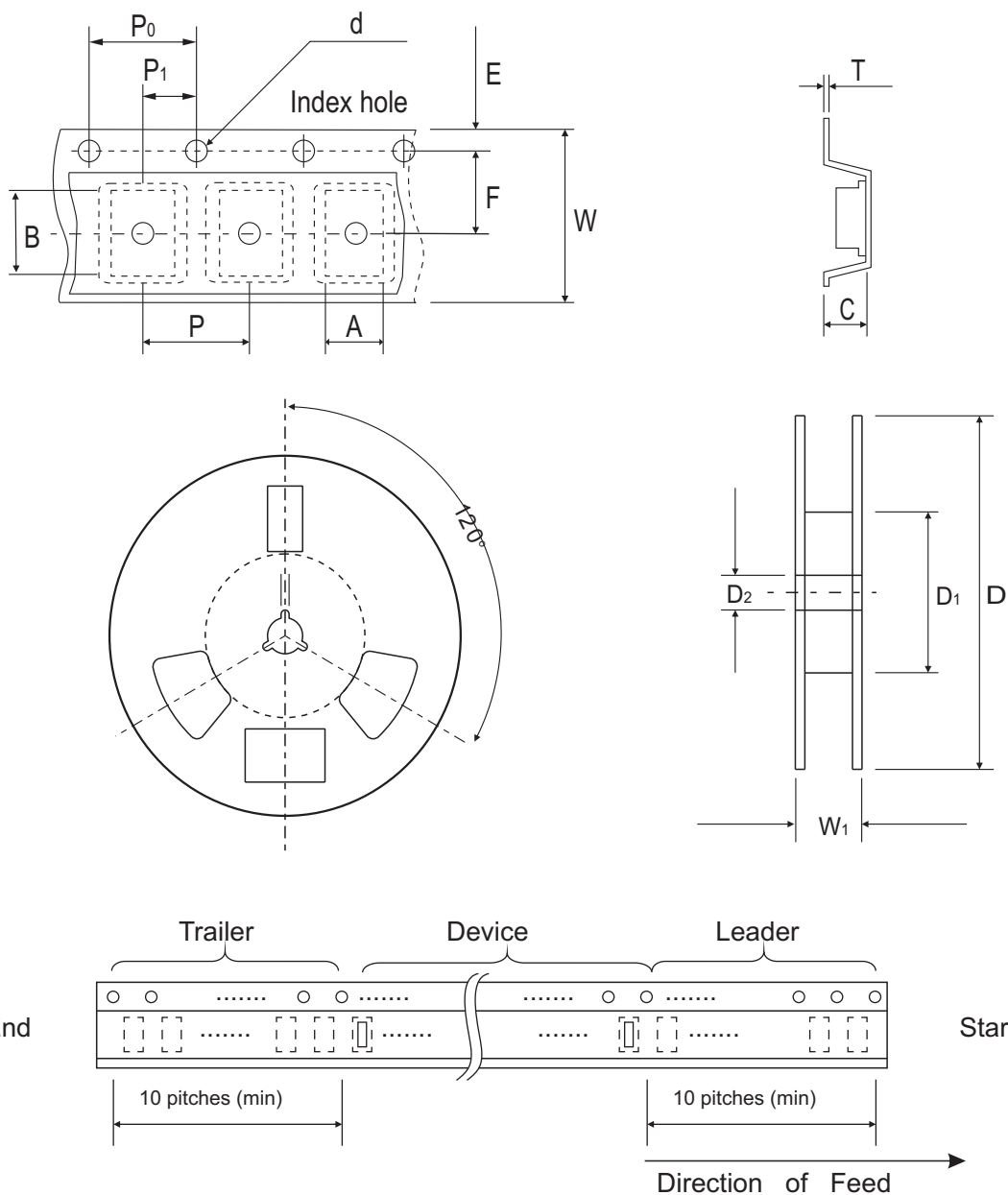
Fig3. Capacitance Between Terminals Characteristics



Transient Voltage Suppressors for ESD Protection

ESDXXV52D-CF Series

Reel Taping Specification



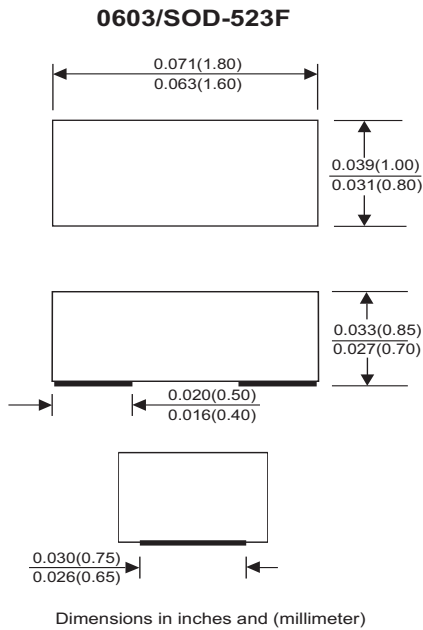
0603 (SOD-523)	SYMBOL	A	B	C	d	D	D ₁	D ₂
	(mm)	1.00 ± 0.10	1.85 ± 0.10	1.00 ± 0.10	1.55 ± 0.05	178 ± 1	60.0 MIN.	13.0 ± 0.20
	(inch)	0.039 ± 0.004	0.073 ± 0.004	0.039 ± 0.004	0.061 ± 0.002	7.008 ± 0.04	2.362 MIN.	0.512 ± 0.008

0603 (SOD-523)	SYMBOL	E	F	P	P ₀	P ₁	T	W	W ₁
	(mm)	1.75 ± 0.10	3.50 ± 0.05	4.00 ± 0.10	4.00 ± 0.10	2.00 ± 0.05	0.23 ± 0.05	8.00 ± 0.20	13.5 MAX.
	(inch)	0.069 ± 0.004	0.138 ± 0.002	0.157 ± 0.004	0.157 ± 0.004	0.079 ± 0.004	0.009 ± 0.002	0.315 ± 0.008	0.531 MAX.

Transient Voltage Suppressors for ESD Protection

ESDXXV52D-CF Series

0603/SOD-523F Package Outline & Dimensions



Suggested PAD Layout

SIZE	0603/SOD-523F	
	(mm)	(inch)
A	1.25	0.049
B	0.60	0.024
C	1.00	0.039
D	1.85	0.073
E	0.65	0.026

