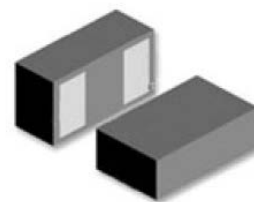
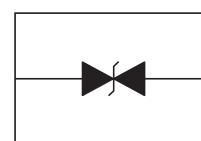


Features

- ESD protection for high speed data lines to IEC61000-4-2
- ESD contact discharge, max 30kV
- ESD air discharge, max 30kV
- Surface mount
- Extremely low capacitance
- Very low leakage current
- Fast response time
- Bi-directional ESD protection
- Lead free solder termination
- ESD Pulse Withstand, 1000 pulses min
- The best ESD protection for high frequency, low voltage applications



0201



Schematic Diagram

Applications

- High definition multi-Media interface (HDMI)
- Digital visual interface (DVI)
- Display port interface (DP)
- Unified display interface (UDI)
- Mobile display digital interface (MDDI)
- Gigabit ethernet
- USB2.0 and USB3.0
- IEEE1394 interface

Description

This device is an ultra low capacitance ESD product designed to protect very high speed data interfaces. GSPSM0201V04 has a typical capacitance of only 0.05pF, and it can be used to meet the ESD immunity requirements of IEC61000-4-2 (30kV air, 30kV contact discharge).

Absolute Maximum Ratings

Parameter	Symbol	Value	Unit
Maximum Contact Discharge Voltage Per IEC61000-4-2	-	30	kV
Maximum Air Discharge Voltage Per IEC61000-4-2	-	30	kV
Maximum Operating Temperature Range	T _{OPER}	-55 to +125	°C
Maximum Storage Temperature Range	T _{STG}	-55 to +125	°C
Maximum Lead Temperature for Soldering During 10s	T _L	260	°C

Electrical Characteristics (T_A=25°C unless otherwise specified)

Parameter	Symbol	Test Conditions	Min	Typ	Max	Units
Rated Voltage	V _R	-	-	-	4	V
Trigger Voltage	V _T	IEC61000-4-2 8KV Contact Discharge	-	300	-	V
Clamping Voltage	V _C	IEC61000-4-2 8KV Contact Discharge	-	30	-	V
Leakage Current ¹	I _L	DC 4V Shall be Applied on Component	-	0.01	0.1	uA
Capacitance	C _P	V _R =0V, F=1MHz	-	0.05	0.06	pF
ESD Pulse Withstand	-	IEC61000-4-2 8KV Contact Discharge	1000	-	-	pulses

Note:

1. After reliability tests such as high temp storage, temp cycles, continuous ESD strike etc, the maximum leakage current is less than 10uA.

ESD Clamping Test Waveforms

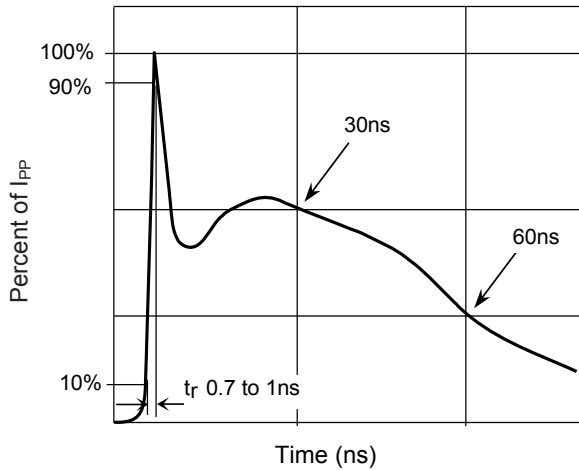


Figure 1. Pulse Waveform-ESD (IEC61000-4-2)

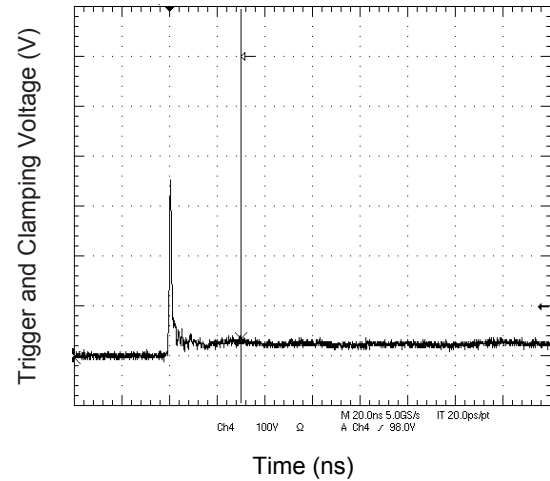


Figure 2. IEC61000-4-2 +8kV Contact Discharge

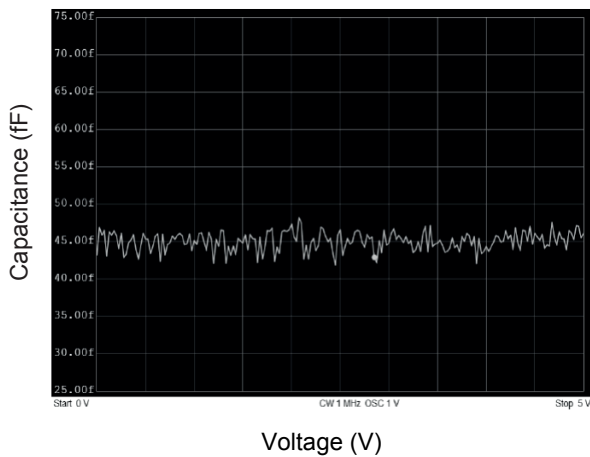
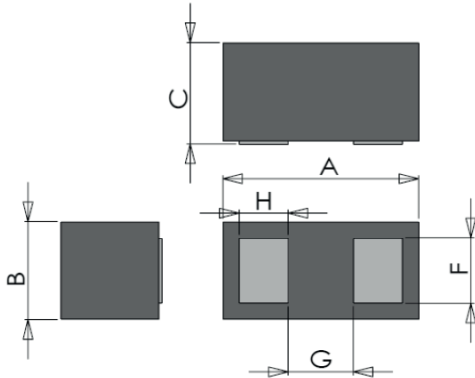


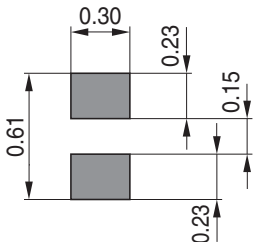
Figure 3. Capacitance as a Function of Reverse Voltage (Typical Values)

Product Outline Dimensions (0201)



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min.	Max.	Min.	Max.
A	0.55	0.65	0.022	0.026
B	0.25	0.35	0.010	0.014
C	0.25	0.35	0.010	0.014
H	0.19	0.25	0.007	0.010
F	0.24	0.30	0.009	0.012
G	0.11	0.17	0.004	0.007

Recommended Pad Layout



Note:

1. Controlling dimension: in millimeters
2. Solder thickness 0.08mm recommended

Order Information

MPN	Package	Carrier	Quantity	HSF Status
GSPSM0201V04	0201	Tape & Reel	15,000pcs / Reel	RoHS Compliant