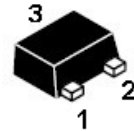
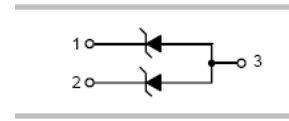


Features

- ESD / transient protection of high speed data lines
 - IEC 61000-4-2 (ESD): ± 20 kV (air), ± 20 kV (contact)
 - IEC 61000-4-5 (ESD): 4A($t_p = 8/20\mu s$)
 - IEC61000-4-4 (EFT): 40A (5/50ns)
- Low reverse stand-off voltage: 5V
- Extremely low capacitance
- Very low clamping voltage

HF



SOT-723

Typical Applications

- USB 2.0, 10/100/1000 Ethernet, FireWire, DVI HDMI
- Mobile communication
- Consumer products (STB, MP3; DVD, DSC...)
- LCD displays, camera
- Notebooks and desktop computers, peripherals

Mechanical Data

- Case: SOT-723
- Molding Compound: UL Flammability Classification Rating 94V-0
- Terminals: Matte Tin-Plated Leads, Solderability-per MIL-STD-202, Method 208

Ordering Information

Part Number	Package	Shipping Quantity	Marking Code
SM05X1M	SOT-723	10000pcs / Tape & Reel	Z1

Maximum Ratings (@ $T_A = 25^\circ C$ unless otherwise specified)

Parameter	Symbol	Value	Unit
IEC 61000-4-2; ESD (Air)	V_{ESD-A}	± 20	kV
IEC 61000-4-2; ESD (Contact)	V_{ESD-C}	± 20	kV
Peak Pulse Power ($t_p = 8/20\mu s$)	P_{PP}	60	W
Peak Pulse Current ($t_p = 8/20\mu s$)	I_{PP}	4	A

Thermal Characteristics

Parameter	Symbol	Value	Unit
Junction Temperature	T_J	125	$^\circ C$
Storage Temperature Range	T_{STG}	-55 to +150	$^\circ C$

Electrical Characteristics (@ $T_A = 25^\circ\text{C}$ unless otherwise specified)

Parameter	Symbol	Test Condition	Min.	Typ.	Max.	Unit
Reverse Stand-off Voltage	V_{RWM}		-	-	5	V
Reverse Breakdown Voltage	$V_{(BR)}$	$I_T = 1\text{mA}$	6	-	-	V
Reverse Leakage Current	I_R	$V_{RWM} = 5\text{V}$	-	-	0.05	μA
Forward Voltage	V_F	$I_T = 10\text{mA}$	-	0.95	1.1	V
Clamping Voltage	V_C	$I_{PP} = 1\text{A}$, $t_p = 8/20\mu\text{s}$	-	-	10	V
		$I_{PP} = 4\text{A}$, $t_p = 8/20\mu\text{s}$	-	-	15	V
Junction Capacitance	C_J	Pin 1 to 2 $V_R = 0\text{V}$, $f = 1\text{MHz}$	-	0.35	0.4	pF
		Pin 1 to 3 and Pin 2 to 3 $V_R = 0\text{V}$, $f = 1\text{MHz}$	-	0.5	0.6	pF

Ratings and Characteristic Curves (@ $T_A = 25^\circ\text{C}$ unless otherwise specified)

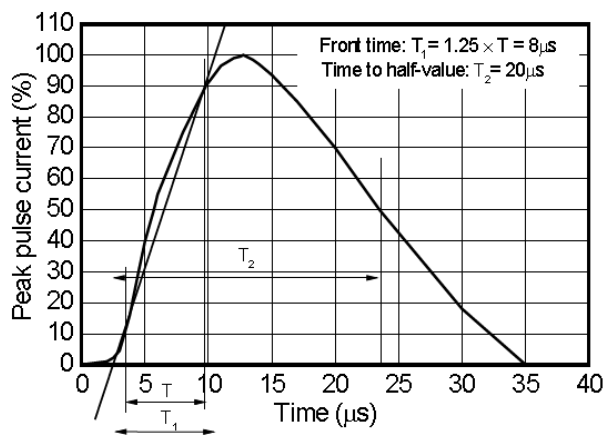


Fig 1 8/20 μs waveform per IEC61000-4-5

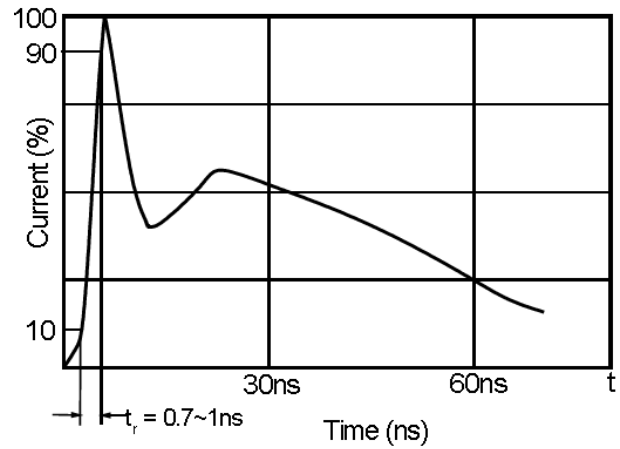


Fig 2 ESD pulse waveform according to IEC61000-4-2

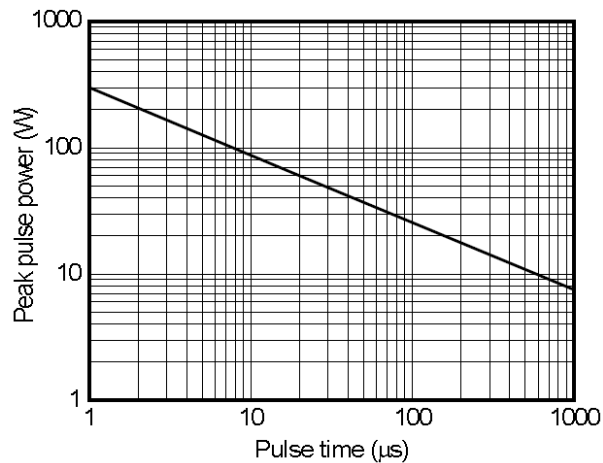


Fig 3 Non-repetitive peak pulse power vs. Pulse time

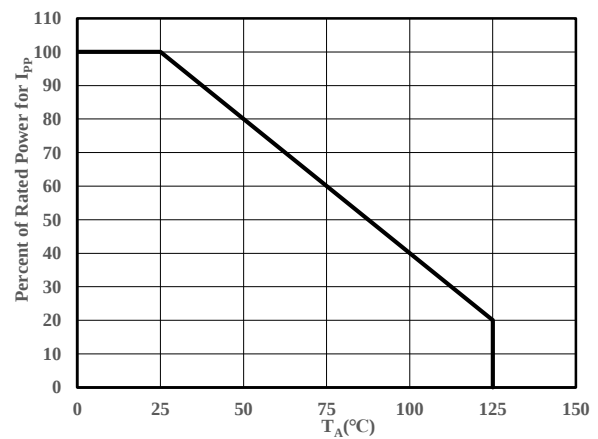


Fig 4 Power Derating Curve

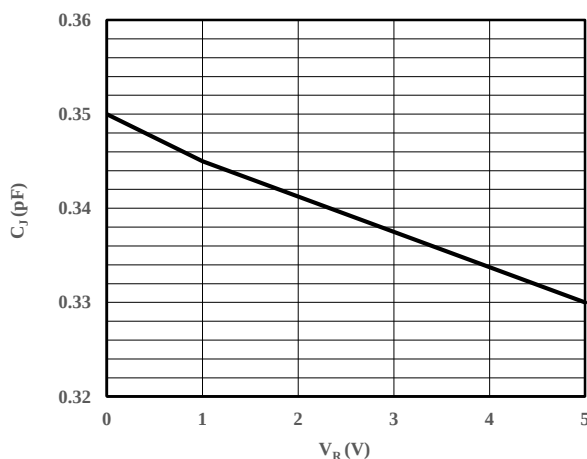


Fig 5 Typical Junction Capacitance

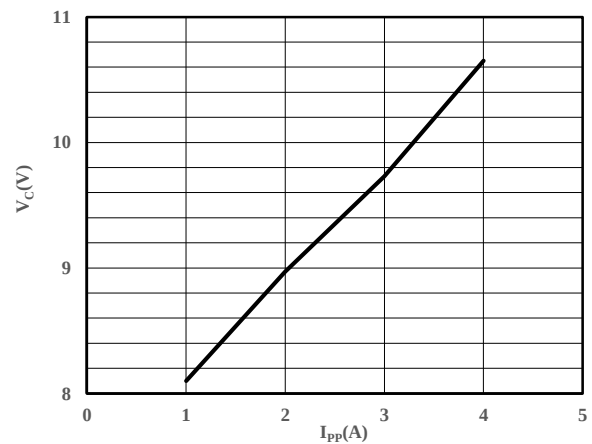
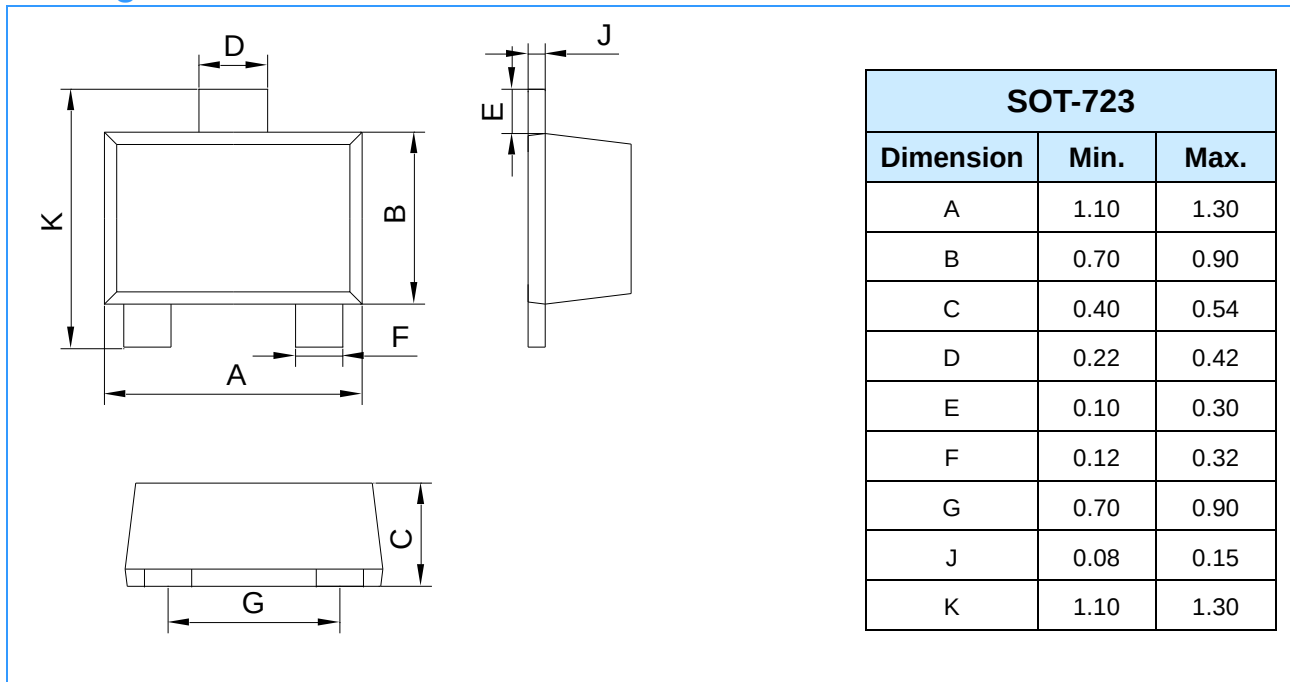
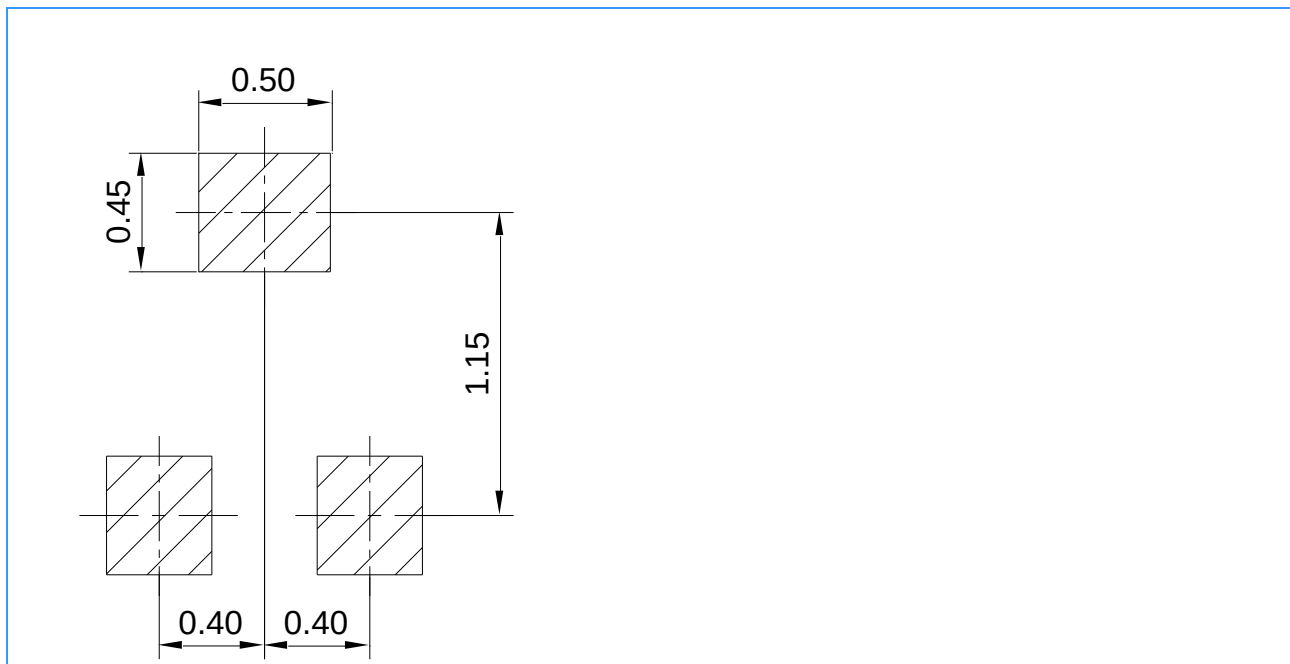


Fig 6 Clamping Voltage vs. Peak Pulse Current

Package Outline Dimensions (Unit: mm)



Package Outline Dimensions (Unit: mm)



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