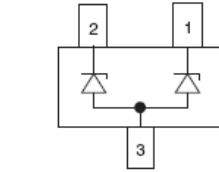


### Features

- ESD / transient protection of high speed data lines
  - IEC 61000-4-2 (ESD):  $\pm 30$  kV (air),  $\pm 30$  kV (contact)
- Working voltage:  $V_{RWM} = 3V, 5V, 12V, 15V, 24V$
- Low reverse clamping voltage
- Low leakage current

HF



SOT-23

### Mechanical Data

- Case: SOT-23
- 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
PSOT03C	SOT-23	3000 pcs / Tape & Reel	03C
PSOT05C	SOT-23	3000 pcs / Tape & Reel	05C
PSOT12C	SOT-23	3000 pcs / Tape & Reel	12C
PSOT15C	SOT-23	3000 pcs / Tape & Reel	15C
PSOT24C	SOT-23	3000 pcs / Tape & Reel	24C

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

Parameter	Symbol	Value	Unit
IEC 61000-4-2; ESD (Air)	$V_{ESD-A}$	$\pm 30$	kV
IEC 61000-4-2; ESD (Contact)	$V_{ESD-C}$	$\pm 30$	kV
Peak Pulse Power ( $t_p = 8/20\mu\text{s}$ )	$P_{PP}$	350	W

### Thermal Characteristics

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

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

PSOT03C TVS for 3V Lines						
Parameter	Symbol	Test Condition	Min.	Typ.	Max.	Unit
Reverse Stand-off Voltage	$V_{RWM}$		-	-	3	V
Reverse Breakdown Voltage	$V_{(BR)}$	$I_T = 1\text{mA}$	4.5	-	6.5	V
Reverse Leakage Current	$I_R$	$V_{RWM} = 3\text{V}$	-	-	1	$\mu\text{A}$
Clamping Voltage	$V_C$	$I_{PP} = 1\text{A}, t_p = 8/20\mu\text{s}$	-	-	7	V
		$I_{PP} = 25\text{A}, t_p = 8/20\mu\text{s}$	-	-	12	V
Junction Capacitance	$C_J$	$V_R = 0\text{V}, f = 1\text{MHz}$ Pin 1 or 2 to Pin 3	-	-	300	pF
PSOT05C TVS for 5V Lines						
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	-	8	V
Reverse Leakage Current	$I_R$	$V_{RWM} = 5\text{V}$	-	-	1	$\mu\text{A}$
Clamping Voltage	$V_C$	$I_{PP} = 5\text{A}, t_p = 8/20\mu\text{s}$	-	-	9.8	V
		$I_{PP} = 20\text{A}, t_p = 8/20\mu\text{s}$	-	-	15	V
Junction Capacitance	$C_J$	$V_R = 0\text{V}, f = 1\text{MHz}$ Pin 1 or 2 to Pin 3	-	-	250	pF
PSOT12C TVS for 12V Lines						
Parameter	Symbol	Test Condition	Min.	Typ.	Max.	Unit
Reverse Stand-off Voltage	$V_{RWM}$		-	-	12	V
Reverse Breakdown Voltage	$V_{(BR)}$	$I_T = 1\text{mA}$	13.3	-	16	V
Reverse Leakage Current	$I_R$	$V_{RWM} = 12\text{V}$	-	-	1	$\mu\text{A}$
Clamping Voltage	$V_C$	$I_{PP} = 5\text{A}, t_p = 8/20\mu\text{s}$	-	-	19	V
		$I_{PP} = 15\text{A}, t_p = 8/20\mu\text{s}$	-	-	25	V
Junction Capacitance	$C_J$	$V_R = 0\text{V}, f = 1\text{MHz}$ Pin 1 or 2 to Pin 3	-	-	200	pF
PSOT15C TVS for 15V Lines						
Parameter	Symbol	Test Condition	Min.	Typ.	Max.	Unit
Reverse Stand-off Voltage	$V_{RWM}$		-	-	15	V
Reverse Breakdown Voltage	$V_{(BR)}$	$I_T = 1\text{mA}$	16.7	-	20	V
Reverse Leakage Current	$I_R$	$V_{RWM} = 15\text{V}$	-	-	1	$\mu\text{A}$
Clamping Voltage	$V_C$	$I_{PP} = 5\text{A}, t_p = 8/20\mu\text{s}$	-	-	27	V
		$I_{PP} = 10\text{A}, t_p = 8/20\mu\text{s}$	-	-	40	V
Junction Capacitance	$C_J$	$V_R = 0\text{V}, f = 1\text{MHz}$ Pin 1 or 2 to Pin 3	-	-	150	pF

PSOT24C TVS for 24V Lines						
Parameter	Symbol	Test Condition	Min.	Typ.	Max.	Unit
Reverse Stand-off Voltage	$V_{RWM}$		-	-	24	V
Reverse Breakdown Voltage	$V_{(BR)}$	$I_T = 1\text{mA}$	26.7	-	33	V
Reverse Leakage Current	$I_R$	$V_{RWM} = 24\text{V}$	-	-	1	$\mu\text{A}$
Clamping Voltage	$V_C$	$I_{PP} = 5\text{A}, t_p = 8/20\mu\text{s}$	-	-	40	V
		$I_{PP} = 8\text{A}, t_p = 8/20\mu\text{s}$	-	-	50	V
Junction Capacitance	$C_J$	$V_R = 0\text{V}, f = 1\text{MHz}$ Pin 1 or 2 to Pin 3	-	-	100	pF

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

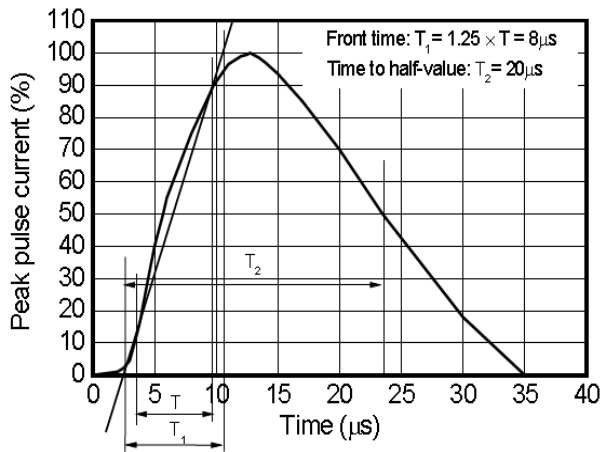


Fig 1 8/20  $\mu\text{s}$  waveform per IEC61000-4-5

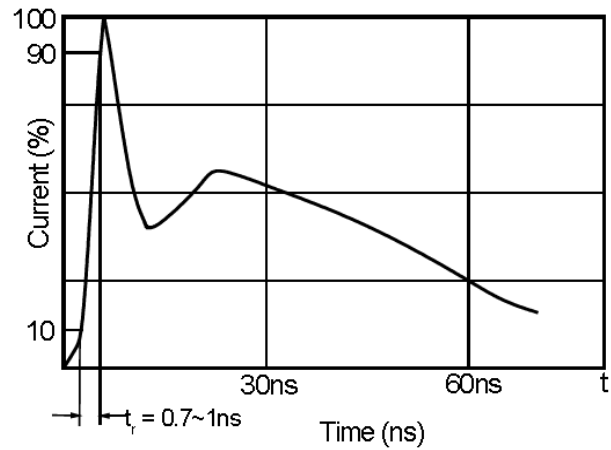


Fig 2 ESD pulse waveform according to IEC61000-4-2

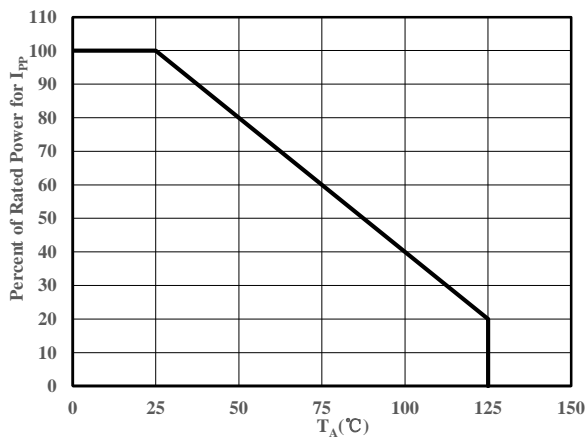
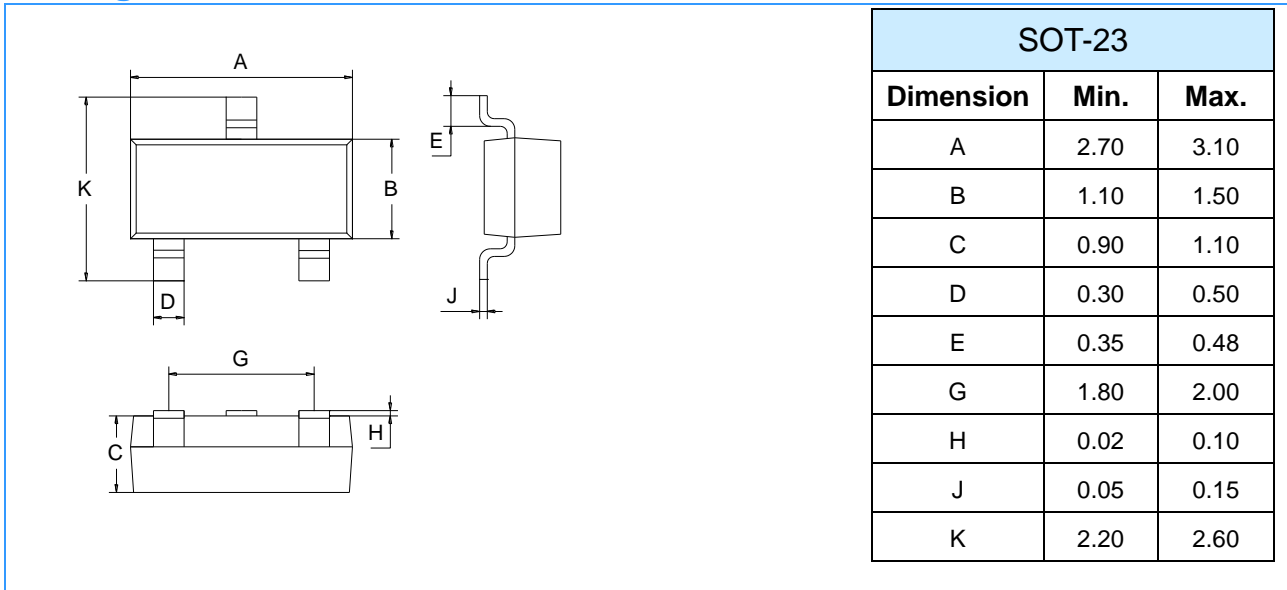
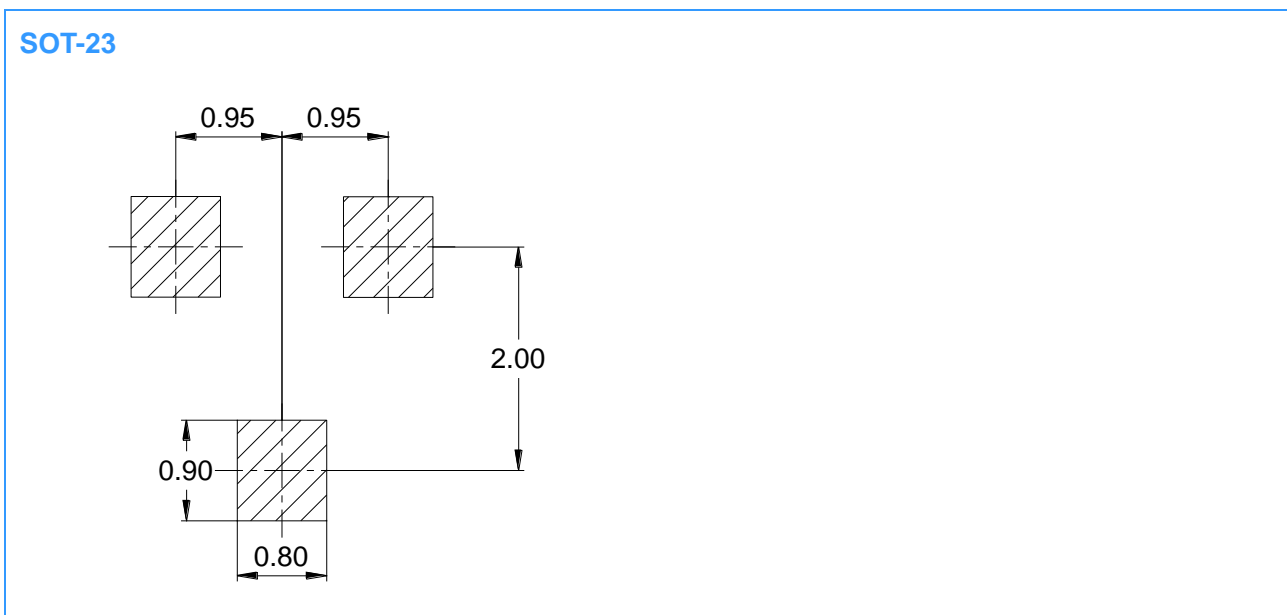


Fig 3 Power Derating Curve

### Package Outline Dimensions (Unit: mm)



### Mounting Pad Layout (Unit: mm)



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