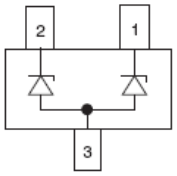
Features

- ESD / transient protection of high speed data lines
  - IEC 61000-4-2 (ESD): ±30 kV (air), ±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℃ unless otherwise specified)

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

Thermal Characteristics

Parameter	Symbol	Value	Unit
Junction Temperature	T_J	-55 ~ +125	°C
Storage Temperature Range	T_{STG}	-55 ~ +150	°C

Electrical Characteristics (@ T_A = 25℃ 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 = 1mA	4.5	-	6.5	V
Reverse Leakage Current	I_R	V_{RWM} = 3V	-	-	1	μA
Clamping Voltage	V_C	I_{PP} = 1A, tp = 8/20μs	-	-	7	V
		I_{PP} = 25A, tp = 8/20μs	-	-	12	V
Junction Capacitance	C_J	V_R = 0V, f = 1MHZ 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 = 1mA	6	-	8	V
Reverse Leakage Current	I_R	V_{RWM} = 5V	-	-	1	μA
Clamping Voltage	V_C	I_{PP} = 5A, tp = 8/20μs	-	-	9.8	V
		I_{PP} = 20A, tp = 8/20μs	-	-	15	V
Junction Capacitance	C_J	V_R = 0V, f = 1MHZ 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 = 1mA	13.3	-	16	V
Reverse Leakage Current	I_R	V_{RWM} = 12V	-	-	1	μA
Clamping Voltage	V_C	I_{PP} = 5A, tp = 8/20μs	-	-	19	V
		I_{PP} = 15A, tp = 8/20μs	-	-	25	V
Junction Capacitance	C_J	V_R = 0V, f = 1MHZ 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 = 1mA	16.7	-	20	V
Reverse Leakage Current	I_R	V_{RWM} = 15V	-	-	1	μA
Clamping Voltage	V_C	I_{PP} = 5A, tp = 8/20μs	-	-	27	V
		I_{PP} = 10A, tp = 8/20μs	-	-	40	V
Junction Capacitance	C_J	V_R = 0V, f = 1MHZ 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 = 1mA	26.7	-	33	V
Reverse Leakage Current	I_R	V_{RWM} = 24V	-	-	1	μA
Clamping Voltage	V_C	I_{PP} = 5A, tp = 8/20μs	-	-	40	V
		I_{PP} = 8A, tp = 8/20μs	-	-	50	V
Junction Capacitance	C_J	V_R = 0V, f = 1MHZ Pin 1 or 2 to Pin 3	-	-	100	pF

Ratings and Characteristic Curves (@ T_A = 25°C unless otherwise specified)

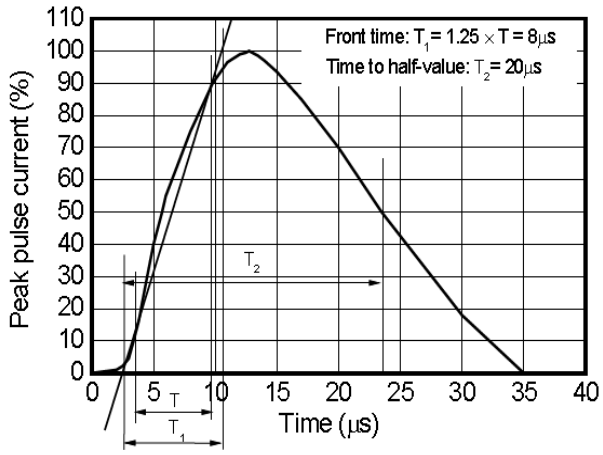


Fig 1 8/2 0μs waveform per IEC61000-4-5

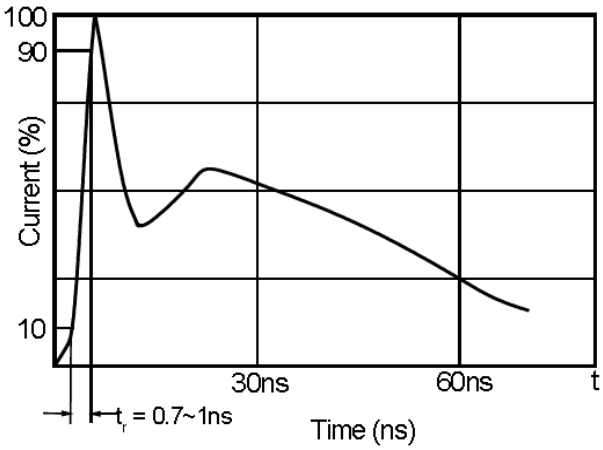


Fig 2 ESD pulse waveform according to IEC61000-4-2

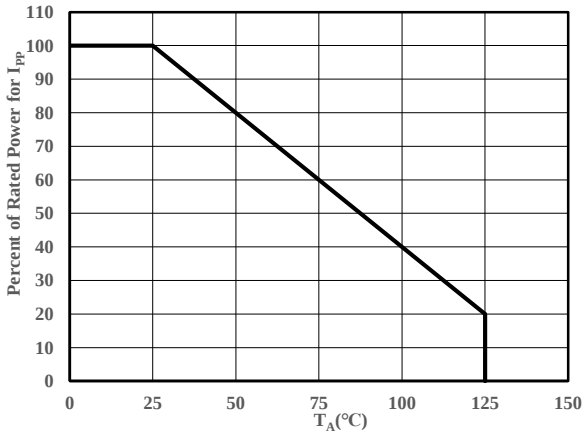
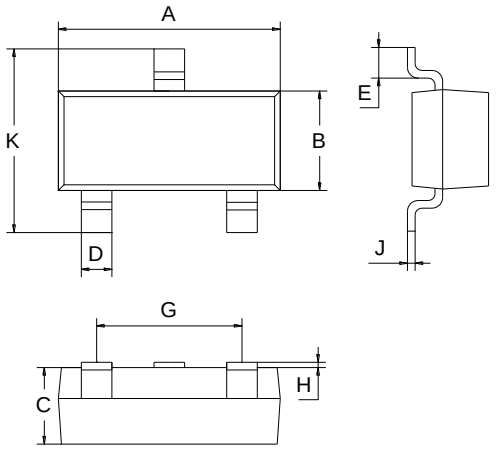


Fig 3 Power Derating Curve

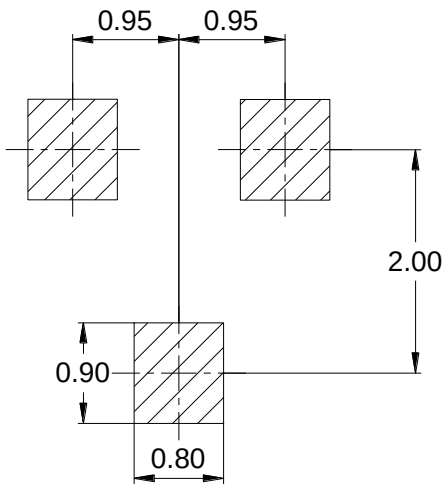
Package Outline Dimensions (Unit: mm)



SOT-23		
Dimension	**Min.**	**Max.**
A	2.70	3.10
B	1.10	1.50
C	0.90	1.10
D	0.30	0.50
E	0.35	0.48
G	1.80	2.00
H	0.02	0.10
J	0.05	0.15
K	2.20	2.60

Mounting Pad Layout (Unit: mm)

SOT-23



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