

Features

- 150 Watts peak pulse power ($t_p=8/20\mu s$), 2-Line of ESD Protection
- Low clamping voltage
- Working voltage: 3V, 5V, 12V, 15V, 24V
- Low leakage current
- RoHS compliant with Halogen-free

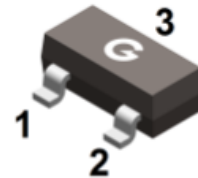
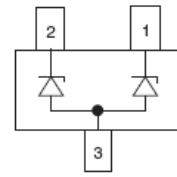
HF

Typical Applications

- Cell Phone Handsets and Accessories
- Microprocessor based equipment
- Portable Instrumentation

Mechanical Data

- Case: SOT-23
- Molding compound, UL flammability classification rating 94V-0.
- Terminals: Tin plated leads, solderable per MIL-STD-202, Method 208.



SOT-23

Ordering Information

Part Number	Package	Shipping	Marking Code
SOT03C	SOT-23	3000pcs / Tape & Reel	T03
SOT05C	SOT-23	3000pcs / Tape & Reel	T05
SOT12C	SOT-23	3000pcs / Tape & Reel	T12
SOT15C	SOT-23	3000pcs / Tape & Reel	T15
SOT24C	SOT-23	3000pcs / Tape & Reel	T24

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

Characteristic	Symbol	Value	Units
Peak pulse power ($t_p = 8/20\mu s$)	P_{PK}	150	W
ESD according to IEC61000-4-2 air discharge	V_{ESD}	± 30	KV
ESD according to IEC61000-4-2 contact discharge		± 30	

Thermal Characteristics

Parameter	Symbol	Value	Units
Thermal Resistance, Junction to Ambient	$R_{\theta JA}$	454	$^{\circ}C/W$
Junction temperature	T_J	-55 ~ +125	$^{\circ}C$
Storage temperature range	T_{STG}	-55 ~ +150	$^{\circ}C$

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

SOT03C TVS for 3V Lines						
Parameter	Symbol	Test conditions	Min.	Typ.	Max.	Units
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 _R = 3V	-	-	1	μA
Clamping voltage	V _C	I _{PP} = 15A, t _p = 8/20μs	-	-	12	V
Junction capacitance	C _J	V _R = 0V, f = 1MHz Pin 1 or 2 to Pin 3	-	-	200	pF
SOT05C TVS for 5V Lines						
Parameter	Symbol	Test conditions	Min.	Typ.	Max.	Units
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 _R = 5V	-	-	1	μA
Clamping voltage	V _C	I _{PP} = 12A, t _p = 8/20μs	-	-	13	V
Junction capacitance	C _J	V _R = 0V, f = 1MHz Pin 1 or 2 to Pin 3	-	-	150	pF
SOT12C TVS for 12V Lines						
Parameter	Symbol	Test conditions	Min.	Typ.	Max.	Units
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 _R = 12V	-	-	1	μA
Clamping voltage	V _C	I _{PP} = 8A, t _p = 8/20μs	-	-	20	V
Junction capacitance	C _J	V _R = 0V, f = 1MHz Pin 1 or 2 to Pin 3	-	-	100	pF
SOT15C TVS for 15V Lines						
Parameter	Symbol	Test conditions	Min.	Typ.	Max.	Units
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 _R = 15V	-	-	1	μA
Clamping voltage	V _C	I _{PP} = 6A, t _p = 8/20μs	-	-	25	V
Junction capacitance	C _J	V _R = 0V, f = 1MHz Pin 1 or 2 to Pin 3	-	-	80	pF
SOT24C TVS for 24V Lines						
Parameter	Symbol	Test conditions	Min.	Typ.	Max.	Units
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 _R = 24V	-	-	1	μA
Clamping voltage	V _C	I _{PP} = 3A, t _p = 8/20μs	-	-	50	V
Junction capacitance	C _J	V _R = 0V, f = 1MHz Pin 1 or 2 to Pin 3	-	-	70	pF

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

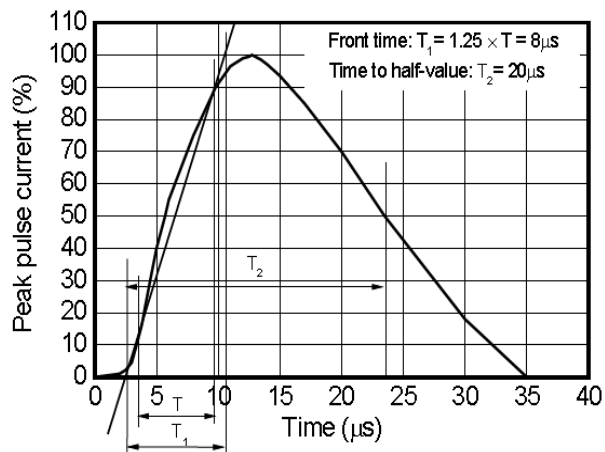


Fig 1 8/20 μs waveform per IEC61000-4-5

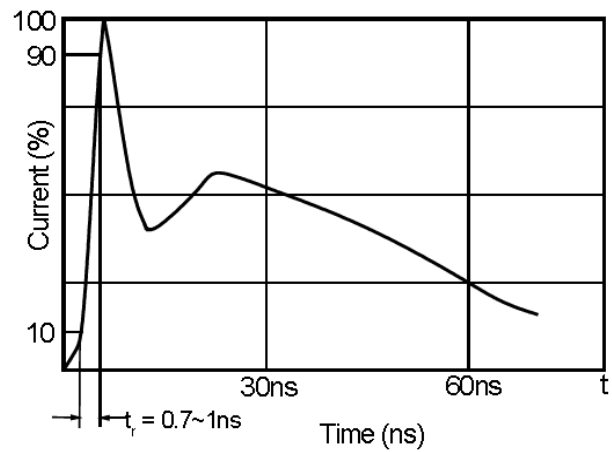


Fig 2 ESD pulse waveform according to IEC61000-4-2

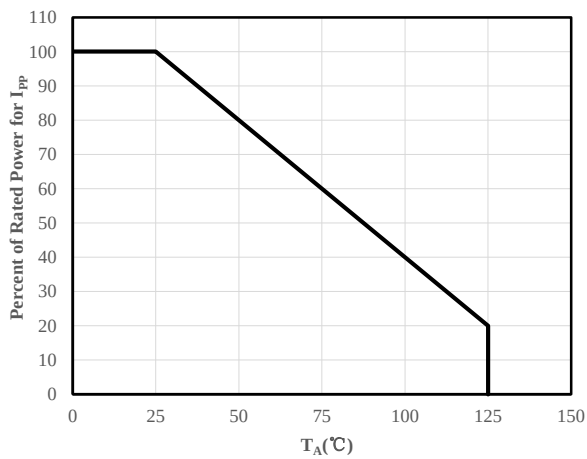
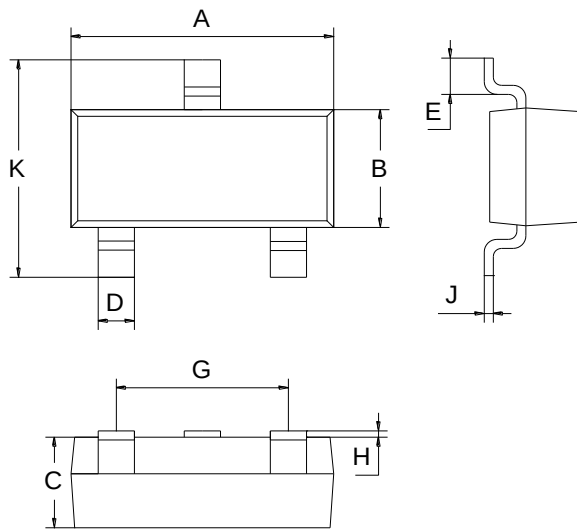


Fig 3 Power Derating Curve

Package Outline Dimensions (unit: mm)



SOT-23		
Dim	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)

