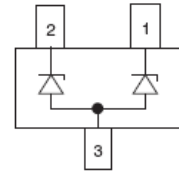


Features

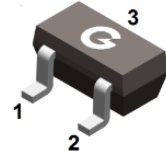
- 150 Watts peak pulse power ($t_p = 8/20\mu s$)
- Low clamping voltage
- Working voltage: $V_{RWM} = 3V, 5V, 12V, 15V, 24V$
- Low reverse clamping voltage
- RoHS compliant with Halogen-free

HF



Typical Applications

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



Mechanical Data

- Case: SOT-523
- Molding Compound: UL Flammability Classification Rating 94V-0
- Terminals: Matte tin-plated leads; solderability-per MIL-STD-202, Method 208

SOT-523

Ordering Information

Part Number	Package	Shipping Quantity	Marking Code
SOT03CT	SOT-523	3000 pcs / Tape & Reel	T03
SOT05CT	SOT-523	3000 pcs / Tape & Reel	T05
SOT12CT	SOT-523	3000 pcs / Tape & Reel	T12
SOT15CT	SOT-523	3000 pcs / Tape & Reel	T15
SOT24CT	SOT-523	3000 pcs / Tape & Reel	T24

Maximum Ratings (@ $T_A = 25^\circ C$ 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 ($t_p = 8/20\mu s$)	P_{PP}	150	W

Thermal Characteristics

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

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

Parameter	Symbol	Test Condition	Min.	Typ.	Max.	Unit
SOT03CT TVS for 3V Lines						
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	μA
Clamping Voltage	V_C	$I_{PP} = 15\text{A}$, $t_p = 8/20\mu\text{s}$	-	-	12	V
Junction Capacitance	C_J	$V_R = 0\text{V}$, $f = 1\text{MHz}$ Pin 1 or 2 to Pin 3	-	-	200	pF
SOT05CT TVS for 5V Lines						
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	μA
Clamping Voltage	V_C	$I_{PP} = 12\text{A}$, $t_p = 8/20\mu\text{s}$	-	-	13	V
Junction Capacitance	C_J	$V_R = 0\text{V}$, $f = 1\text{MHz}$ Pin 1 or 2 to Pin 3	-	-	150	pF
SOT12CT TVS for 12V Lines						
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	μA
Clamping Voltage	V_C	$I_{PP} = 8\text{A}$, $t_p = 8/20\mu\text{s}$	-	-	20	V
Junction Capacitance	C_J	$V_R = 0\text{V}$, $f = 1\text{MHz}$ Pin 1 or 2 to Pin 3	-	-	100	pF
SOT15CT TVS for 15V Lines						
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	μA
Clamping Voltage	V_C	$I_{PP} = 6\text{A}$, $t_p = 8/20\mu\text{s}$	-	-	25	V
Junction Capacitance	C_J	$V_R = 0\text{V}$, $f = 1\text{MHz}$ Pin 1 or 2 to Pin 3	-	-	80	pF
SOT24CT TVS for 24V Lines						
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	μA
Clamping Voltage	V_C	$I_{PP} = 3\text{A}$, $t_p = 8/20\mu\text{s}$	-	-	50	V
Junction Capacitance	C_J	$V_R = 0\text{V}$, $f = 1\text{MHz}$ Pin 1 or 2 to Pin 3	-	-	70	pF

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

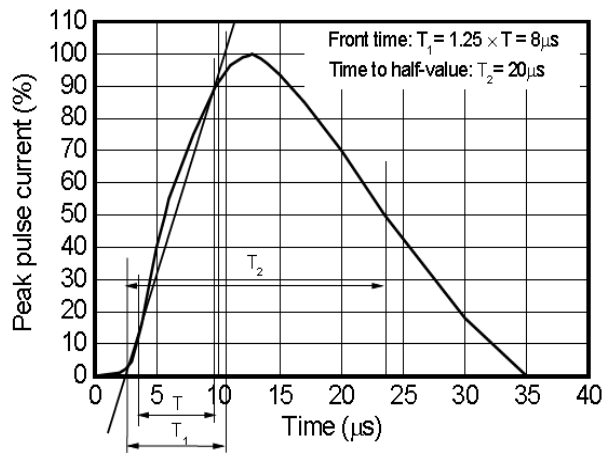


Fig 1 8/20 μs waveform per IEC61000-4-5

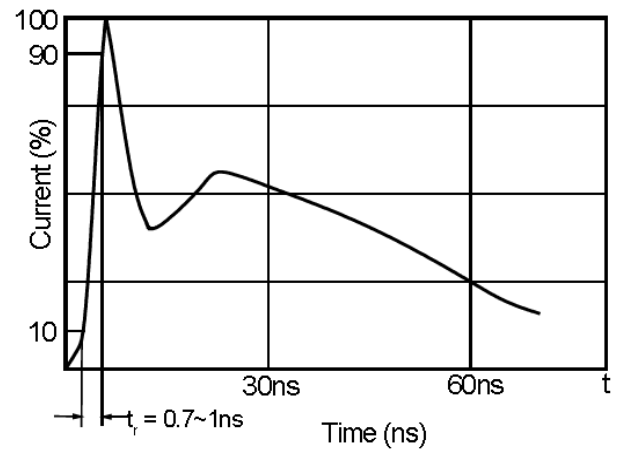


Fig 2 ESD pulse waveform according to IEC61000-4-2

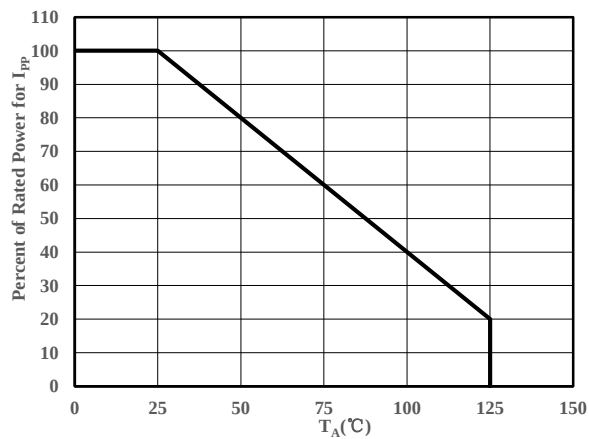
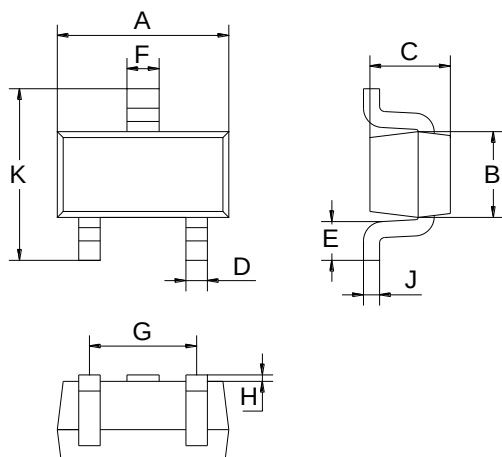


Fig 3 Power Derating Curve

Package Outline Dimensions (Unit: mm)



SOT-523		
Dimension	Min.	Max.
A	1.50	1.70
B	0.75	0.85
C	0.60	0.80
D	0.15	0.30
E	0.30	0.40
F	0.25	0.40
G	0.90	1.10
H	0.02	0.10
J	0.08	0.18
K	1.45	1.75

Package Outline Dimensions (Unit: mm)

SOT-523

