

Features

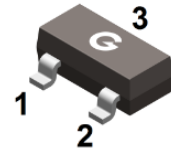
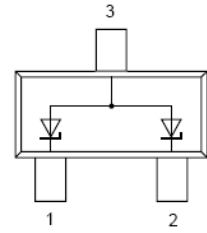
- ESD / transient protection of high speed data lines
 - IEC 61000-4-2 (ESD): ± 30 kV (air), ± 30 kV (contact)
- 500 watts peak pulse power per line ($t_p = 8/20\mu s$)
- Low leakage current
- Low clamping voltage
- RoHS compliant with Halogen-free
- Qualified to AEC-Q101 Standards

Applications

- Data Transmission Line Ports
- Computer Monitor Interface Port Protection
- Portable Consumer Electronics
- Instrumentation Equipment

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



SOT-23

Ordering Information

Part Number	Package	Shipping Quantity	Marking Code
TPJSOT05C	SOT-23	3000 pcs / Tape & Reel	J05C

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}	500	W
Peak Pulse Current ($t_p = 8/20\mu s$)	I_{PP}	30	A

Thermal Characteristics

Parameter	Symbol	Value	Unit
Operating Junction Temperature Range	T_J	$-55 \sim +150$	$^\circ C$
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
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	$V_{RWM} = 5\text{V}$	-	-	1	μA
Clamping Voltage	V_C	$I_{PP} = 1\text{A}$, $t_p = 8/20\mu\text{s}$	-	6	8.5	V
		$I_{PP} = 10\text{A}$, $t_p = 8/20\mu\text{s}$	-	7	13	V
		$I_{PP} = 30\text{A}$, $t_p = 8/20\mu\text{s}$	-	9	17	V
Junction Capacitance	C_J	$V_R = 0\text{V}$, $f = 1.0\text{MHz}$, Pin 1 or 2 to Pin3	-	-	550	pF
		$V_R = 0\text{V}$, $f = 1.0\text{MHz}$, between Pin 1 and 2	-	-	220	pF
Dynamic Resistance	R_{DYN}	TLP, $t_p = 100\text{ns}$, I/O to GND	-	0.22	-	Ω

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

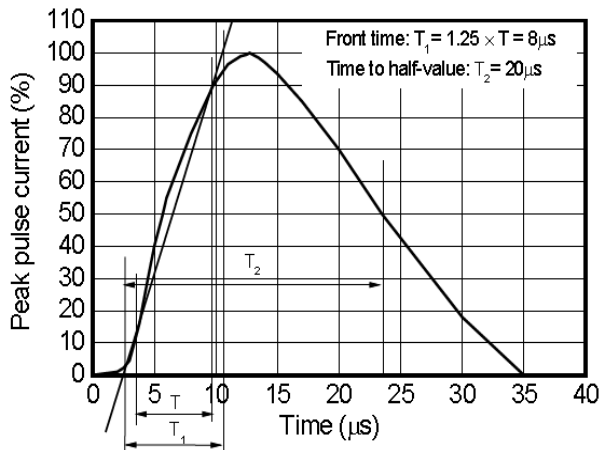


Fig 1 8/20 μs waveform per IEC61000-4-5

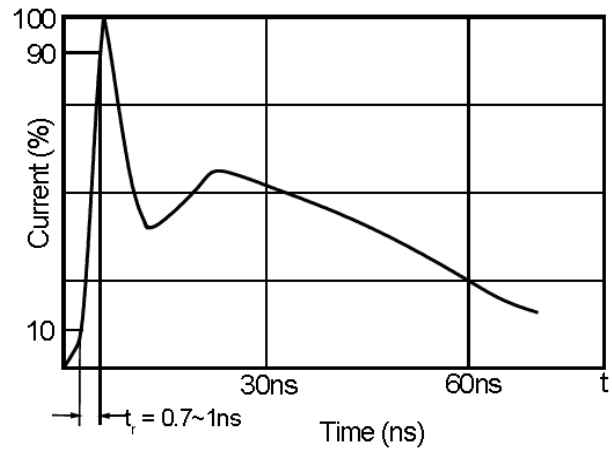


Fig 2 ESD pulse waveform according to IEC61000-4-2

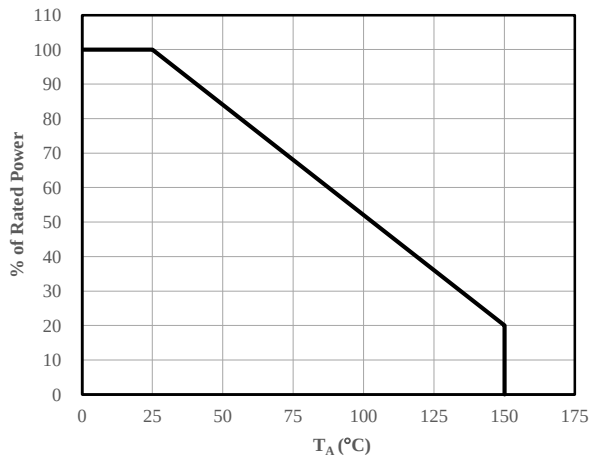


Fig 3 Power Derating Curve

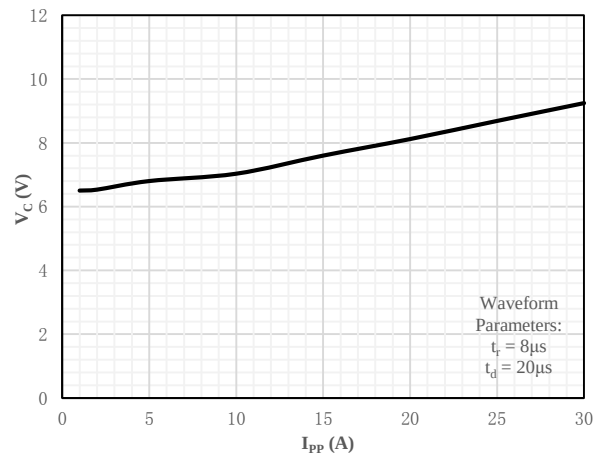


Fig 4 Clamping Voltage vs. Peak Pulse Current

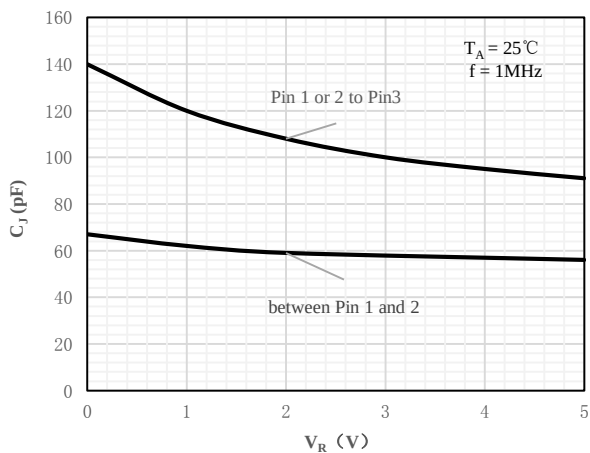
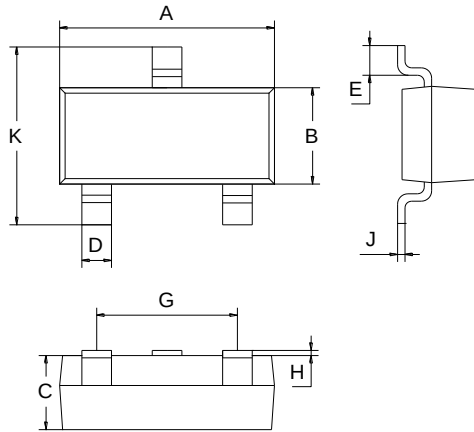


Fig 5 Capacitance vs. Reverse Voltage

Package Outline Dimensions (Unit: mm)



SOT-23		
Dimension	Min.	Max.
A	2.70	3.10
B	1.10	1.50
C	0.9	1.1
D	0.3	0.5
E	0.35	0.48
G	1.80	2.00
H	0.02	0.1
J	0.05	0.15
K	2.20	2.60

Package Outline Dimensions (Unit: mm)

SOT-23

