

Features

- ESD / transient protection of high speed data lines
 - IEC 61000-4-2 (ESD): ± 20 kV (air), ± 15 kV (contact)
- Low reverse stand-off voltage: 5V
- Very low leakage current
- Low diode capacitance: $C_J = 0.50$ pF
- ESD protection up to 10kV; IEC61000-4-2
- Halogen free
- Qualified to AEC-Q101 standards for high reliability

HF



SOD-523

Mechanical Data

- Case: SOD-523
- 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
TGESD5V0X1D5	SOD-523	3000pcs / Tape & Reel	AE

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

Parameter	Symbol	Value	Unit
IEC 61000-4-2; ESD (Air) ^{*1}	V_{ESD-A}	± 20	kV
IEC 61000-4-2; ESD (Contact) ^{*1}	V_{ESD-C}	± 15	kV
JESD22-A114-B; ESD (Human Body) ^{*1}	V_{ESD-HB}	± 10	kV
JESD22-A114-B; ESD (Machine) ^{*1}	V_{ESD-M}	± 0.4	kV
Peak Pulse Power ($t_p = 8/20\mu\text{s}$) ^{*2}	P_{PP}	60	W
Peak Pulse Current ($t_p = 8/20\mu\text{s}$) ^{*2}	I_{PP}	4	A

Thermal Characteristics

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

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	$V_{(BR)}$	$I_T = 10\text{mA}$	6.2	-	9	V
Reverse Leakage Current	I_R	$V_{RWM} = 5\text{V}$	-	-	1	μA
Clamping Voltage ^{~2}	V_C	$I_{PP} = 1\text{A}$, $t_p = 8/20\mu\text{s}$	-	-	10	V
		$I_{PP} = 4\text{A}$, $t_p = 8/20\mu\text{s}$	-	13	15	
Junction Capacitance	C_J	$V_R = 0\text{V}$, $f = 1\text{MHz}$	-	0.5	1	pF

Notes:

- Device stressed with ten non-repetitive ESD pulses, measured from pin 1 to pin 2
- Non-repetitive current pulse 8/20 μs exponential decay waveform according to IEC61000-4-5

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

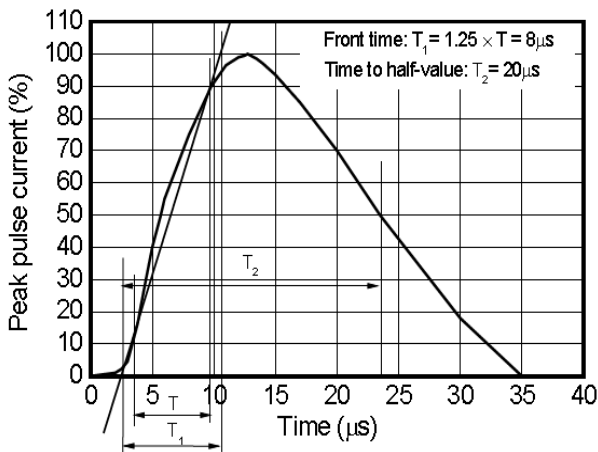


Fig 1 8/20 μs waveform per IEC61000-4-5

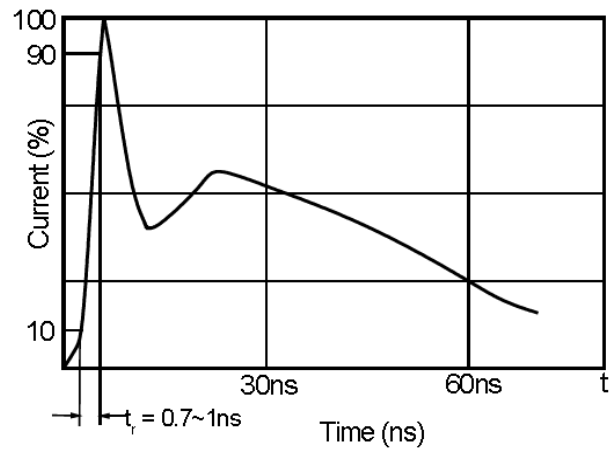


Fig 2 ESD pulse waveform according to IEC61000-4-2

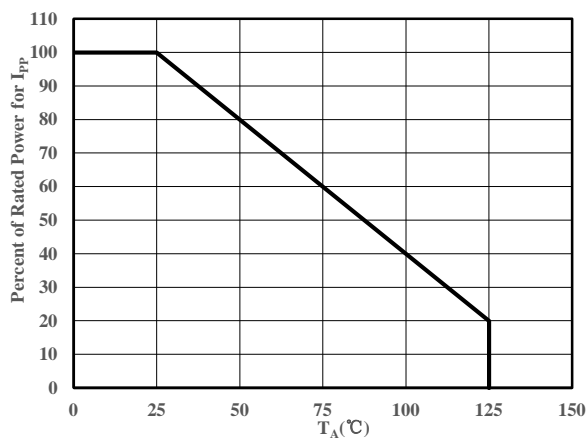
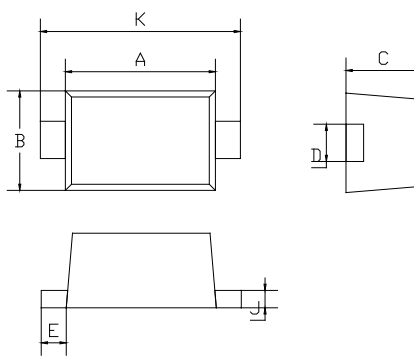


Fig 3 Power Derating Curve

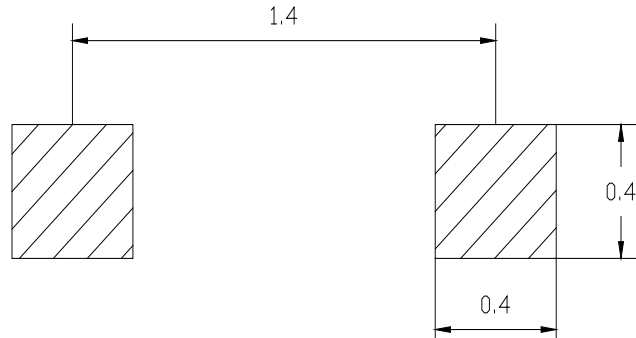
Package Outline Dimensions (Unit: mm)



SOD-523		
Dimension	Min.	Max.
A	1.10	1.30
B	0.70	0.90
C	0.50	0.70
D	0.25	0.35
E	0.15	0.25
J	0.05	0.15
K	1.50	1.70

Package Outline Dimensions (Unit: mm)

SOD-523



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