

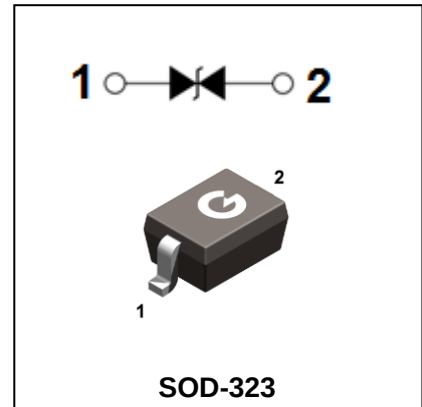
Bi-directional ESD Protection Diode

TGESD5V0B3

FEATURES

- Reverse working (Stand-off) voltages: 5.0V
- Low leakage
- Response time is typically <1ns
- RoHS compliant with Halogen-free
- Qualified to AEC-Q101 Standards

HF



APPLICATIONS

- 10/100/1000 Mbits Ethernet
- FireWire
- High-speed data lines
- Subscriber Identity Module(SIM) card protection
- Cellular handsets and accessories

ORDERING INFORMATION

Type No.	Marking	Package Code
TGESD5V0B3	ZZ	SOD-323

MAXIMUM RATING @ Ta=25℃ unless otherwise specified

Parameter	Symbol	Limits	Unit
IEC 61000-4-2 (ESD) Contact Discharge Air Discharge	V_{ESD}	± 30	kV
Reverse Stand-off Voltage	V_{RWM}	5	V
Peak pulse current (Note) $t_p=8/20\mu s$	I_{PP}	6	A
Peak pulse power dissipation($t_p=8/20\mu s$)	P_{PP}	50	W
Thermal Resistance Junction to Ambient Air	$R_{\theta JC}$	460	℃/W
Junction temperature	T_J	-55 to +150	℃
Storage temperature	T_{STG}	-55 to +150	℃

Note: 1. Device stressed with ten non-repetitive ESD pulses.

2. Non-repetitive current pulse 8/20us exponential decay waveform according to IEC 61000-4-5.

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ELECTRICAL CHARACTERISTICS @ Ta=25°C unless otherwise specified

Parameter	Symbol	Conditions	Min	Typ	Max	Units
Reverse Breakdown Voltage	V_{BR}	$I_R=1mA$	5.8	-	7.8	V
Reverse Leakage Current	I_R	$V_{RWM}=5V$	-	-	10	μA
Diode Capacitance	C_d	$V_R=0V, f=1MHz$	-	-	20	pF
Clamping Voltage(Note1)	V_C	$I_{PP}=3A$ $I_{PP}=6A$	-	-	10 12	V
Differential resistance	r_{dif}	$I_R=20mA$	-	-	30	Ω

Note: 1. Non-repetitive current pulse 8/20 μs exponential decay waveform according to IEC6100-4-5.

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TYPICAL CHARACTERISTICS @ Ta=25°C unless otherwise specified

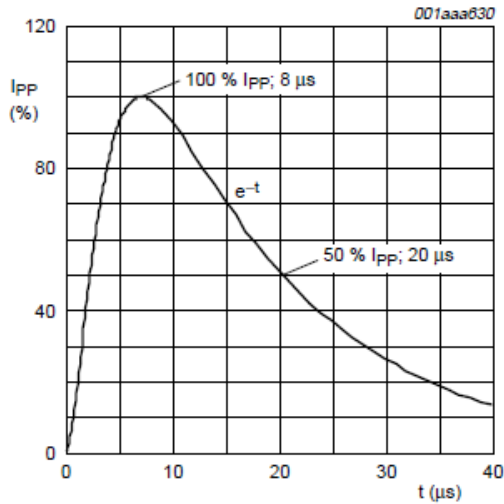


Fig1. 8/20us pulse waveform according to IEC 61000-4-5

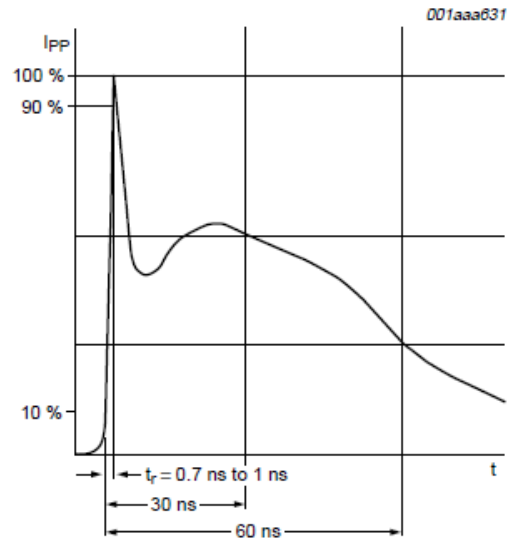
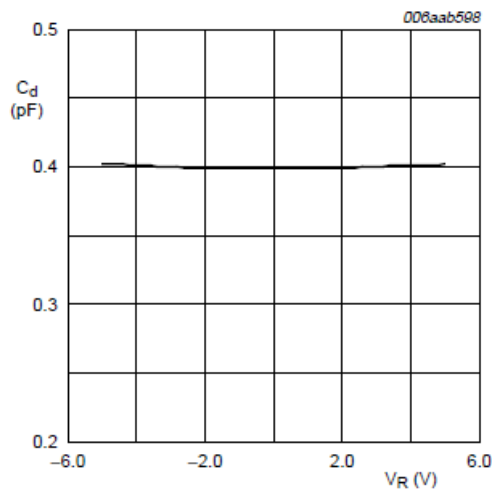


Fig 2. ESD pulse waveform according to IEC 61000-4-2



f = 1 MHz; T_amb = 25 °C

Fig 3. Diode capacitance as a function of reverse voltage; typical values

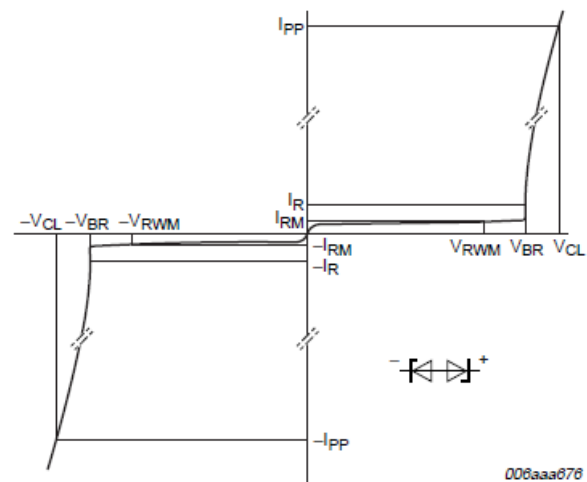


Fig 4. V-I characteristics for a unidirectional ESD protection diode

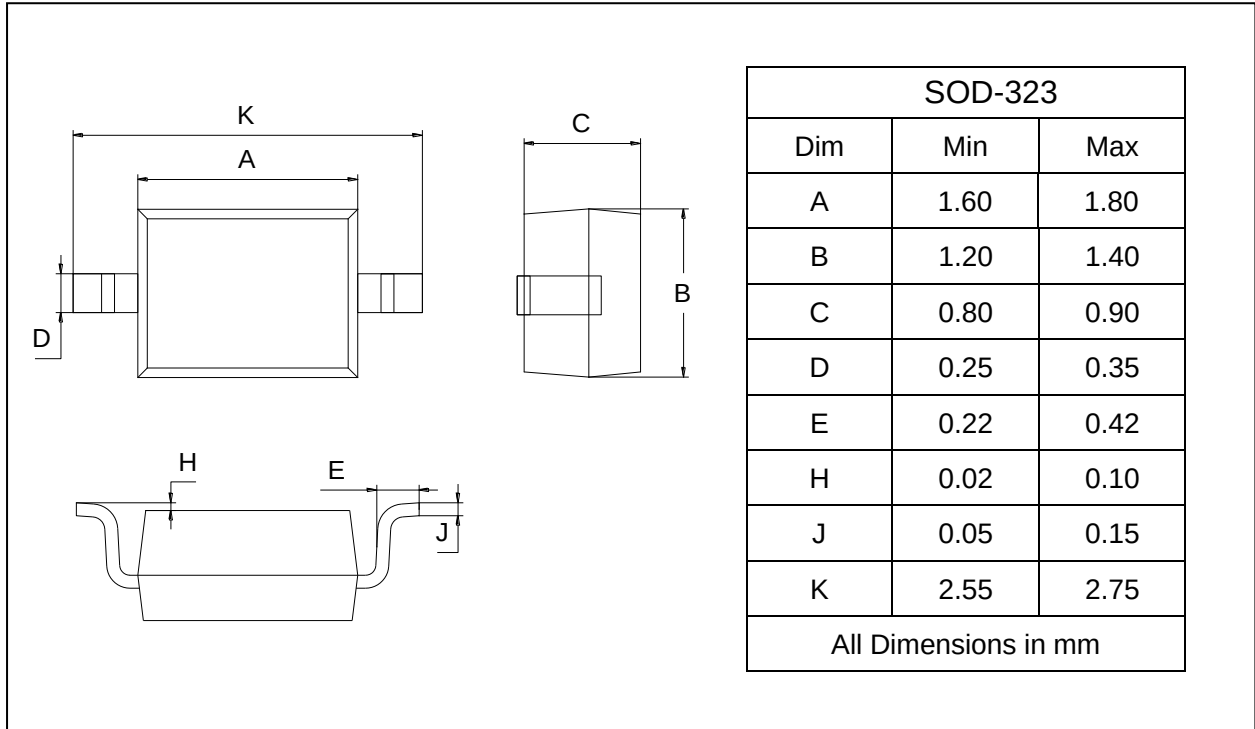
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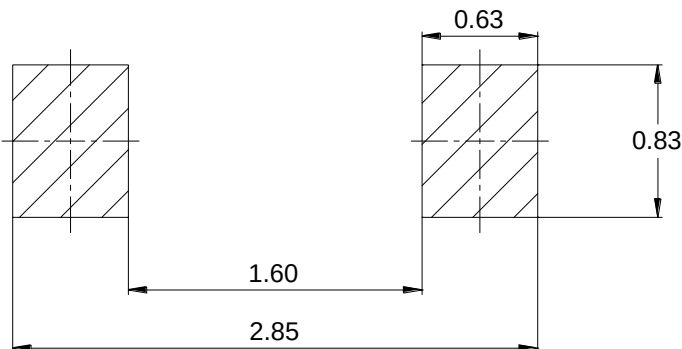
PACKAGE OUTLINE

Plastic surface mounted package

SOD-323



SOLDERING FOOTPRINT



Unit: mm

PACKAGE INFORMATION

Device	Package	Shipping
TGESD5V0B3	SOD-323	3000 pcs / Tape & Reel