Features

- 170 Watts Peak Pulse Power per Line (tp = 8/20μs)
  Bidirectional Configuration
- Protects One Power or I/O Port
- ESD Protection > 40 kilovolts
- Low Clamping Voltages
- Ultra Low Capacitance: 7 pF Typical
- AEC-Q101 Qualified

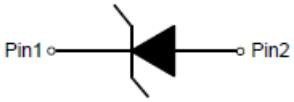
SOD-523

IEC Compatibility (EN61000-4)

- IEC 61000-4-2 (ESD) :±30kV (air), ±30kV (contact)
- IEC 61000-4-4 (EFT) :40A (5/50ns)
- IEC 61000-4-5(Surge): 9A, 8/20μs

Applications

- Ethernet - 10/100/1000 Base T
- Cellular Phones
- Handheld - Wireless Systems
- Personal Digital Assistant (PDA)
- USB Interface

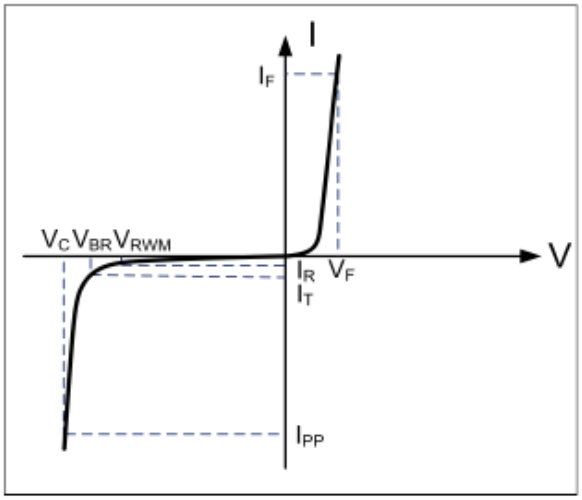


Circuit diagram

Electrical Parameters

Parameter	Symbol	Value	Units
Peak pulse power (tp=8/20us)	P_{PP}	170	Watts
Operating Temperature	T_J	-55℃~125℃	℃
Storage Temperature	T_{STG}	-55℃~150℃	℃

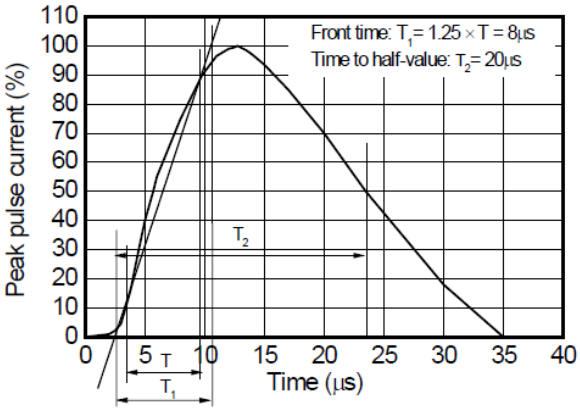
Symbol	Parameter
I_{PP}	Maximum Reverse Peak Pulse Current
V_C	Clamping Voltage @ I_{PP}
V_{RWM}	Working Peak Reverse Voltage
I_R	Maximum Reverse Leakage Current @ V_{RWM}
V_{BR}	Breakdown Voltage @ I_T
I_T	Test Current
I_F	Forward Current
V_F	Forward Voltage @ I_F



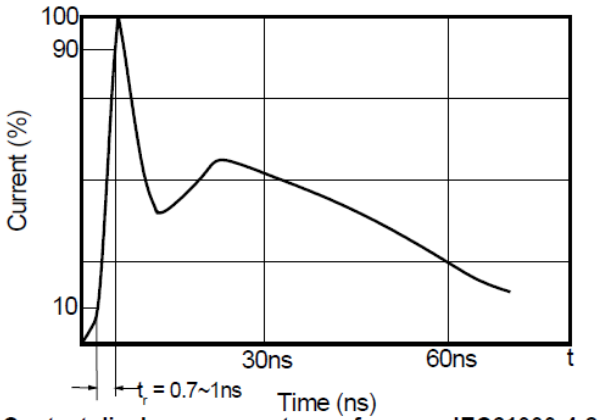
Ratings and characteristic curves (T_A=25°C unless otherwise noted)

Parameter	Symbol	Condition	Min	Max	Units
Reverse Stand-off Voltage	V_{RWM}	Pin2 to 1/Pin1 to 2		5.0	V
Reverse Breakdown Voltage	V_{BR}(min)	I_Z=1mA	6.0	8.3	V
Reverse Leakage Current	I_R(max)	@V_{RWM}		0.2	μA
Clamping Voltage	V_C	I_{PP}=9A tp=8/20us		19	V
Junction Capacitance	$C_{I/O}$	Pin capacitance to GND.Vdc=0V,f=1MHZ	80(MAX)		pF

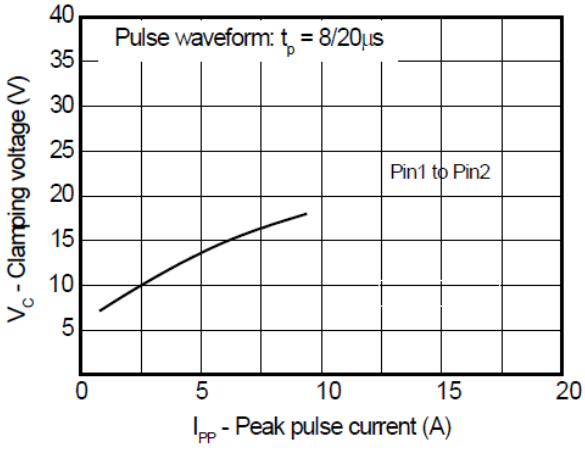
Typical Characteristics



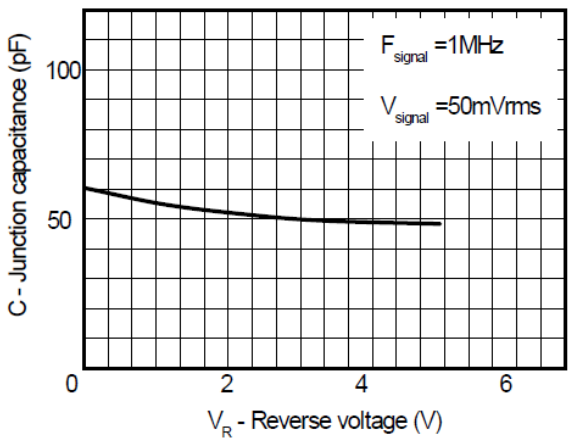
8/20μs waveform per IEC61000-4-5



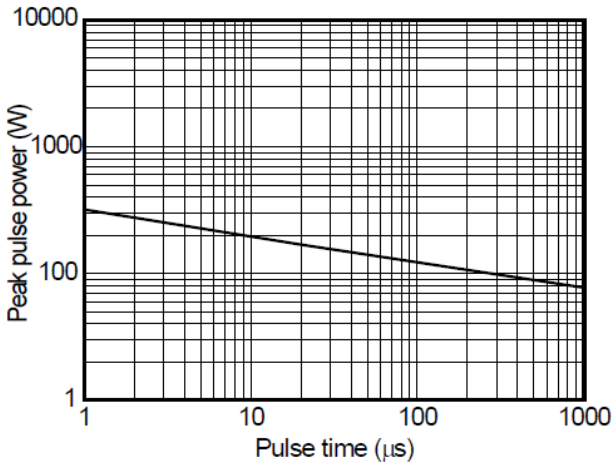
Contact discharge current waveform per IEC61000-4-2



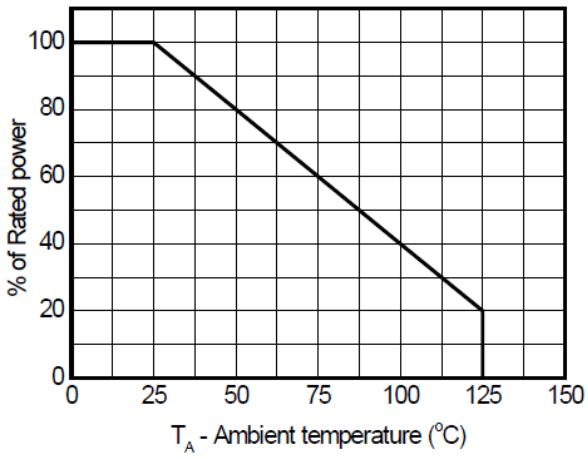
Clamping voltage vs. Peak pulse current



Capacitance vs. Reveres voltage



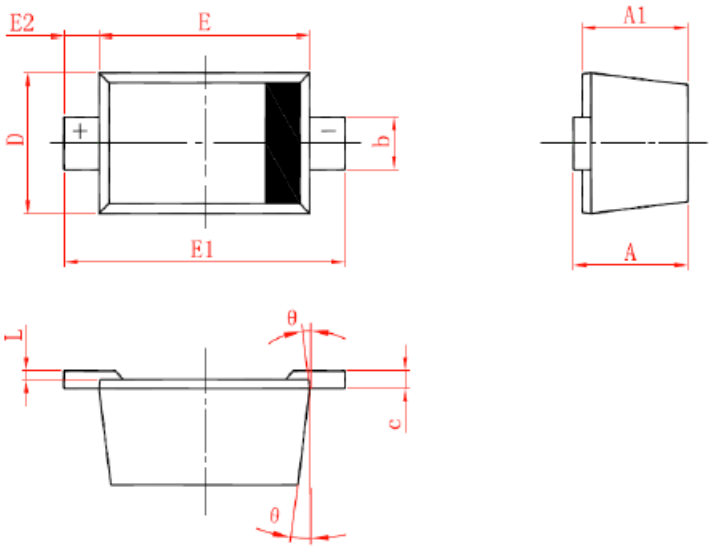
Non-repetitive peak pulse power vs. Pulse time



Power derating vs. Ambient temperature

Dimensions

SOD-523



Symbol	Dimensions in millimeter		
	Min.	Typ.	Max.
A	0.510	0.640	0.770
A1	0.500	0.600	0.700
b	0.250	0.300	0.350
c	0.080	0.115	0.150
D	0.750	0.800	0.850
E	1.100	1.200	1.300
E1	1.500	1.600	1.700
E2	0.200 Ref		
L	0.010	0.040	0.070
θ	7° Ref		