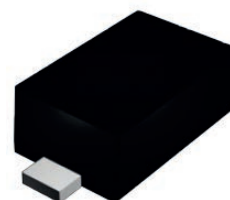


GSEV24U400 ESD Protection Diode

Features

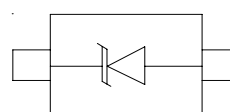
- Protects one data or power line
- Ultra low leakage: nA level
- Working voltage: 24V
- Low clamping voltage
- Complies with following standards:
 - IEC 61000-4-2 (ESD) immunity test
 - Air discharge: $\pm 30\text{kV}$
 - Contact discharge: $\pm 30\text{kV}$
 - IEC61000-4-5 (Lightning) 5A (8/20 μs)



SOD-523

Applications

- Cellular handsets and accessories
- Personal digital assistants
- Notebooks and handhelds
- Portable instrumentation
- Digital cameras
- Peripherals
- Audio players



Schematic Diagram

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

Parameter	Symbol	Value	Unit
Peak Pulse Power (8/20 μs)	P_{PK}	220	W
Peak Pulse Current (8/20 μs)	I_{PP}	5	A
ESD per IEC 61000-4-2 (Air)	V_{ESD}	± 30	kV
ESD per IEC 61000-4-2 (Contact)		± 30	
Operating Temperature Range	T_J	-55 to +125	$^\circ\text{C}$
Storage Temperature Range	T_{STG}	-55 to +150	$^\circ\text{C}$

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

Parameter	Symbol	Test Condition	Min	Typ	Max	Unit
Reverse Working Voltage	V_{RWM}	-	-	-	24	V
Breakdown Voltage	V_{BR}	$I_T=1\text{mA}$	27	-	-	V
Reverse Leakage Current	I_R	$V_{RWM}=24\text{V}$	-	-	0.2	μA
Forward Voltage	V_F	$I_F=10\text{mA}$	-	1.0	1.2	V
Clamping Voltage	V_C	$I_{PP}=1\text{A}$ (8 x 20 μs pulse)	-	-	33	V
		$I_{PP}=5\text{A}$ (8 x 20 μs pulse)	-	-	44	V
Junction Capacitance	C_J	$V_R=0\text{V}$, $f=1\text{MHz}$	-	-	40	pF

Typical Performance Characteristic ($T_A=25^\circ\text{C}$ unless otherwise Specified)

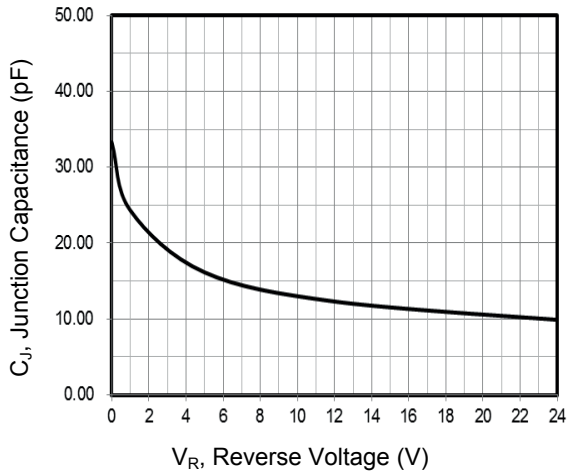


Figure 1. Junction Capacitance vs. Reverse Voltage

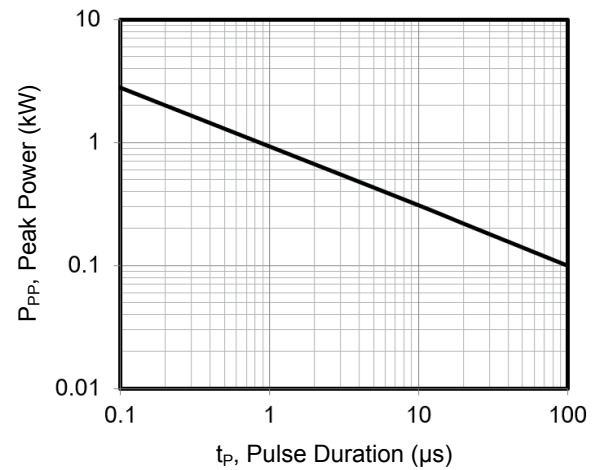


Figure 2. Peak Pulse Power vs. Pulse Time

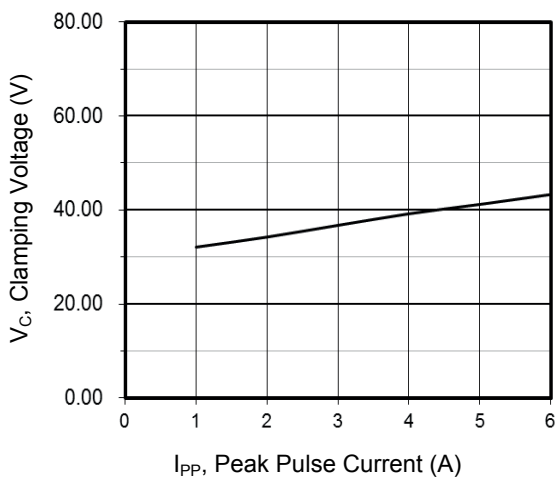


Figure 3. Clamping Voltage vs. Peak Pulse Current

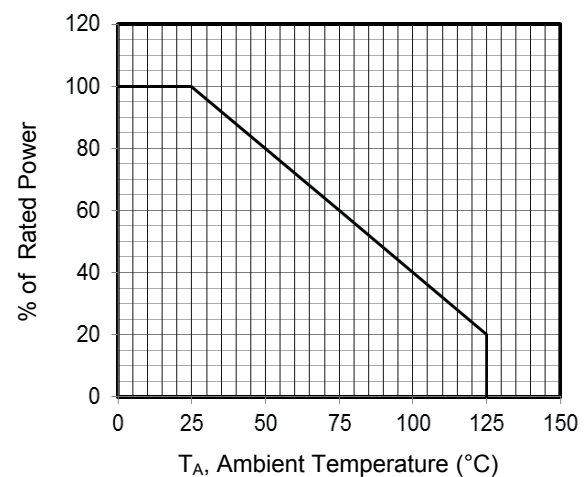


Figure 4. Power Derating Curve

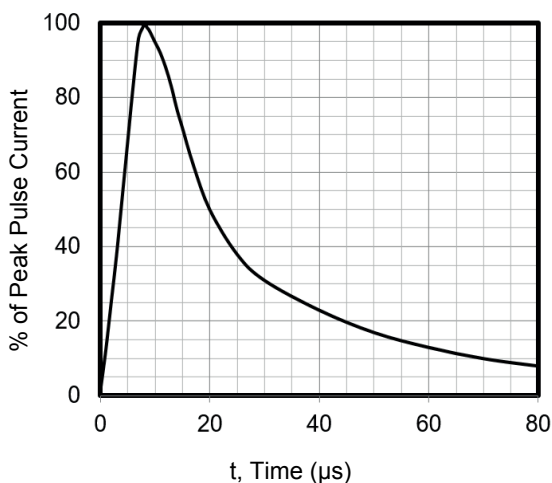
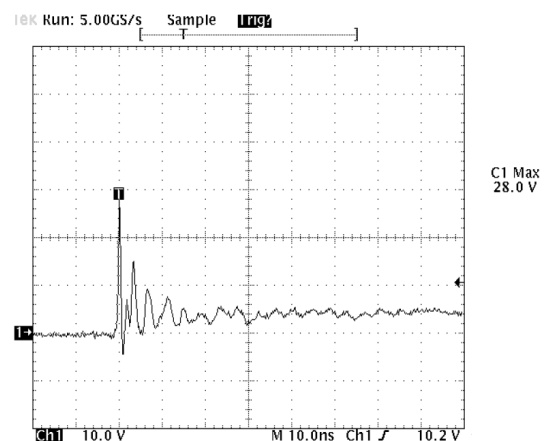


Figure 5. 8 X 20 μs Pulse Waveform

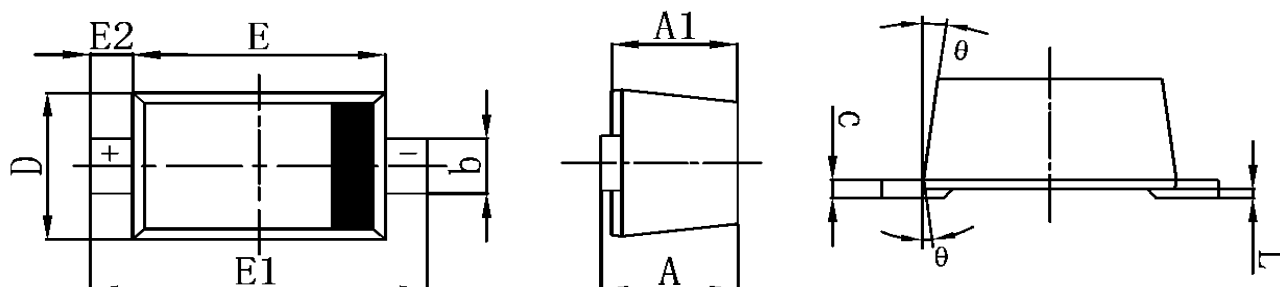


Note: Data is taken with a 10x attenuator

Figure 6. ESD Clamping Voltage

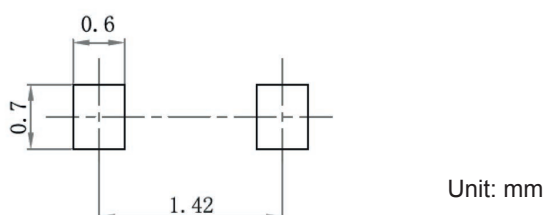
8kV Contact per IEC61000-4-2

Package Outline Dimensions (SOD-523)



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min	Max	Min	Max
A	0.510	0.770	0.020	0.031
A1	0.500	0.700	0.020	0.028
b	0.250	0.350	0.010	0.014
c	0.080	0.150	0.003	0.006
D	0.750	0.850	0.030	0.033
E	1.100	1.300	0.043	0.051
E1	1.500	1.700	0.059	0.067
E2	0.200 REF		0.008 REF	
L	0.010	0.070	0.001	0.003
θ	7° REF		7° REF	

Recommended Pad Layout



Order Information

Device	Package	Marking	Carrier	Quantity
GSEV24U400	SOD-523	4D	Tape & Reel	3,000pcs / Reel