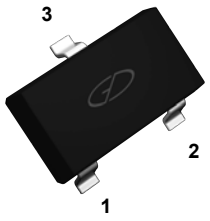
GOOD-ARK
SEMICONDUCTOR

GSEC3U2600
ESD TVS Array

Features

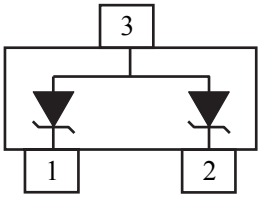
- 500W peak pulse power (8/20μs)
- Protects one/two uni-directional line(s)
- Ultra low leakage: nA level
- Operating voltage: 3.3V
- Low clamping voltage
- Complies with following standards:
  -IEC 61000-4-2 (ESD) immunity test Air discharge: ±30kV
  Contact discharge: ±30kV
  -IEC61000-4-5 (Lightning) 40A (8/20μs)



SOT-23

Applications

- Peripherals
- Industrial equipment
- Notebook computers
- Portable instrumentation
- Microprocessor based equipment
- Cell phone handsets and accessories
- Personal digital assistants (PDAs) and pagers



Schematic Diagram

Absolute Maximum Ratings (T_A=25°C unless otherwise specified)

Parameter	Symbol	Value	Unit
Peak Pulse Power (8/20μs)	P_{PK}	500	W
Peak Pulse Current (8/20μs)	I_{PP}	40	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	°C
Storage Temperature Range	T_{STG}	−55 to +150	°C

Electrical Characteristics (T_A=25°C unless otherwise specified)

Parameter	Symbol	Test Condition	Min	Typ	Max	Unit
Reverse Working Voltage	V_{RWM}	-	-	-	3.3	V
Reverse Breakdown Voltage	V_{BR}	I_T=1mA	3.5	-	-	V
Reverse Leakage Current	I_R	V_{RWM}=3.3V, any I/O pin to ground	-	-	0.5	μA
Clamping Voltage	V_C	I_{PP}=1A (8 x 20μs pulse), any I/O pin to ground	-	-	8	V
		I_{PP}=40A (8 x 20μs pulse), any I/O pin to ground	-	-	12.5	V
Junction Capacitance	C_J	V_R=0V, f=1MHz, any I/O pin to ground	-	260	-	pF

Typical Performance Characteristics (T_A=25°C unless otherwise Specified)

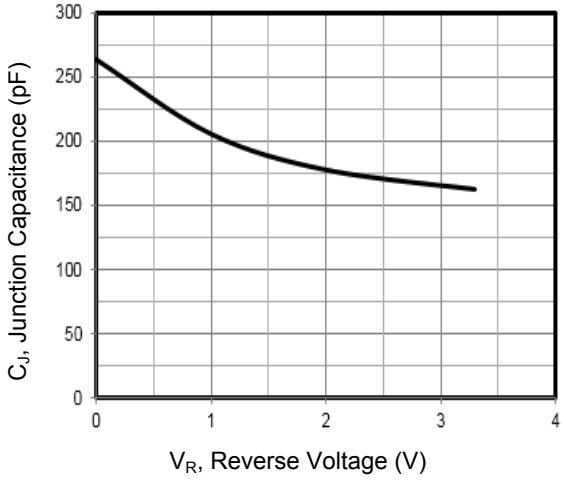


Figure 1. Junction Capacitance vs. Reverse Voltage

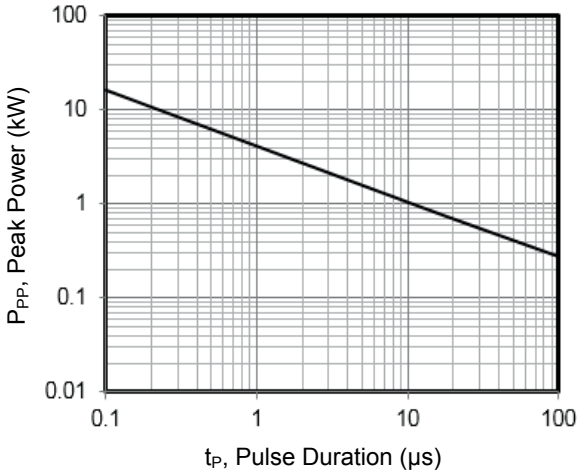


Figure 2. Peak Pulse Power vs. Pulse Time

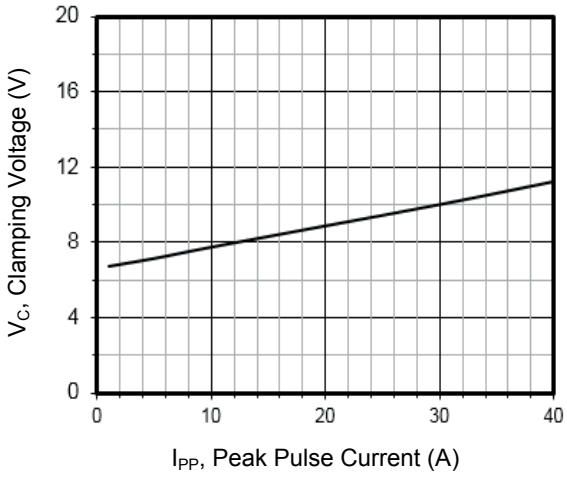


Figure 3. Clamping Voltage vs. Peak Pulse Current

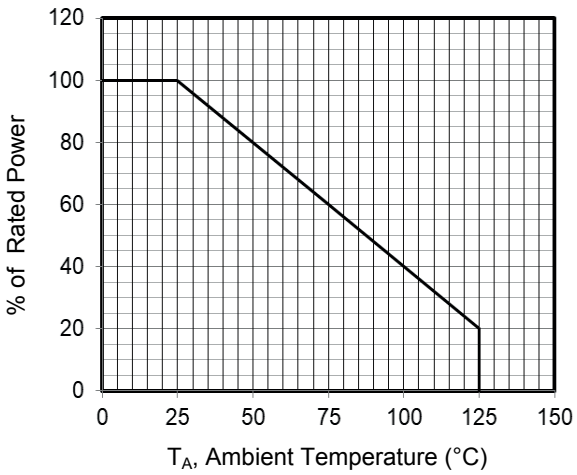


Figure 4. Power Derating Curve

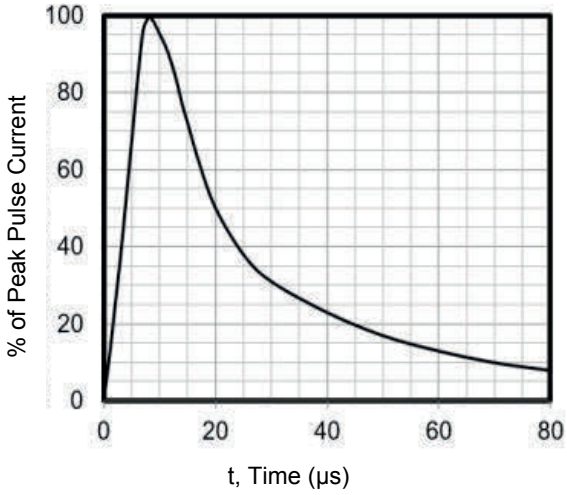
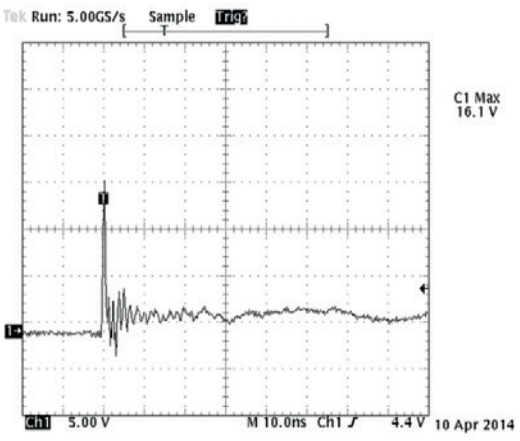


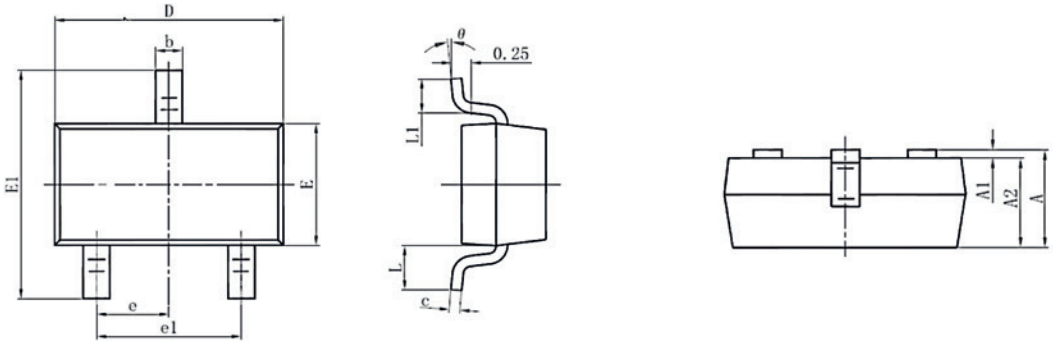
Figure 5. 8 X 20μs Pulse Waveform



Note: Data is taken with a 10x attenuator

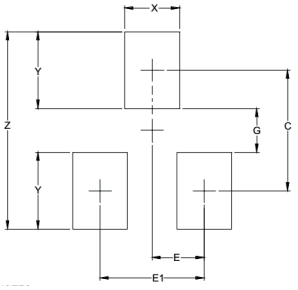
Figure 6. ESD Clamping Voltage
8 kV Contact per IEC61000−4−2

Package Outline Dimensions (SOT-23)



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min.	Max.	Min.	Max.
A	0.90	1.15	0.035	0.045
A1	0.00	0.10	0.000	0.004
A2	0.90	1.05	0.035	0.041
b	0.30	0.50	0.012	0.020
c	0.08	0.15	0.003	0.006
D	2.80	3.00	0.110	0.118
E	1.20	1.40	0.047	0.055
E1	2.25	2.55	0.089	0.100
e	0.95TYP		0.037TYP	
e1	1.80	2.00	0.071	0.079
L	0.55REF		0.022REF	
L1	0.30	0.50	0.012	0.020
θ	0°	8°	0°	8°

Recommended Pad Layout



Symbol	Dimensions	
	Inches	Millimeters
C	0.087	2.20
E	0.037	0.95
E1	0.075	1.90
G	0.031	0.80
X	0.039	1.00
Y	0.055	1.40
Z	0.141	3.60

Order Information

Device	Package	Marking	Carrier	Quantity
GSEC3U2600	SOT-23	S33H	Tape & Reel	3,000pcs / Reel

For more information, please contact us at: inquiry@goodarksemi.com