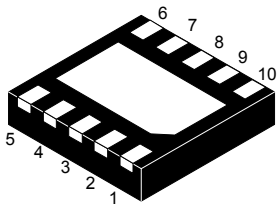
GOOD-ARK
SEMICONDUCTOR

GSEBP3U032
Low Capacitance ESD TVS Array

Features

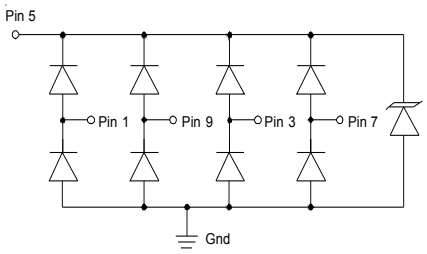
- Ultra low leakage: nA level
- Ultra low operating voltage: 3.3V
- Ultra low clamping voltage
- Complies with following standards:
  -IEC 61000-4-2 (ESD) immunity test
  Air discharge: ±25kV
  Contact discharge: ±15kV
  -IEC 61000-4-5 (Lightning) 24A (8/20μs)
- RoHS compliant



DFN2626

Applications

- Analog video
- RJ-45 connectors
- T1/E1 secondary protection
- T3/E3 secondary protection
- 10/100/1000 ethernet



Schematic Diagram

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

Parameter	Symbol	Value	Unit
Peak Pulse Power (8/20μs)	P_{pk}	450	W
Peak Pulse Current (8/20μs)	I_{PP}	24	A
ESD per IEC 61000−4−2 (Air)	V_{ESD}	±25	kV
ESD per IEC 61000−4−2 (Contact)		±15	
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
Punch-Through Voltage	V_{PT}	I_{PT}=2μA	3.5	-	-	V
Snap-Back Voltage	V_{SB}	I_{SB}=50mA	2.8	-	-	V
Reverse Leakage Current	I_R	V_{RWM}=3.3V	-	-	0.5	μA
Clamping Voltage	V_C	I_{PP}=1A (8 x 20μs pulse), any I/O to GND	-	-	5.5	V
		I_{PP}=10A (8 x 20μs pulse), any I/O to GND	-	-	9.5	
		I_{PP}=24A (8 x 20μs pulse), any I/O to GND	-	-	18.5	
Junction Capacitance	C_J	V_R=0V, f=1MHz, between I/O pins	-	2.0	-	pF
		V_R=0V, f=1MHz, any I/O to GND	-	3.2	5.0	

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

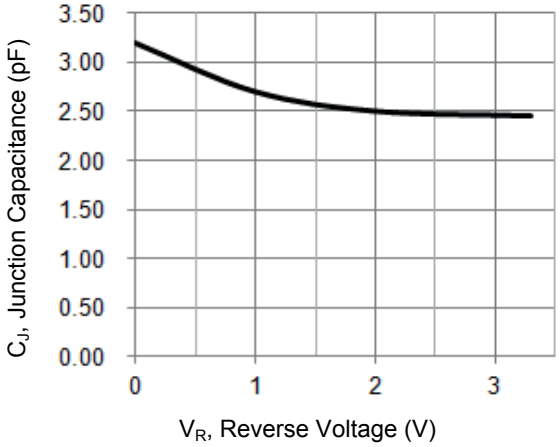


Figure 1. Junction Capacitance vs. Reverse Voltage

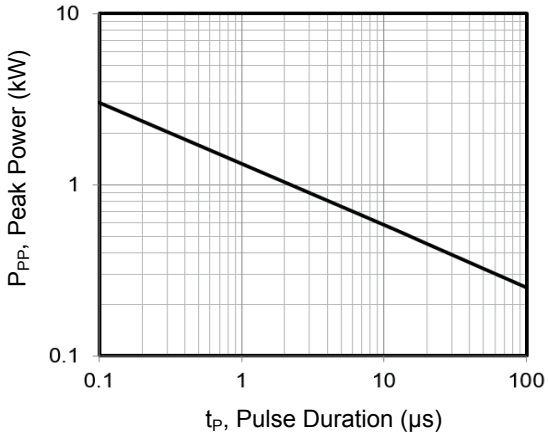


Figure 2. Peak Pulse Power vs. Pulse Time

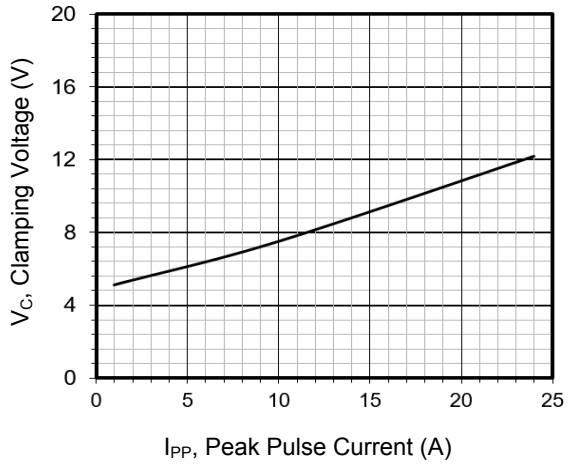


Figure 3. Clamping Voltage vs. Peak Pulse Current

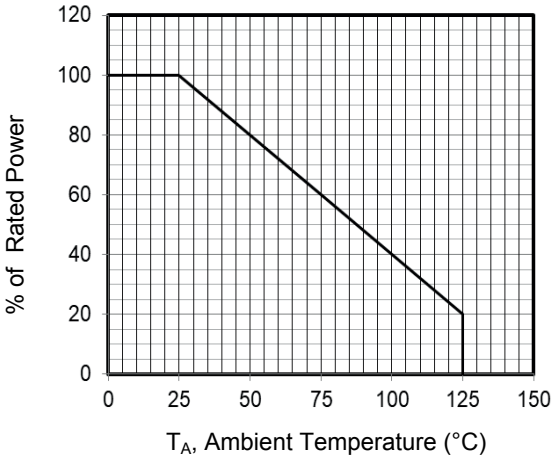


Figure 4. Power Derating Curve

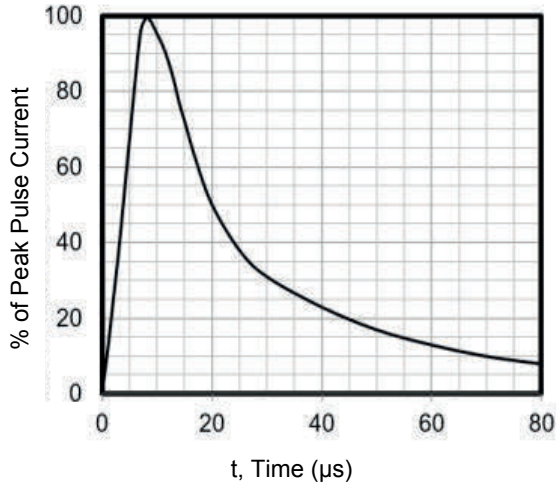
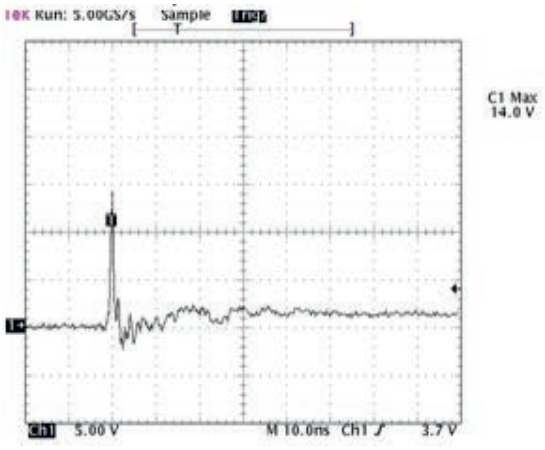


Figure 5. 8 X 20μs Pulse Waveform



Note: Data is taken with a 10x attenuator

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

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

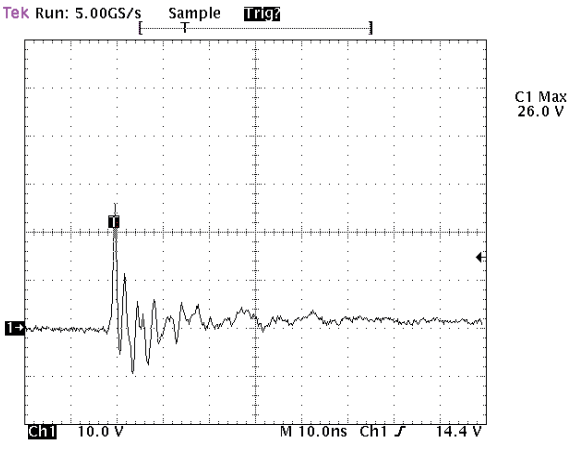


Figure 7. ESD Clamping Voltage
8 kV Contact per IEC61000−4−2

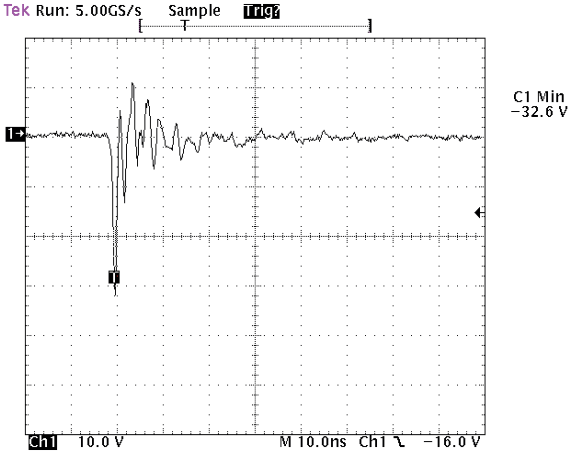
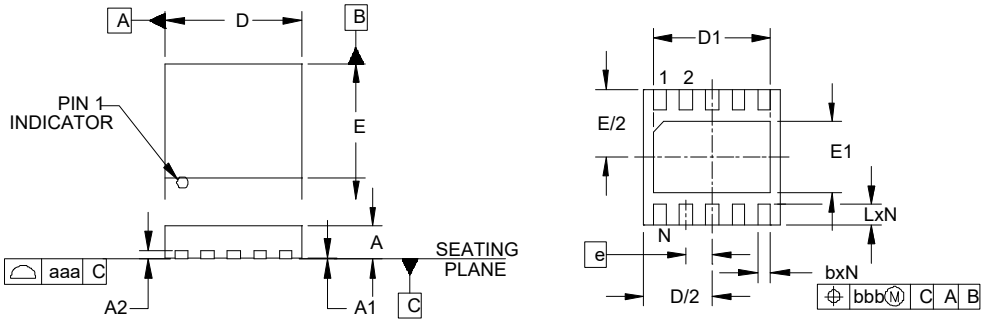


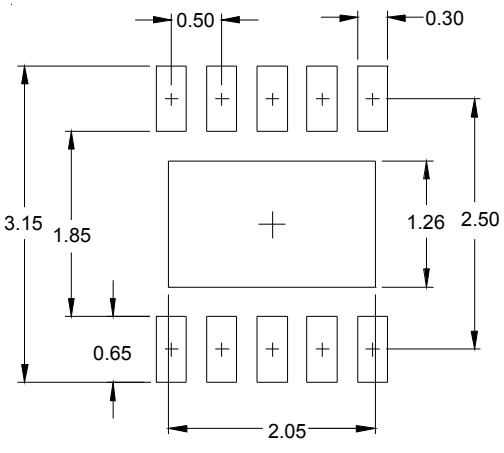
Figure 8. ESD Clamping Voltage
-8 kV Contact per IEC61000−4−2

Package Outline Dimensions (DFN2626)



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min.	Max.	Min.	Max.
A	0.020	0.024	0.50	0.60
A1	0.000	0.002	0.00	0.05
A2	(0.007)		(0.17)	
b	0.007	0.012	0.20	0.30
D	0.098	0.106	2.50	2.70
D1	0.079	0.089	2.00	2.25
E	0.098	0.106	2.50	2.70
E1	0.044	0.054	1.11	1.36
e	0.020 BSC		0.50 BSC	
L	0.011	0.016	0.30	0.40
N	10		10	
aaa	0.003		0.08	
bbb	0.004		0.10	

Recommended Pad Layout



unit: mm

Order Information

Device	Package	Marking	Carrier	Quantity
GSEBP3U032	DFN2626	3304N	Tape & Reel	3,000pcs / Reel