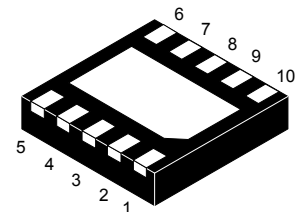


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Low Capacitance ESD TVS Array

Features

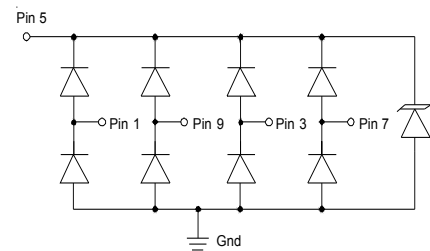
- Ultra low leakage: nA level
- Ultra low operating voltage: 3.3V
- Ultra low clamping voltage
- Complies with following standards:
-IEC 61000-4-2 (ESD) immunity test
Air discharge: $\pm 25\text{kV}$
Contact discharge: $\pm 15\text{kV}$
-IEC 61000-4-5 (Lightning) 24A (8/20 μs)



DFN2626

Applications

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



Schematic Diagram

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

Parameter	Symbol	Value	Unit
Peak Pulse Power (8/20 μs)	P_{PK}	450	W
Peak Pulse Current (8/20 μs)	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	$^\circ\text{C}$
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}	-	-	-	3.3	V
Punch-Through Voltage	V_{PT}	$I_{PT}=2\mu\text{A}$	3.5	-	-	V
Snap-Back Voltage	V_{SB}	$I_{SB}=50\text{mA}$	2.8	-	-	V
Reverse Leakage Current	I_R	$V_{RWM}=3.3\text{V}$	-	-	0.5	μA
Clamping Voltage	V_C	$I_{PP}=1\text{A}$ (8 x 20 μs pulse), any I/O to GND	-	-	5.5	V
		$I_{PP}=10\text{A}$ (8 x 20 μs pulse), any I/O to GND	-	-	9.5	
		$I_{PP}=24\text{A}$ (8 x 20 μs pulse), any I/O to GND	-	-	18.5	
Junction Capacitance	C_J	$V_R=0\text{V}$, $f=1\text{MHz}$, between I/O pins	-	2.0	-	pF
		$V_R=0\text{V}$, $f=1\text{MHz}$, any I/O to GND	-	3.2	5.0	

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

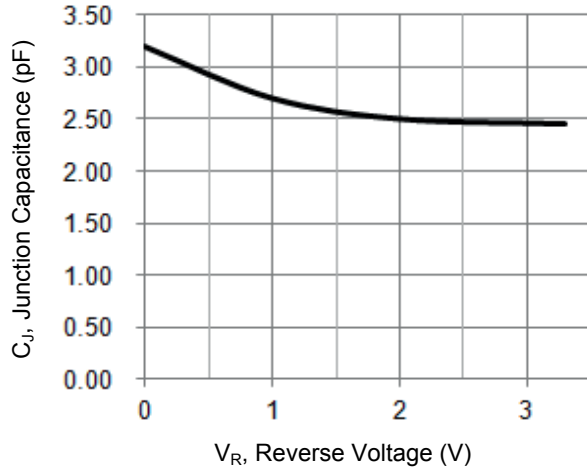


Figure 1. Junction Capacitance vs. Reverse Voltage

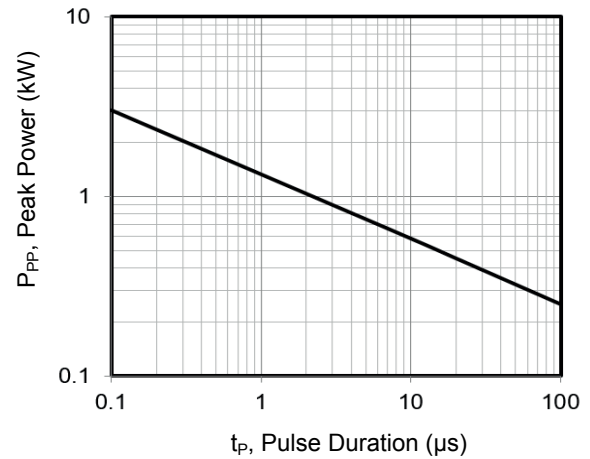


Figure 2. Peak Pulse Power vs. Pulse Time

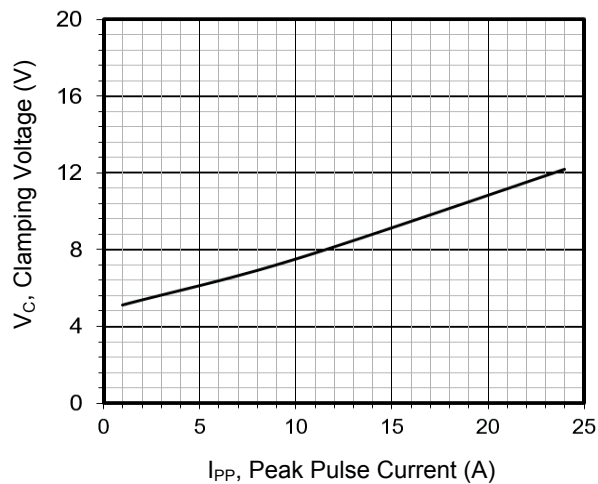


Figure 3. Clamping Voltage vs. Peak Pulse Current

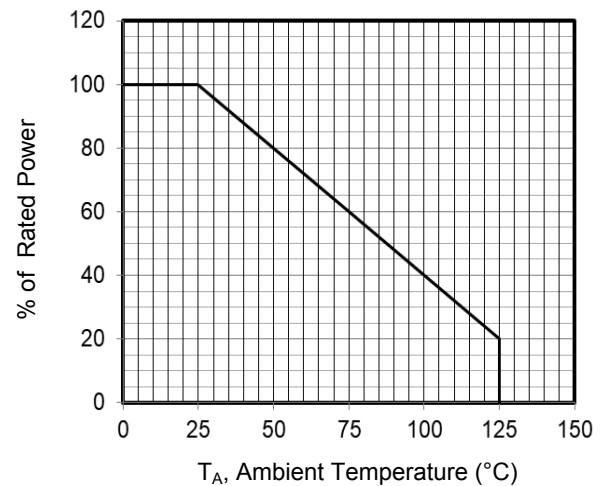


Figure 4. Power Derating Curve

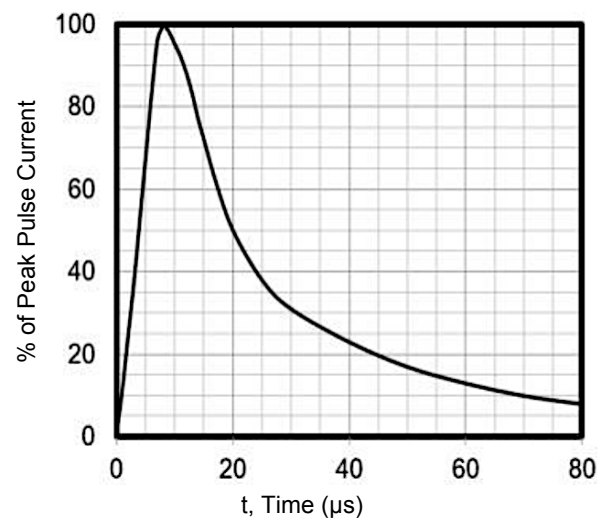
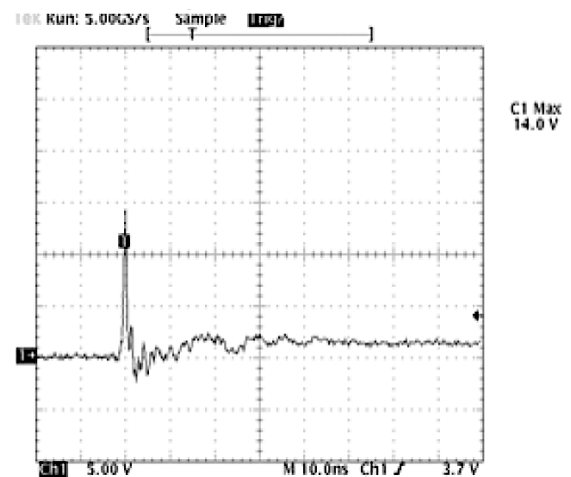


Figure 5. 8 X 20 μs Pulse Waveform



Note: Data is taken with a 10x attenuator

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

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Low Capacitance ESD TVS Array

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

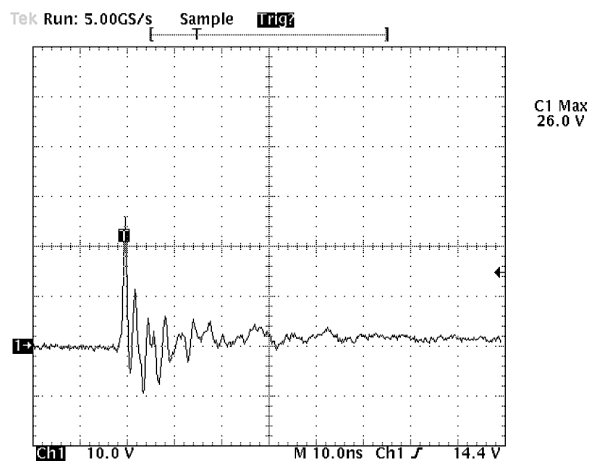


Figure 7. ESD Clamping Voltage
8kV Contact per IEC61000-4-2

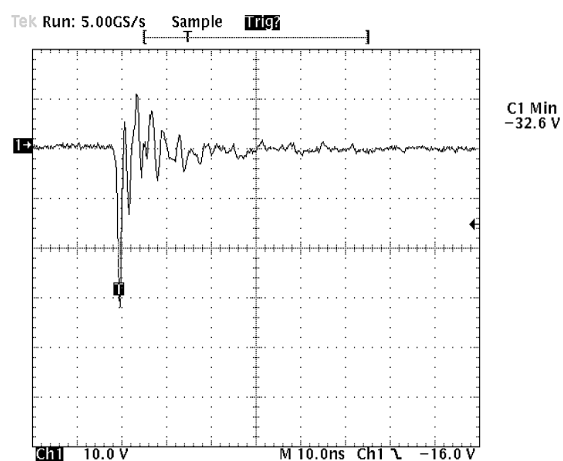
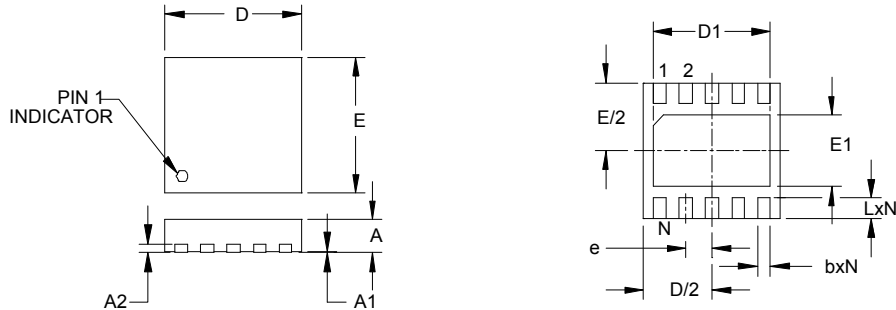


Figure 8. ESD Clamping Voltage
-8kV Contact per IEC61000-4-2

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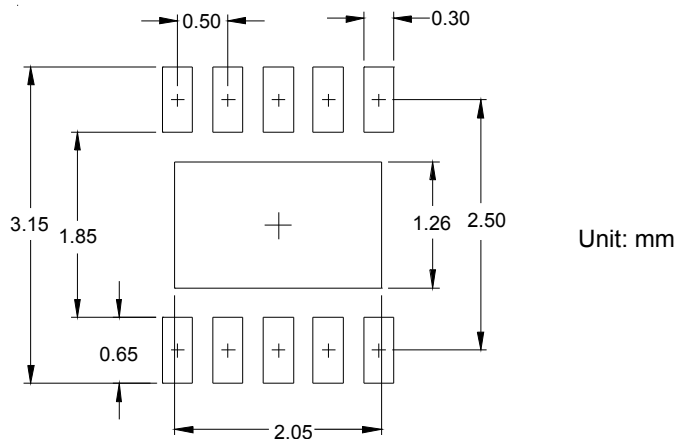
Low Capacitance ESD TVS Array

Package Outline Dimensions (DFN2626)



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

Recommended Pad Layout



Order Information

Device	Package	Marking	Packaging	SPQ
GSEN3U027	DFN2626	3304N	Tape & Reel	3,000 Pcs / Reel

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