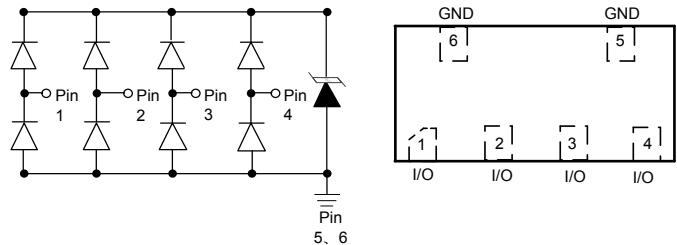
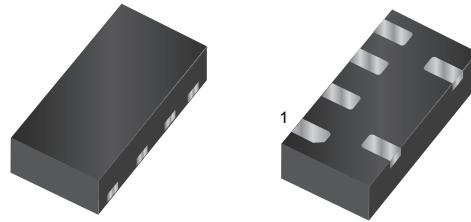


Ultra Low Capacitance ESD TVS Array in DFN1710-6L

Features

- 45Watts peak pulse power ($T_p = 8/20\mu s$)
- DFN1710 package
- Solid-state silicon-avalanche technology
- Low clamping voltage
- Low leakage current
- Ultra low capacitance (0.3pF typical I/O to I/O)
- ESD Protection for high-speed data lines to:
IEC 61000-4-2 ±8kV contact ±15kV air
IEC 61000-4-4 (EFT) 40A (5/50ns)
IEC 61000-4-5 (Lightning) 3A (8/20μs)



Mechanical Data

- **Case:** DFN1710 (plastic package).
Lead free; RoHS compliant; Halogen free
- **Molding Compound Flammability Rating:**
UL 94 V-0
- **Terminals:** High temperature soldering guaranteed:
260 °C/10 sec. at terminals

Applications

- USB 3.0
- HDMI 1.3/1.4
- 10GBase-T Ethernet
- Display Port
- Notebooks, Desktops, and Server

Absolute Maximum Ratings

Ratings at 25 °C, ambient temperature unless otherwise specified

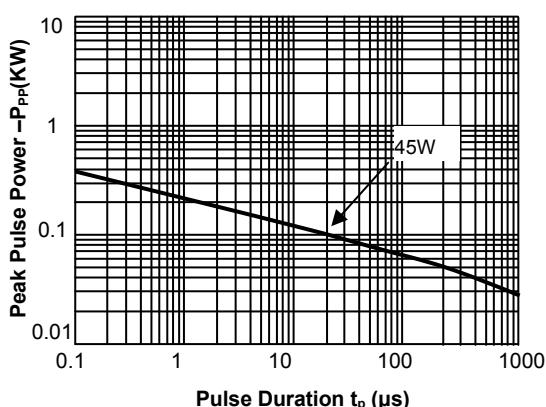
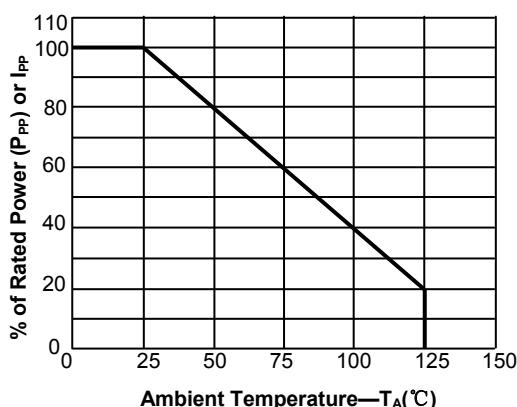
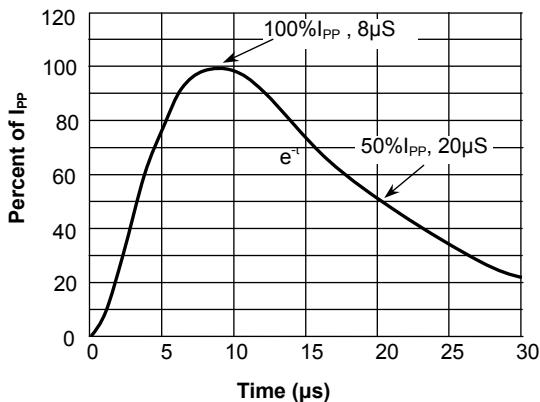
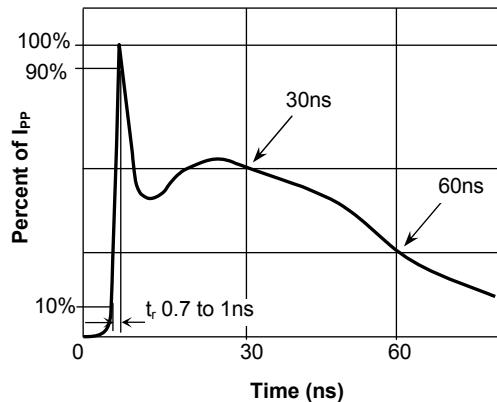
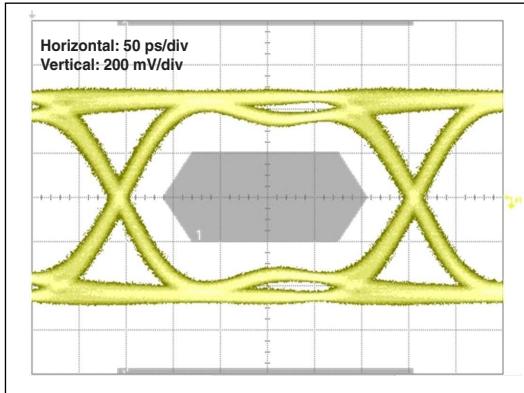
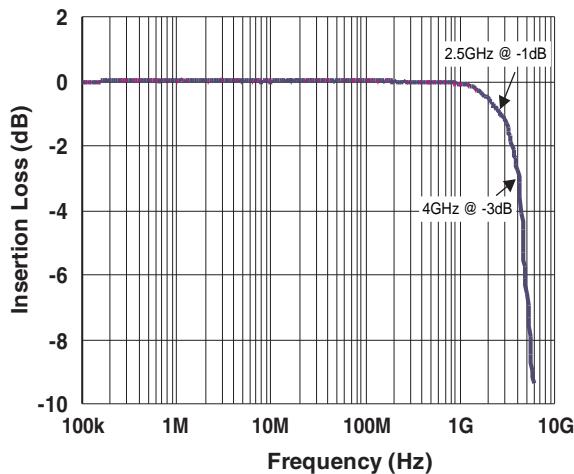
Parameter	Symbol	Value	Unit
Peak Pulse Power ($T_p=8/20\mu s$)	P_{PP}	45	W
ESD contact/air discharge (IEC-61000-4-2)	V_{ESD}	8/15	kV
Peak Pulse Current ($T_p = 8/20\mu s$)	I_{PP}	3.0	A
Junction Temperature	T_J	-55 to +125	°C
Storage temperature	T_{STG}	-55 to +150	°C

Electrical Characteristics

($T_A = 25$ °C unless otherwise specified)

Parameter	Symbol	Condition	Min	Typ	Max	Unit
Reverse stand-off Voltage	V_{RWM}				3.3	V
Reverse Breakdown Voltage	V_{BR}	$I_T=1mA$	4.0			V
Reverse Leakage Current	I_R	$V_R = 3.3V$		0.1	0.2	μA
Clamping Voltage(SURGE)	V_C	$I_{PP}=3A, T_p=8/20\mu s$		10		V
Clamping Voltage(TLP)	V_C	$I_{PP}=16A, T_p=100ns$		11		V
Clamping Voltage(ESD)	V_C	$V_{ESD} = +8kV$		11.5		V
Junction Capacitance	C_J	$V_R=0V, f=1MHz, I/O to I/O$		0.30		pF
	C_J	$V_R=0V, f=1MHz, I/O to GND$		0.60		pF

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

Fig.1 Peak Pulse Power Rating Curve

Fig.2 Pulse Derating Curve

Fig.3 Pulse Waveform-8/20μs

Fig.4 Pulse Waveform-ESD(IEC61000-4-2)

Fig.5 Eye Diagram - HDMI mask at 3.4Gbps per channel

Fig.6 Insertion Loss S21 - I/O to GND


Package Dimensions

DIMENSIONS			
DIM	MILLIMETERS		
	MIN	NOM	
A	0.37	0.40	0.43
A1	0.00	0.02	0.05
A2	(0.13)		
b	0.15	0.20	0.25
D	1.65	1.70	1.78
E	0.95	1.00	1.08
e	0.40	BSC	
e1	1.00	BSC	
L	0.20	0.25	0.30
L1	0.45	0.50	0.55
N	4		
aaa	0.08		
bbb	0.10		

Pad Dimensions

DIMENSIONS		
DIM	MILLIMETERS	
C	(0.825)	
G	0.25	
P	0.40	
P1	1.00	
X	0.20	
Y	0.45	
Y1	0.70	
Z	1.40	

Marking



Ordering information

Order code	Package	Packaging option	Base quantity	Packaging specification
TESD1710UC3V3U	DFN1710	Tape and reel	3000pcs / reel	EIA STD RS-481