

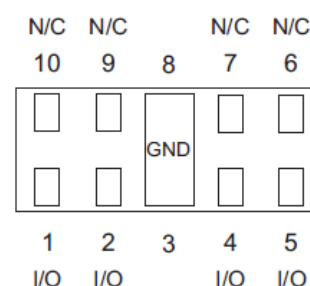
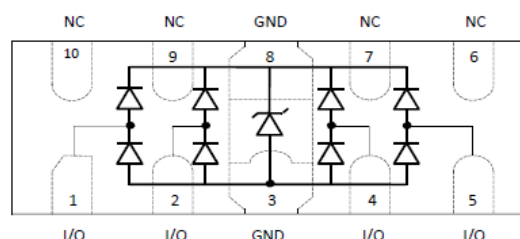


TVS Protection Array TPAu10L-1L

- DFN10P
- 0.36pF
- 40W

Features

- ESD Protection Diode
- DFN10P package
- IEC61000-4-2 (ESD) $\pm 20\text{kV}$ (Air)
 $\pm 20\text{kV}$ (Contact)
- Working voltage: 5 V
- Low leakage current
- Low capacitance: 0.36 pF typical (I/O to GND)
- Terminals: Gold plated,solderable per MIL-STD-750, method 2026
- RoHS Compliant
- Pb Free



Maximum Ratings

Parameter	Symbol	Value	Unit
Peak Pulse Power ($t_p = 8/20\mu\text{s}$)	P_{pp}	40	W
Peak Pulse Current ($t_p = 8/20\mu\text{s}$)	I_{pp}	3	A
ESD per IEC 61000-4-2 (Air) ESD per IEC 61000-4-2 (Contact)	V_{ESD}	± 20 ± 20	KV
Junction Temperature Range	T_j	-55~125	$^{\circ}\text{C}$
Storage Temperature Range	T_{STG}	-55~150	$^{\circ}\text{C}$

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Electrical Characteristics

Parameter	Symbol	Min	Typ	Max	Unit	Test Condition
Reverse Working Voltage	V_{RWM}			5	V	
Breakdown Voltage	V_{BR}	6	7.2	9.5	V	$I_T = 1\text{mA}$
Reverse Leakage Current	I_R		20	50	nA	$V_{RWM} = 5\text{V}$
Clamping Voltage	V_C			10	V	$I_{PP} = 1\text{A}$ (8 x 20 μs pulse)
Clamping Voltage	V_C		10	11	V	$I_{PP} = 3\text{A}$ (8 x 20 μs pulse)
Peak Pulse Current	I_{PP}			3	A	$t_p = 8/20\mu\text{s}$
Junction Capacitance	C_J		0.36		pF	$V_R = 0\text{V}$, $f = 1\text{MHz}$

Symbol	Parameter	Explanation
(1) I_{PP}	Peak pulse current	The maximum surge current that flows through the TVS
(2) V_{BR}	Breakdown voltage	The Voltage that flows through the TVS at a specified test current (I_T)
(3) I_T	Test current	A specified test current that flows through the TVS
(4) V_{RWM}	Stand-off voltage	Maximum voltage that can be applied to the TVS without operation
(5) I_R	Leakage current @ V_R	Current measured at V_R
(6) V_C	Clamping voltage	Peak voltage measured across the suppressor at a specified I_{PP} (peak impulse current)

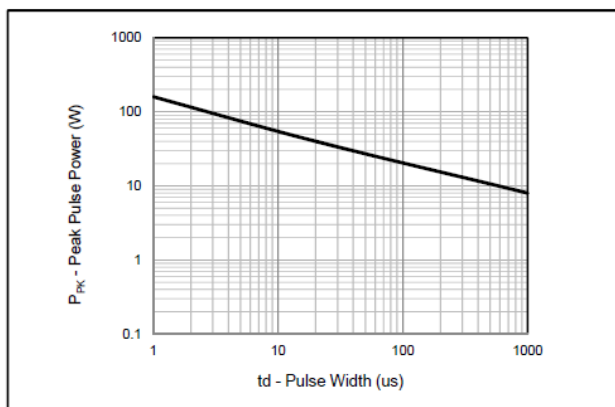


Fig.1 - Peak Pulse Power Rating

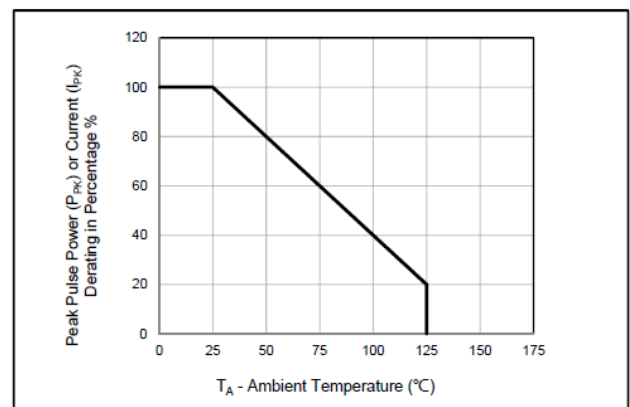


Fig.2 - Pulse Derating Curve

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DFN10P 0.36pF

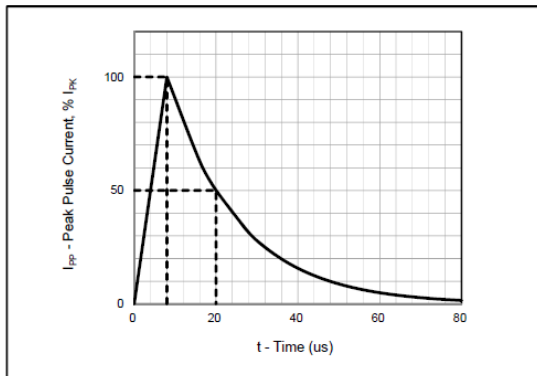


Fig.3 - 8/20us Pulse Waveform

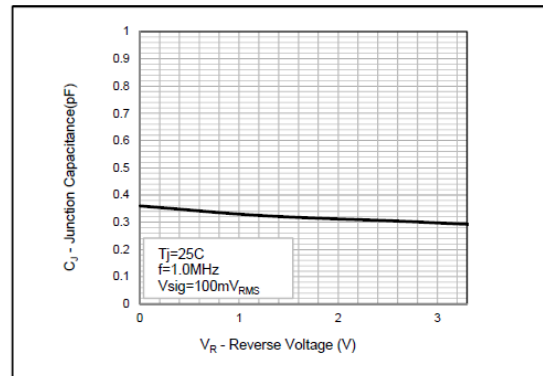


Fig.4 - Typical Junction Capacitance

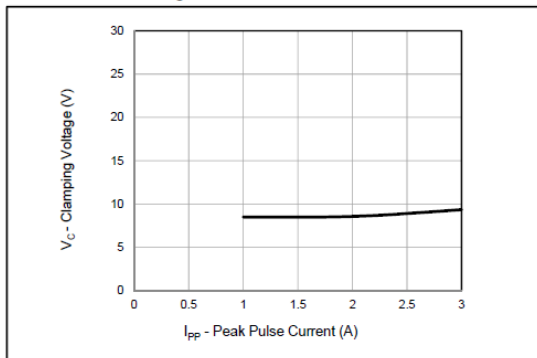


Fig.5 - Clamping Voltage

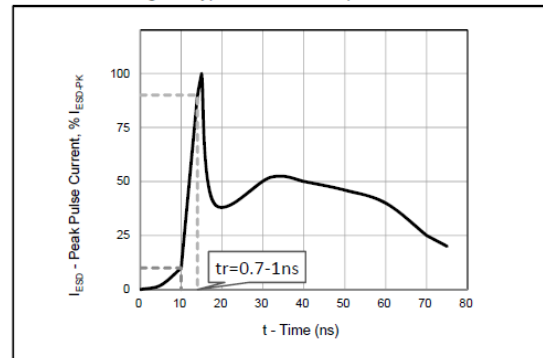
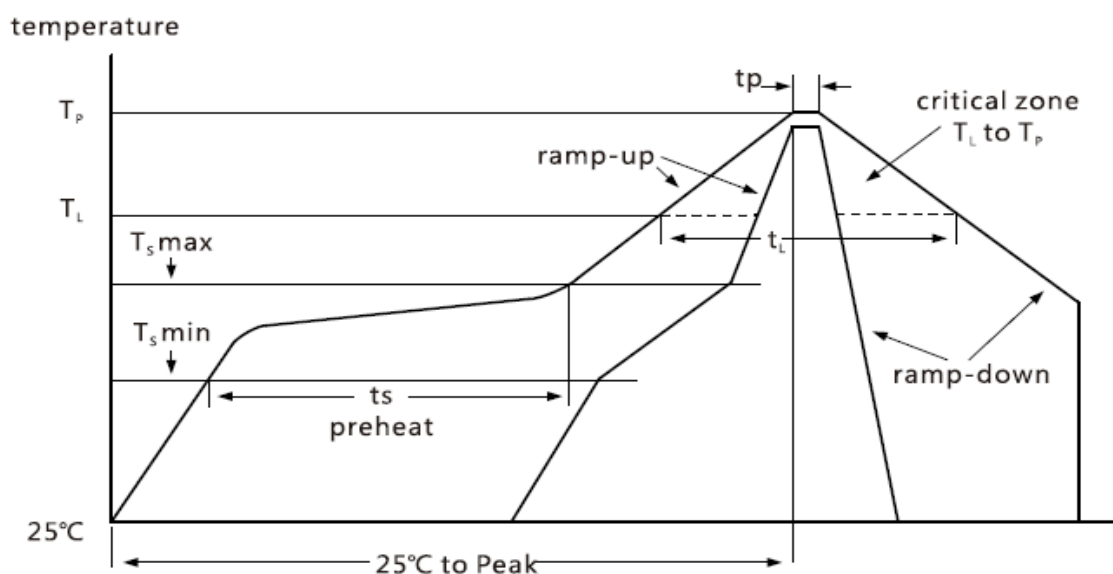


Fig.6 - ESD Pulse Waveform (IEC61000-4-2)

Reflow Soldering Profile

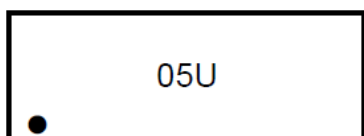


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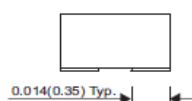
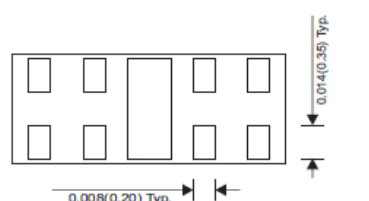
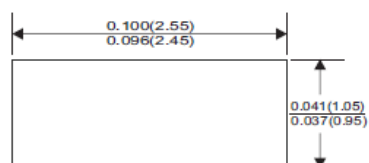
DFN10P 0.36pF

Reflow Profile Feature	SnPb eutectic assembly	Pb-free assembly
Average ramp-up rate (T_{max} to T_p)	3°C/s maximum	3°C/s maximum
Preheat		
Temperature minimum (T_{min})	100°C	150°C
Temperature maximum (T_{max})	150°C	200°C
Time (T_{min} to T_{max})	60 s to 120 s	60 s to 180 s
Time maintained above		
Temperature (T_L)	183°C	217°C
Time (t_L)	60 s to 150 s	60 s to 150 s
Peak/classification temperature (T_p)	235°C	260°C
Number of allowed reflow cycles	3	3
Time within 5°C of actual peak temperature (t_p)	10 s to 30 s	10 s to 30 s
Ramp-down rate	6°C/s maximum	6°C/s maximum
Time 25°C to peak temperature	6 minutes maximum	8 minutes maximum

Product Marking



Package Dimension (DFN10P) Unit: inch / mm

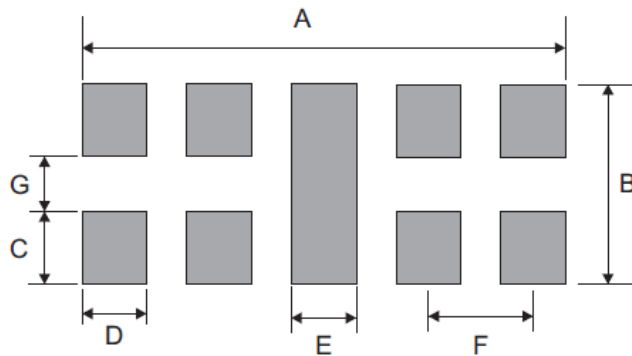


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Layout Dimension Unit: mm

SIZE	DFN10P	
	(mm)	(inch)
A	2.30	0.091
B	1.00	0.039
C	0.38	0.015
D	0.30	0.012
E	0.30	0.012
F	0.50	0.020
G	0.24	0.009



Packaging

Package	Packing Description	Packing Quantity	Industry Standard
DFN2510P10	8mm tape/7" reel	3000PCS/Reel	EIA-481-1