



DW05-2R2P-S ESD Protection Diode

Feature

- Unidirectional configurations
- 60Watts peak pulse power ($t_p = 8/20\mu s$)
- Working voltage: 5V
- Junction Capacitance: 0.35pF(Typ)
- Low clamping voltage
- Low leakage current
- IEC 61000-4-2 $\pm 20kV$ contact $\pm 20kV$ air
- IEC 61000-4-4 (EFT) 40A (5/50ns)
- IEC 61000-4-5 (Lightning) 4A (8/20 μs)

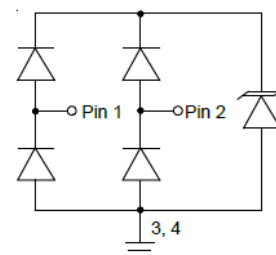
Application

- Digital Visual Interface (DVI)
- MDDI Ports
- PCI Express
- eSATA Interface

Mechanical Data

- Package: DFN1610-6L
- Molding compound flammability rating: UL 94V-0
- RoHS/WEEE Compliant

Schematic & PIN Configuration



Schematic

Ordering Information

Part Number	Package	Marking	Packing	Reel Size
DW05-2R2P-S	DFN1610-6L	0522P •	3000 Tape & Reel	7 inches



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

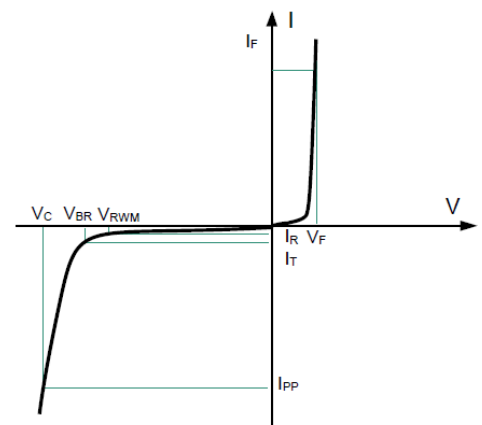
Parameter	Symbol	Value	Unit
Peak Pulse Power (8/20 μs)	P_{PK}	60	W
Peak Pulse Current (8/20 μs)	I_{PP}	4	A
ESD per IEC 61000-4-2 (Air) ESD per IEC 61000-4-2 (Contact)	V_{ESD}	± 20 ± 20	kV
Lead Soldering Temperature	T_L	260 (10seconds)	$^{\circ}\text{C}$
Junction Temperature	T_J	-55 to +125	$^{\circ}\text{C}$
Storage Temperature	T_{stg}	-55 to +125	$^{\circ}\text{C}$

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

Parameter	Symbol	Test Condition	Min	Typ	Max	Unit
Reverse Working Voltage	V_{RWM}				5.0	V
Breakdown Voltage	V_{BR}	$I_T = 1\text{mA}$	6.0	7.5		V
Reverse Leakage Current	I_R	$V_{RWM} = 5\text{V}$			0.2	μA
Clamping Voltage	V_C	$I_{PP} = 4\text{A}, t_p = 8/20\mu\text{s}$		15	17	V
Junction Capacitance	C_J	IO to IO, $V_R = 0\text{V}$, $f = 1\text{MHz}$		0.35	0.45	pF
Junction Capacitance	C_J	IO to GND, $V_R = 0\text{V}$, $f = 1\text{MHz}$		0.5	0.9	pF

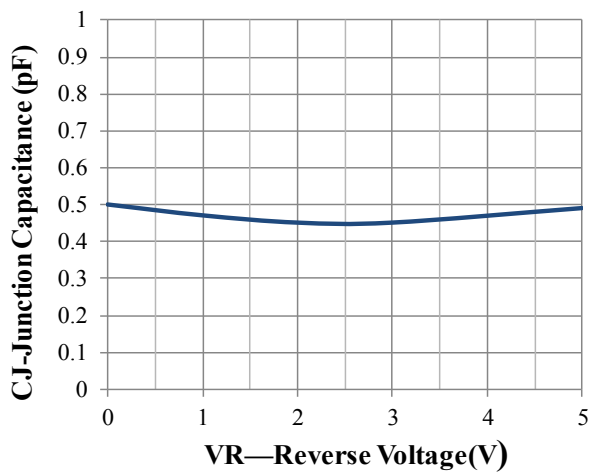
Electrical Parameters

Symbol	Parameter
I_{PP}	Maximum Reverse Peak Pulse Current
V_C	Clamping Voltage @ I_{PP}
V_{RWM}	Working Peak Reverse Voltage
I_R	Maximum Reverse Leakage Current @ V_{RWM}
V_{BR}	Breakdown Voltage @ I_T
I_T	Test Current

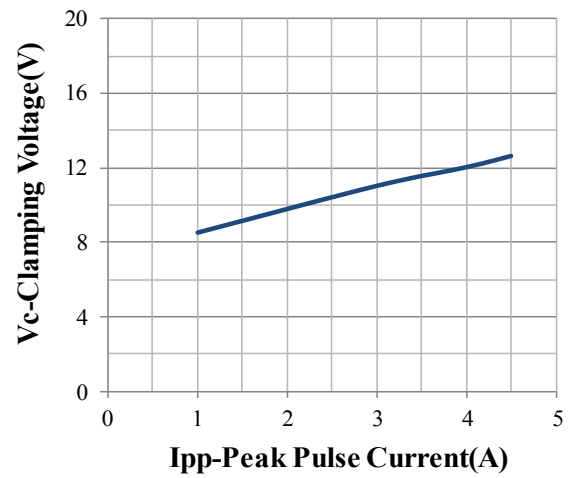




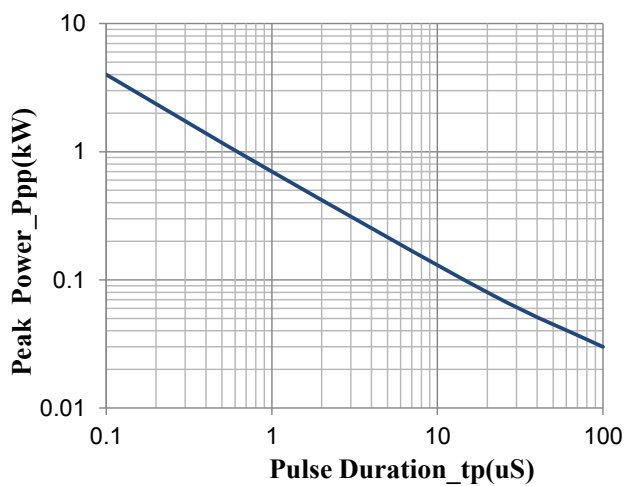
Typical Characteristics



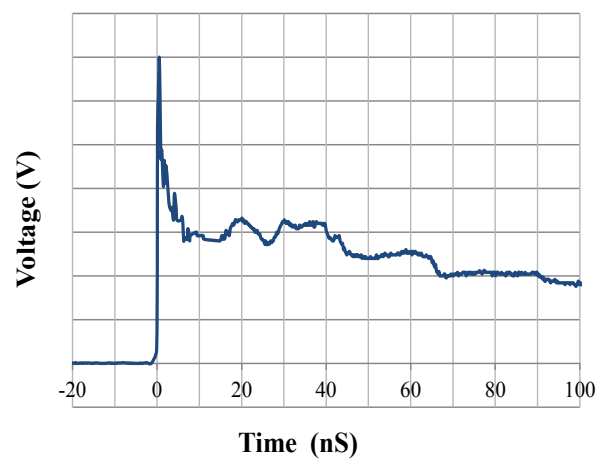
Junction Capacitance vs. Reverse Voltage



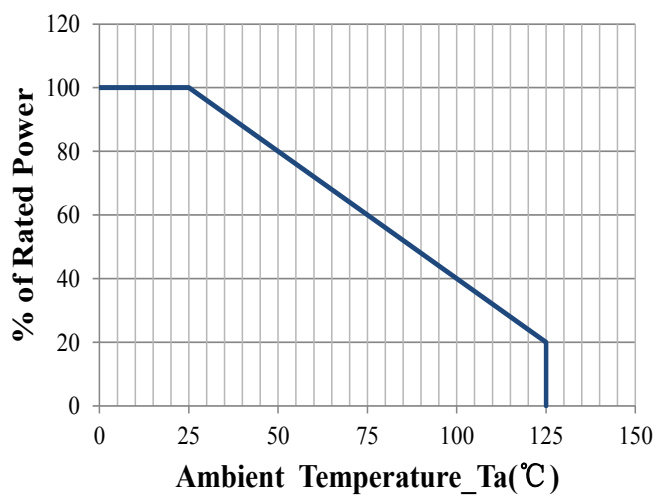
Clamping Voltage vs. Peak Pulse Current



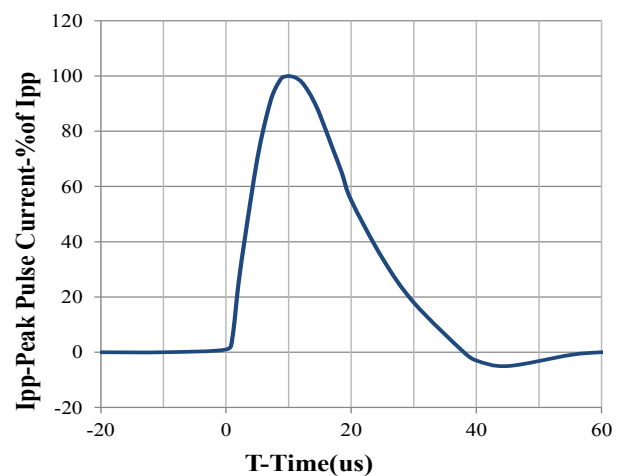
Peak Pulse Power vs. Pulse Time



IEC61000-4-2 Pulse Waveform



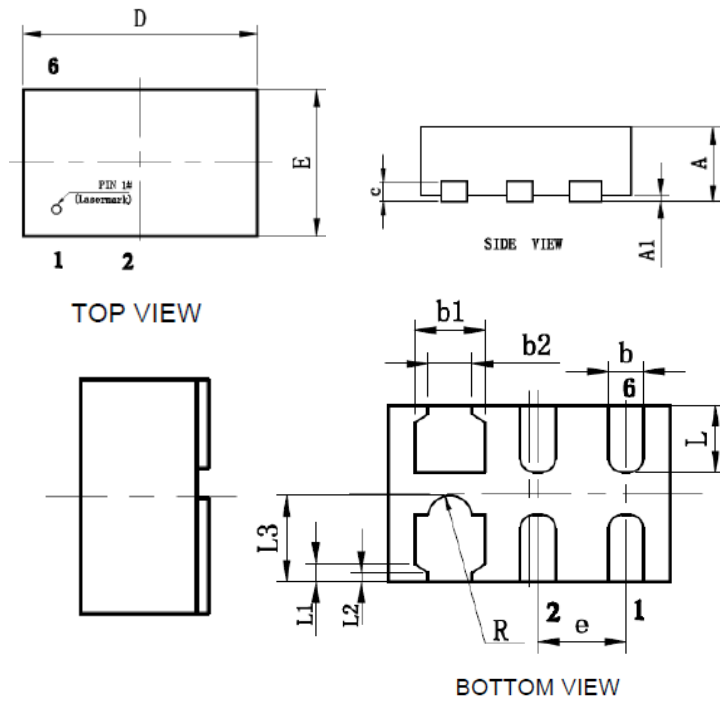
Power Derating Curve



8 X 20us Pulse Waveform



DFN1610-6L Outline Drawing



SYMBOL	MILLIMETER		
	MIN	NOM	MAX
A	0.50	0.55	0.60
A1	-	0.02	0.05
b	0.15	0.20	0.25
b1	0.35	0.40	0.45
b2	0.20	0.25	0.30
c	0.10	0.15	0.20
D	1.55	1.60	1.65
e	0.50BSC		
E	0.95	1.00	1.05
L	0.33	0.38	0.43
L1	0.100REF		
L2	0.05REF		
L3	0.49REF		
R	0.08	0.13	0.18