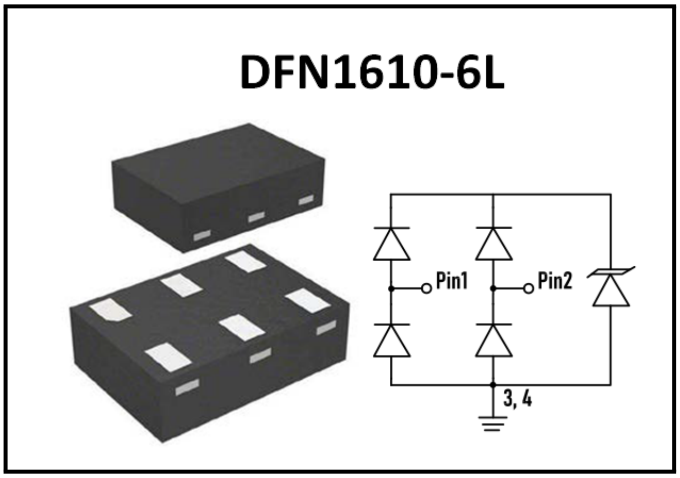
BSDFN1610A032R

**ESD Protection
Diode Array**

Features

- Low clamping Voltage
- Low Leakage
- Up to two I/O Lines of Protection
- Ultra low capacitance C_j = 0.45 pF
- IEC 61000-4-2 ±20kV contact ; ±20kV air
- IEC 61000-4-5 (Lightning) 8.5A (8/20μs)
- RoHS Compliant

Package



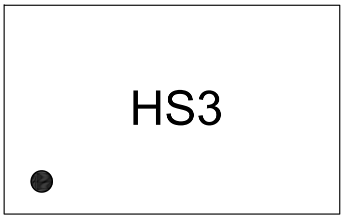
Applications

- Digital Visual Interface(DVI)
- MDDI Ports
- Display Port TM Interface
- PCI Express
- HDMI Interfaces

Mechanical Data

- DFN1610-6L package
- Molding compound flammability rating: UL 94V-0
- Marking: Marking Code
- Packaging: Tape and Reel
- RoHS/WEEE Compliant

Marking

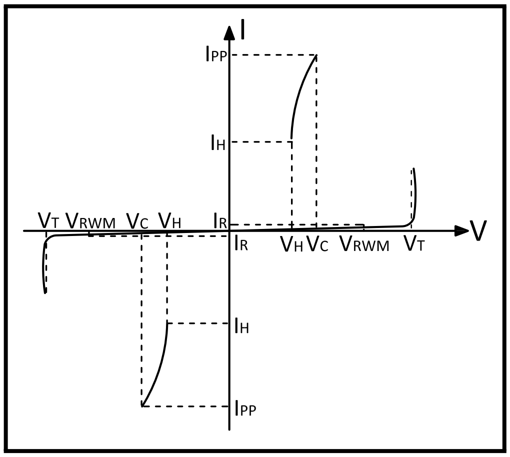


Ordering information

Order code	Package	Base qty	Delivery mode
BSDFN1610A032R	DFN1610-6L	3k	Tape and reel

Electrical Parameters (T_A = 25°C unless otherwise noted)

Symbol	Parameter
I_{PP}	Maximum Reverse Peak Pulse Current
V_C	Clamping Voltage @ I_{PP}
V_{RWM}	Peak Reverse Working Voltage
I_R	Maximum Reverse Leakage Current @ V_{RWM}
V_T	Trigger voltage
I_T	Test Current
V_H	Holding voltage
I_H	Holding Current



Note:8/20us pulse Waveform.

Absolute Maximum Rating

Rating	Symber	Value	Units
Peak Pulse Power (tp =8/20μs)	P_{PP}	60	Watts
Peak Pulse Current (tp =8/20μs) (note1)	I_{PP}	8.5	A
ESD per IEC 61000-4-2 (Air) ESD per IEC 61000-4-2 (Contact)	V_{ESD}	±20 ±20	KV
Junction Temperature	T_J	150	°C
Ambient temperature	T_A	-40 to + 150	°C
Storage temperature range	T_{stg}	-55 to + 150	°C

Electrical Characteristics

Parameter	Symber	Conditions	Min.	Typ.	Max.	Units
Reverse Stand-Off Voltage	V_{RWM}	T_A=25°C	–	–	3.3	V
Reverse Breakdown Voltage	V_{BR}	I_R=1mA, T_A=25°C	5.5	–	–	V
Reverse Leakage Current	I_R	V_{RWM}=3.3V,T_A=25°C	–	–	0.1	uA
Peak Pulse Current	I_{PP}	tp =8/20us	–	–	8.5	A
Clamping Voltage	V_C	I_{PP}=1A, tp =8/20us,T_A=25°C	–	2.5	4	V
		I_{PP}=8.5A, tp =8/20us,T_A=25°C	–	4.5	6.5	
Junction Capacitance	C_j	V_R=0V,f=1MHZ,T_A=25°C	–	0.45	0.6	pF

Typical Characteristics

Figure 1: Peak Pulse Power vs. Pulse Time

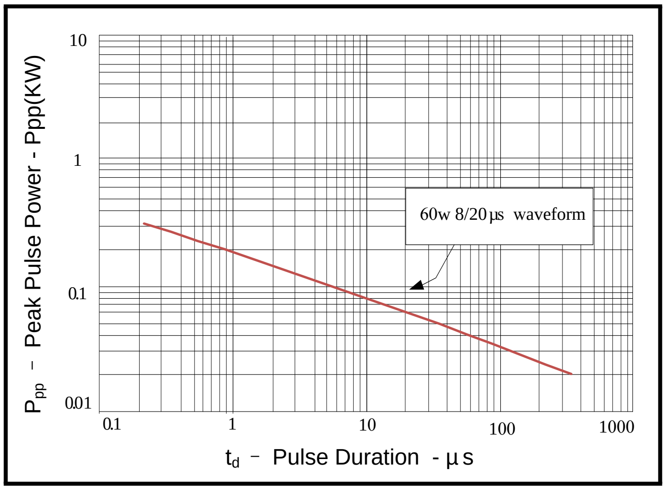


Figure 2: Power Derating Curve

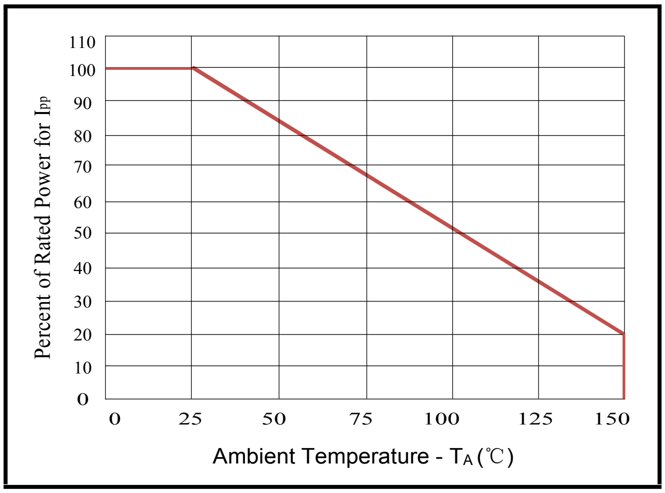


Figure 3: Pulse Waveform

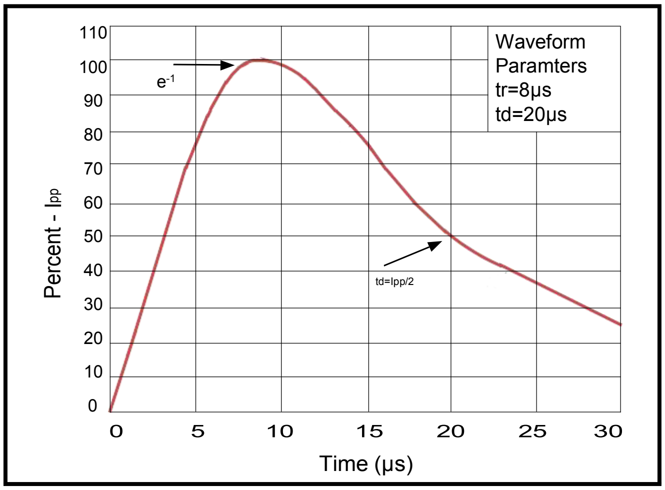
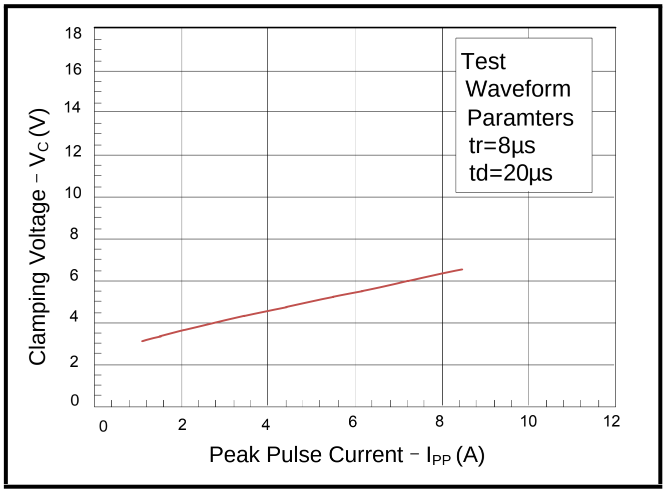


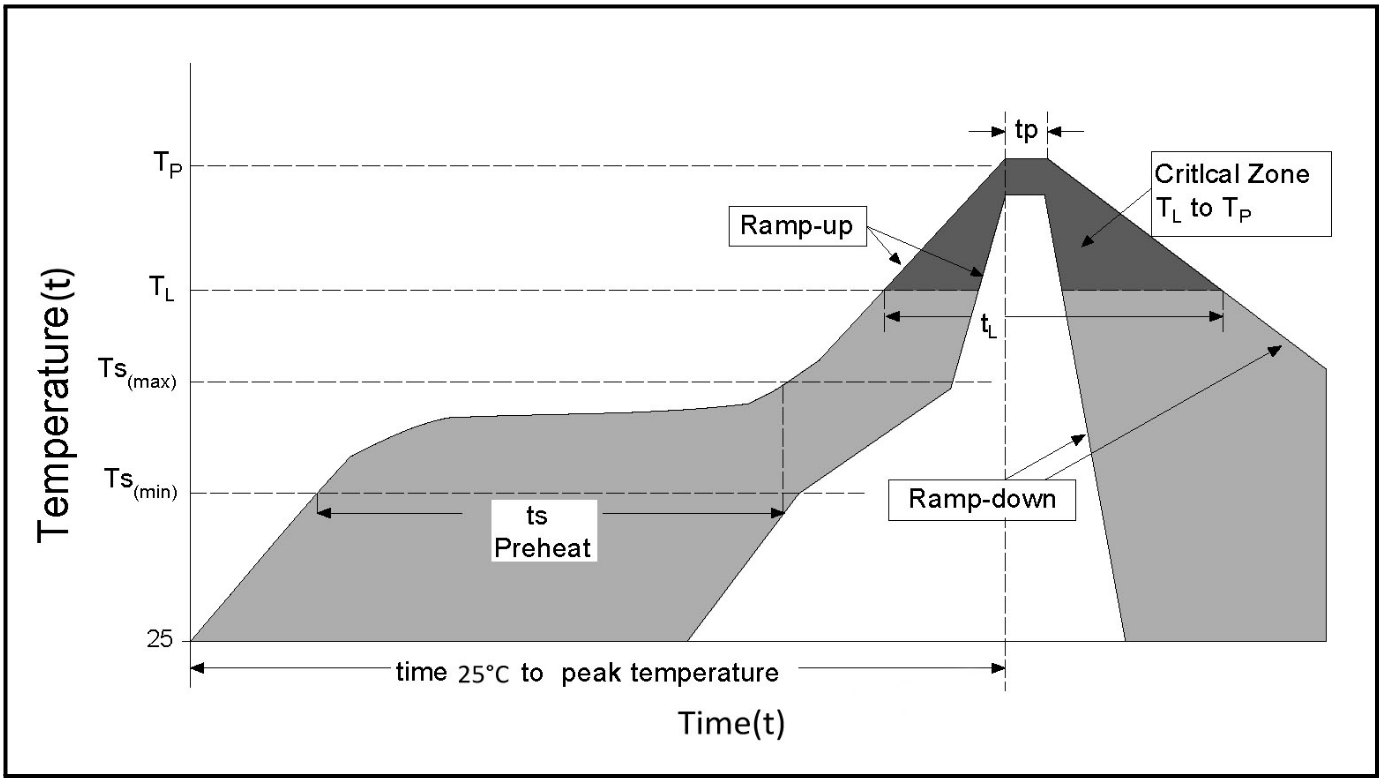
Figure 4: Clamping Voltage vs. I_{PP}



BSDFN1610A032R

ESD Protection Diode Array

Soldering Parameters



Reflow Condition		Lead-free assembly
Pre Heat	- Temperature Min (T_S(min))	150°C
	- Temperature Max (T_S(max))	200°C
	- Time (min to max) (t_S)	60 - 180 secs
Average ramp up rate (Liquidus Temp (T_L) to peak)		3°C/second max
T_S(max) to T_L - Ramp-up Rate		3°C/second max
Reflow	- Temperature (T_L) (Liquidus)	217°C
	- Time (t_L)	60 -150 secs
Peak Temperature (T_P)		$260^{+0/-5°C}$
Time within 5°C of actual peak Temperature (t_p)		20 - 40 secs
Ramp-down Rate		6°C/second max
Time 25°C to peak Temperature (t)		8 minutes Max.
Do not exceed		260°C

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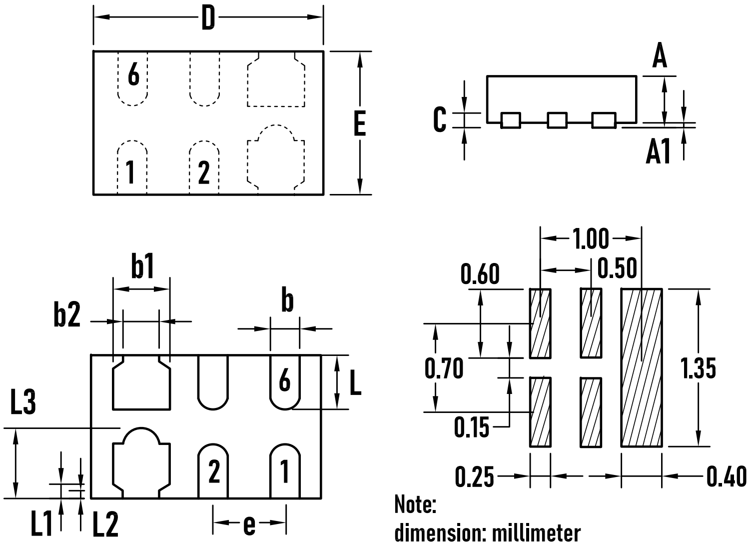
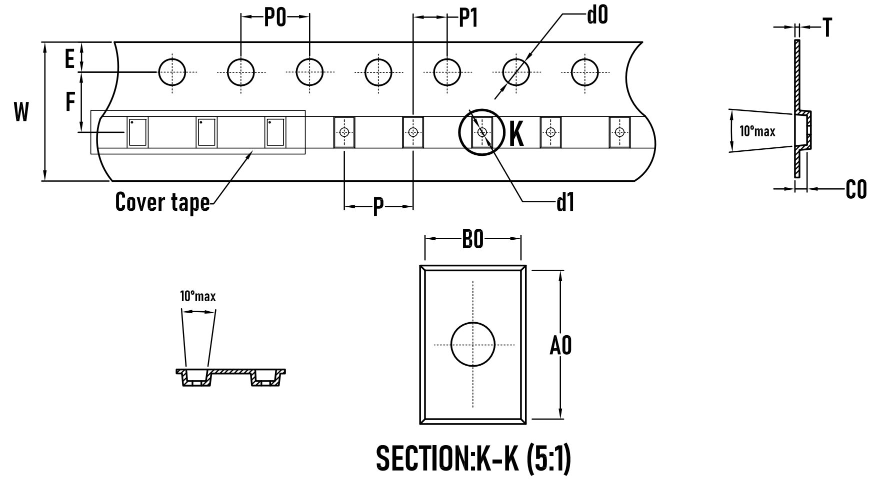
Outline Drawing – DFN1610-6L



Note:
dimension: millimeter

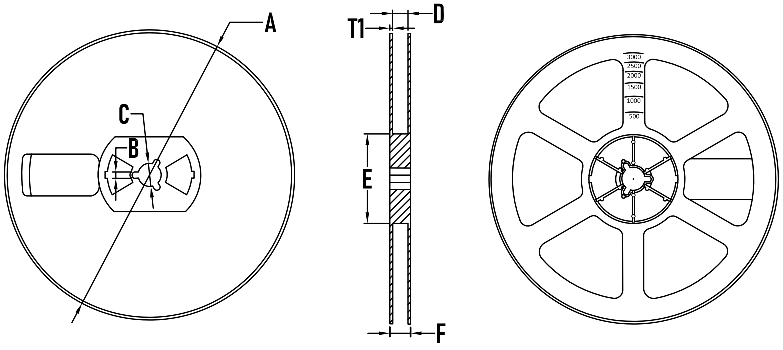
SYMBOL	MILLIMETER		
	MIN.	Typ.	MAX.
A	0.50	0.55	0.60
A1	–	0.02	0.05
b	0.15	0.20	0.25
b1	0.35	0.40	0.45
b2	0.20	0.25	0.30
C	0.10	0.15	0.20
D	1.55	1.60	1.65
e	0.50BSC		
E	0.95	1.00	1.05
L	0.33	0.38	0.43
L1	0.10REF		
L2	0.05REF		
L3	0.49REF		

Packaging Tape - DFN1610-6L



SYMBOL	MILLIMETER
A0	1.11±0.05
B0	1.72±0.05
d0	$1.5^{+0.1}_{-0}$
d1	0.50±0.1
E	1.75±0.10
F	3.50±0.05
K0	0.68±0.05
P	4.00±0.1
P0	4.00±0.10
P1	2.00±0.05
W	$8.00^{+0.03}_{-0.01}$
T	0.25±0.05

Packaging Reel



SYMBOL	MILLIMETER
A	178±1
B	3.5±0.2
C	14.3±0.2
D	9.8^{+2}_{-1}
E	54.5±0.5
F	12.4±0.5
T1	1.0±0.2
Quantity	3000/10000PCS