BES12NLA1

ESD Protection Diode

»Features

- 5500Watts peak pulse power (tp = 8/20μs)
- Unidirectional configurations
- Solid-state silicon-avalanche technology
- Low clamping voltage
- Low leakage current
- Protection one power line
- IEC 61000-4-2 ±30kV contact ±30kV air
- IEC 61000-4-4 (EFT) 40A (5/50ns)
- IEC 61000-4-5 (Lightning) 190A (8/20μs)



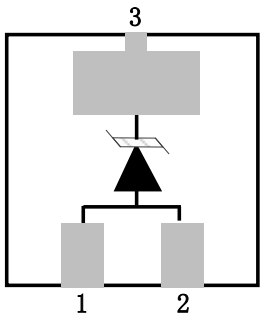
»Applications

- Cellular Handsets
- Portable Electronics
- Computers and Peripheral

»Mechanical Data

- DFN2×2-3L package
- Molding compound flammability rating: UL 94V-0
- Packaging: Tape and Reel
- RoHS/WEEE Compliant

»Schematic & PIN Configuration



DFN2×2-3L

»Absolute Maximum Rating

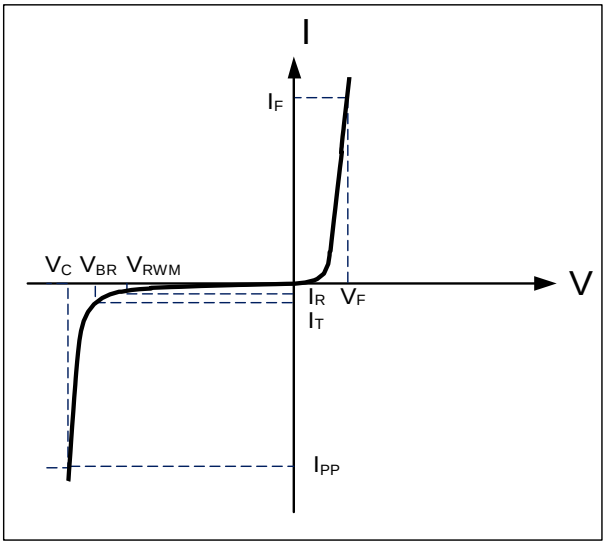
Rating	Symbol	Value	Units
Peak Pulse Power (t_p =8/20μs)	P_{PP}	5500	Watts
Peak Pulse Current (t_p =8/20μs) (note1)	I_{pp}	190	A
ESD per IEC 61000-4-2 (Air) ESD per IEC 61000-4-2 (Contact)	V_{ESD}	30 30	kV
Lead Soldering Temperature	T_L	260(10seconds)	℃
Junction Temperature	T_J	-55 to + 125	℃
Storage Temperature	T_{stg}	-55 to + 125	℃

»Electrical Characteristics

Parameter	Symbol	Conditions	Min	Typical	Max	Units
Reverse Stand-Off Voltage	V_{RWM}				12.0	V
Reverse Breakdown Voltage	V_{BR}	I_T=1mA	13.3			V
Reverse Leakage Current	I_R	V_{RWM}=12V,T=25℃			1	uA
Clamping Voltage	V_C	I_{PP}=190A,t_p=8/20μs		25		V
Junction Capacitance	C_j	V_R = 0V, f = 1MHz		1500		pF

»Electrical Parameters (TA = 25°C unless otherwise noted)

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



Note:. 8/20μs pulse waveform.

»Typical Characteristics

Figure 1: Peak Pulse Power vs. Pulse Time

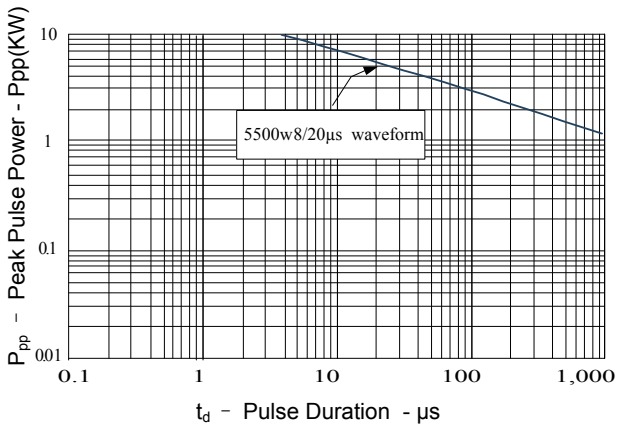


Figure 2: Power Derating Curve

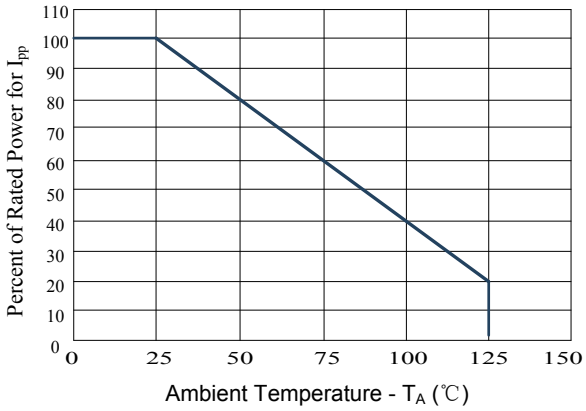


Figure3: Pulse Waveform

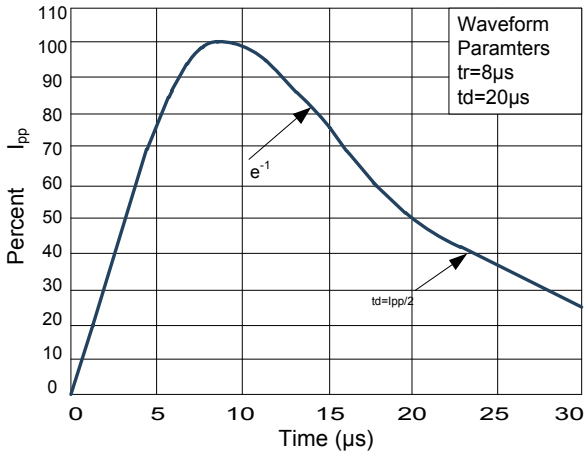
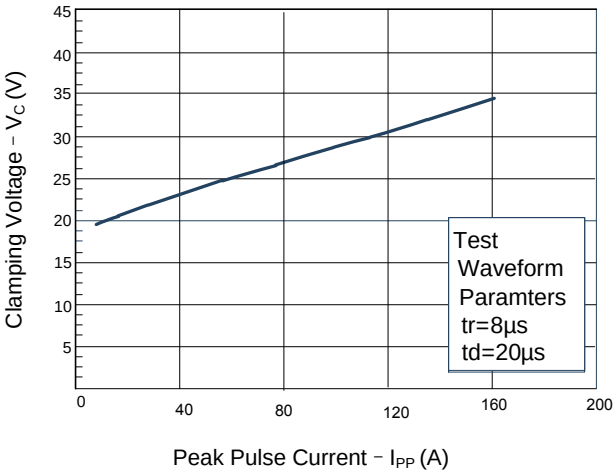
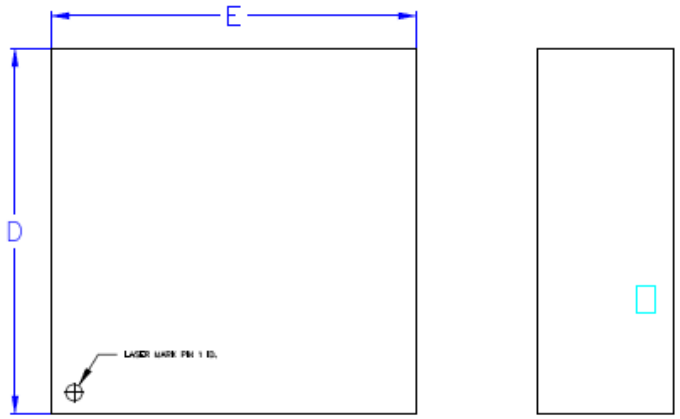


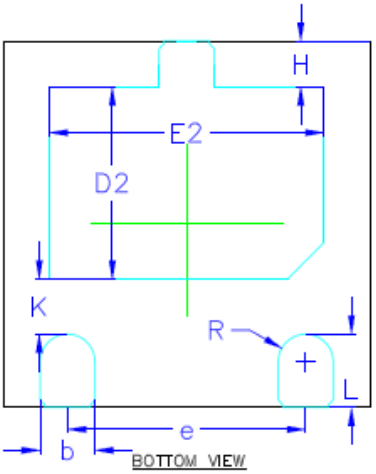
Figure 4: Clamping Voltage vs.Ipp



»Outline Drawing – DFN2×2-3L

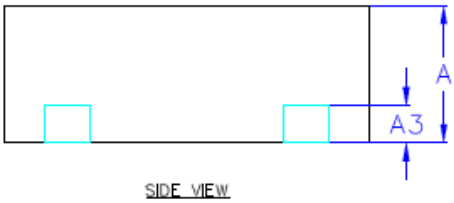


SIDE VIEW



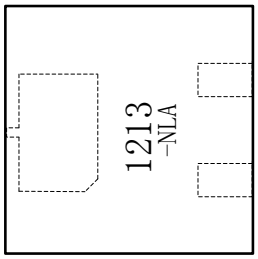
BOTTOM VIEW

COMMON DIMENSION (MM)			
PKG	DFN2020		
REF.	MIN.	NOM.	MAX
A	0.527	0.552	0.577
A3		0.127 REF	
b	0.25	0.30	0.35
D	1.90	2.00	2.10
E	1.90	2.00	2.10
D2	0.95	1.05	1.15
E2	1.40	1.50	1.60
e	1.20	1.30	1.40
H	0.20	0.25	0.30
K	0.20	0.30	0.40
L	0.35	0.40	0.45
R1	0.13	—	—



SIDE VIEW

»Marking



»Ordering information

Order code	Package	Base qty	Delivery mode
BES12NLA1	DFN2×2-3L	3000	Tape and reel

Unikeyic Electronics

Global Electronic Components Distributor

Click to view pricing, inventory, delivery, and lifecycle information:

BORN:

SM24CANB-02HTG-N SMD2920-400/30N 1.5SMBJ40CA 5.0SMDJ15CA BDFN1C031V GBJ1510 S8550 SMFJ170A BC858B BSD3A241V BSD3C031LX ESDA14V2L PESD15VL1BA-N PSD24-N BML6401 MMBZ27VCLT1G-N BM3134E BN5A181V45 BWF102N P4SMA6.8CA 1.5SMBJ18CA 1N4148WT MMBZ39VCLT1G-N BAT46X BSD3A031V BST23A052U 1.0SMBJ6.5A BDFN2C031V BSD9C051V GBLC03C-N