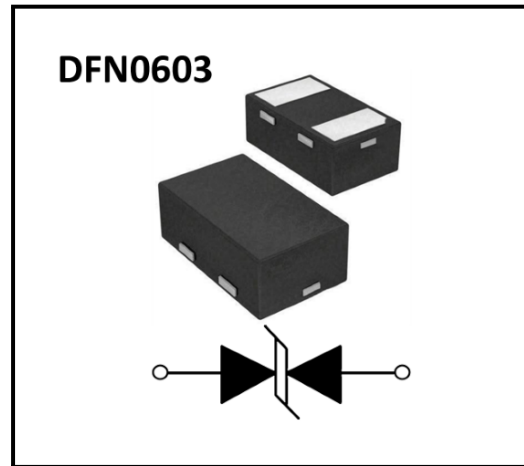


**Features**

- 65Watts peak pulse power (tp = 8/20µs)
- Bidirectional configurations
- Solid-state silicon-avalanche technology
- Low clamping Voltage
- Low leakage current
- IEC 61000-4-2 ±30kV contact ; ±30kV air
- IEC 61000-4-4 (EFT) 40A (5/50ns)
- IEC 61000-4-5 (Lightning) 5A (8/20µs)

**Package**



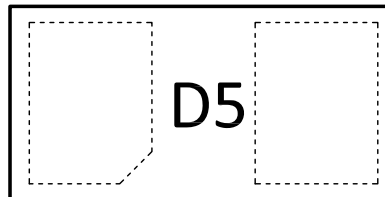
**Applications**

- Cell Phone Handsets and Accessories
- Microprocessor based equipment
- Personal Digital Assistants (PDA's)
- Notebooks, Desktops, and Servers
- Portable Instrumentation

**Mechanical Characteristics**

- DFN0603 package
- Molding compound flammability rating: UL 94V-0
- Packaging: Tape and Reel
- RoHS/WEEE Compliant

**Marking**



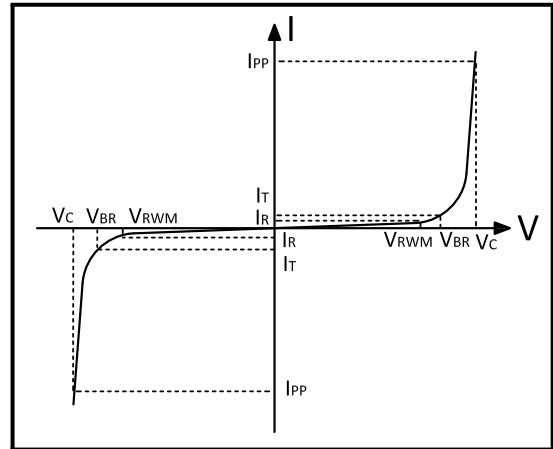
**Ordering information**

Order code	Package	Base qty	Delivery mode
BNAZ5B65-01F	DFN0603-2L	10k	Tape and reel



### Electrical Parameters ( $T_A = 25^\circ\text{C}$ unless otherwise noted)

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



Note: 8/20us pulse Waveform.

### Absolute Maximum Rating

Rating	Symler	Value	Units
Peak Pulse Power ( $t_p = 8/20\mu\text{s}$ )	$P_{PP}$	65	Watts
Peak Pulse Current ( $t_p = 8/20\mu\text{s}$ )	$I_{PP}$	5	A
ESD per IEC 61000-4-2 (Air)	$V_{ESD}$	30	KV
ESD per IEC 61000-4-2 (Contact)		30	
Lead Soldering Temperature	$T_L$	260(10seconds)	$^\circ\text{C}$
Junction Temperature	$T_J$	-55 to + 150	$^\circ\text{C}$
Storage Temperature	$T_{stg}$	-55 to + 150	$^\circ\text{C}$

### Electrical Characteristics

Parameter	Symler	Conditions	Min	Typical	Max	Units
Reverse Stand-Off Voltage	$V_{RWM}$	—	—	—	5.0	V
Reverse Breakdown Voltage	$V_{BR}$	$I_T = 1\text{mA}$	6.5	7.8	9.5	V
Reverse Leakage Current	$I_R$	$V_{RWM} = 5.0\text{V}, T = 25^\circ\text{C}$	—	0.1	0.2	$\mu\text{A}$
Peak Pulse Current	$I_{PP}$	$t_p = 8/20\mu\text{s}$	—	—	5	A
Clamping Voltage	$V_C$	$I_{PP} = 5\text{A}, t_p = 8/20\mu\text{s}$	—	11	13	V
Junction Capacitance	$C_j$	$V_R = 0\text{V}, f = 1\text{MHZ}$	—	8	10	pF



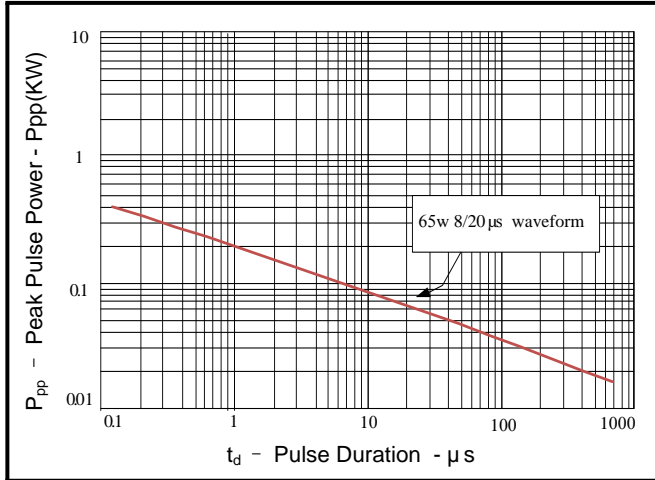


# BNAZ5B65-01F

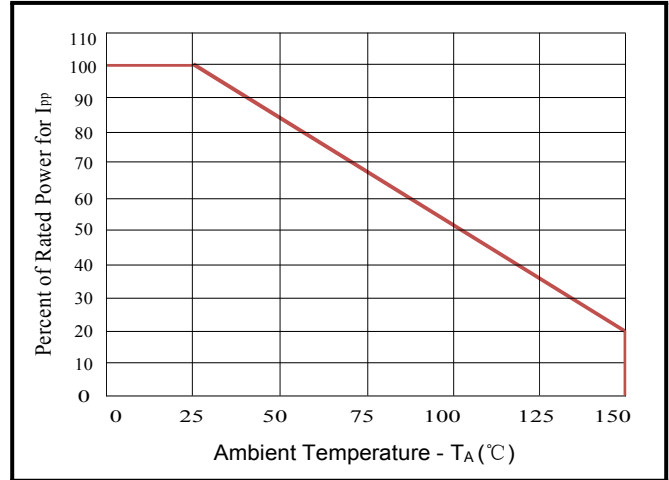
## ESD Protection Diode

### Typical Characteristics

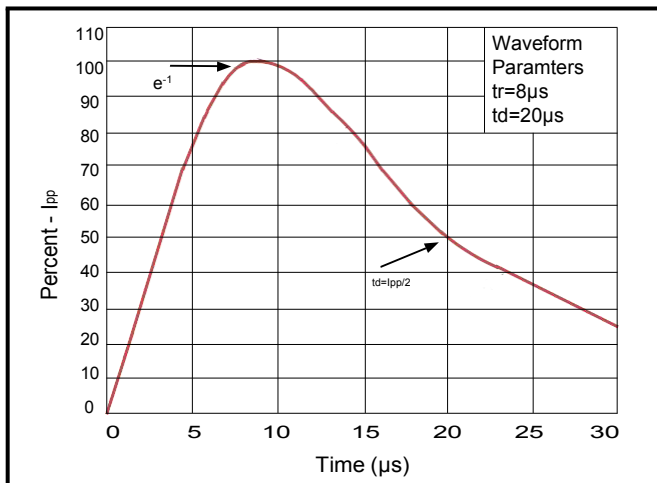
**Figure 1: Peak Pulse Power vs. Pulse Time**



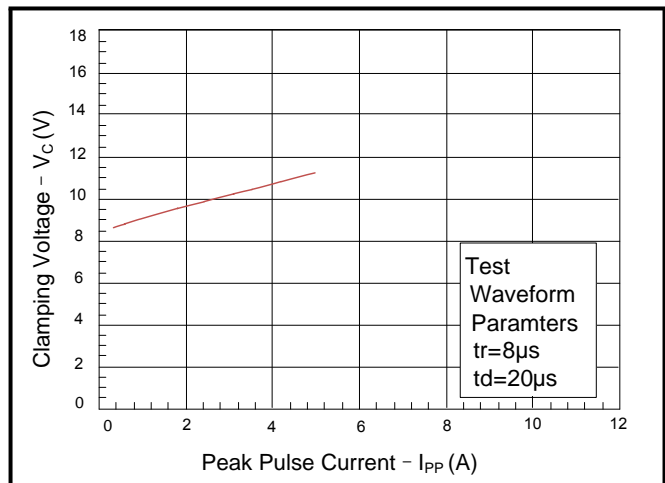
**Figure 2: Power Derating Curve**



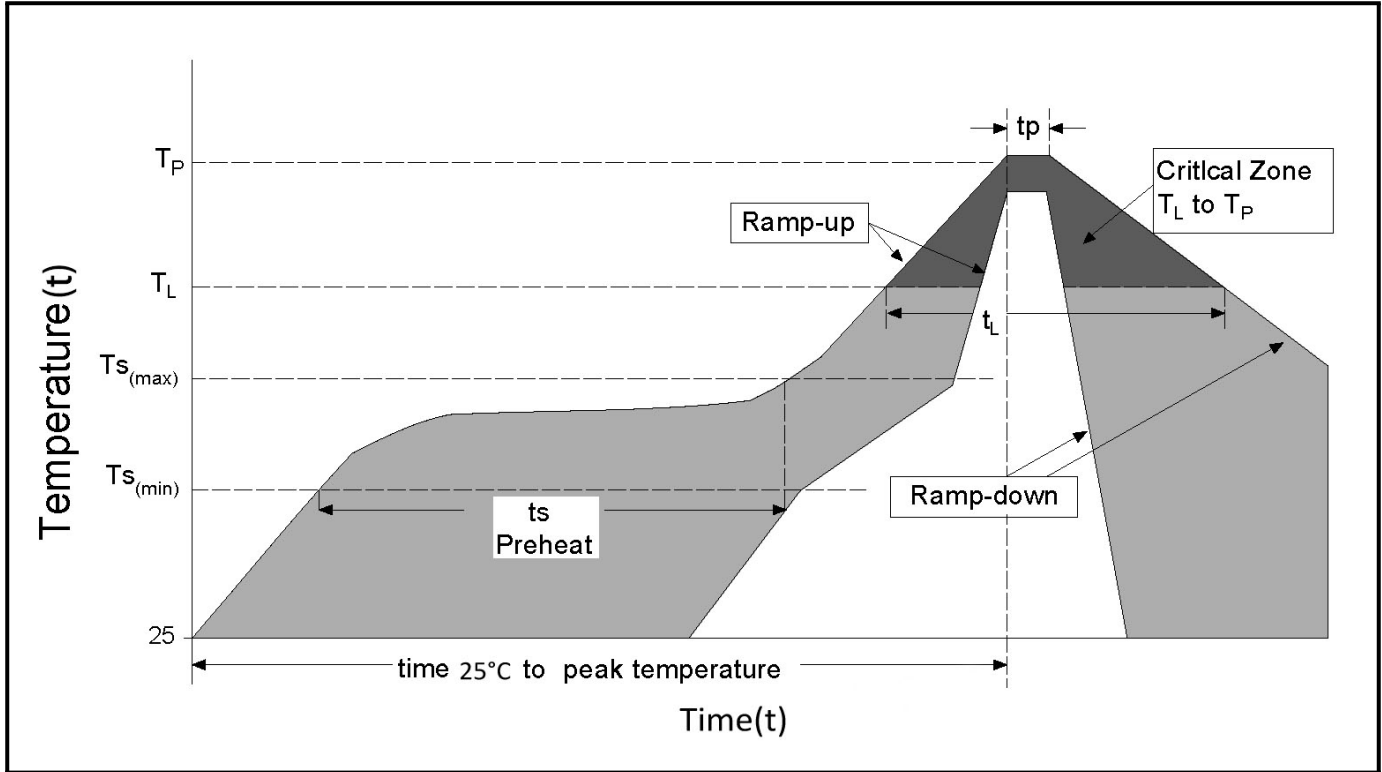
**Figure 3: Pulse Waveform**



**Figure 4: Clamping Voltage vs. Ipp**



**Soldering Parameters**



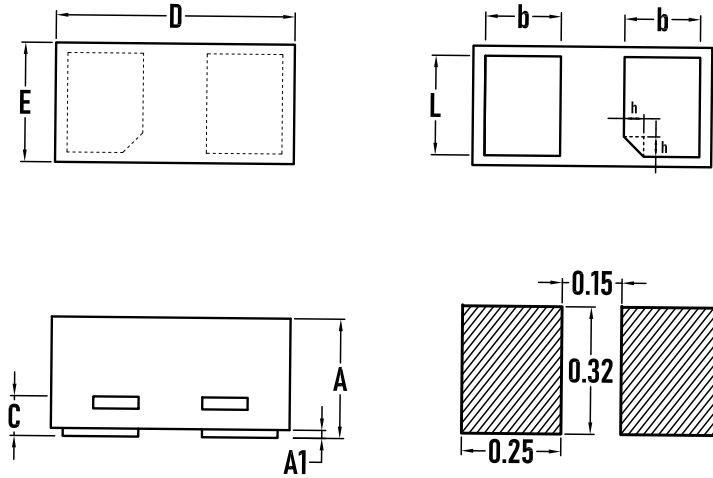
Reflow Condition		Lead-free assembly
Pre Heat	- Temperature Min ( $T_{S(min)}$ )	150°C
	- Temperature Max ( $T_{S(max)}$ )	200°C
	- Time (min to max) ( $t_s$ )	60 - 180 secs
Average ramp up rate (Liquidus Temp ( $T_L$ ) to peak)		3°C/second max
$T_{S(max)}$ to $T_L$ - Ramp-up Rate		3°C/second max
Reflow	- Temperature ( $T_L$ ) (Liquidus)	217°C
	- Time ( $t_L$ )	60 - 150 secs
Peak Temperature ( $T_P$ )		260 <sup>+0/-5</sup> °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



**BNAZ5B65-01F**

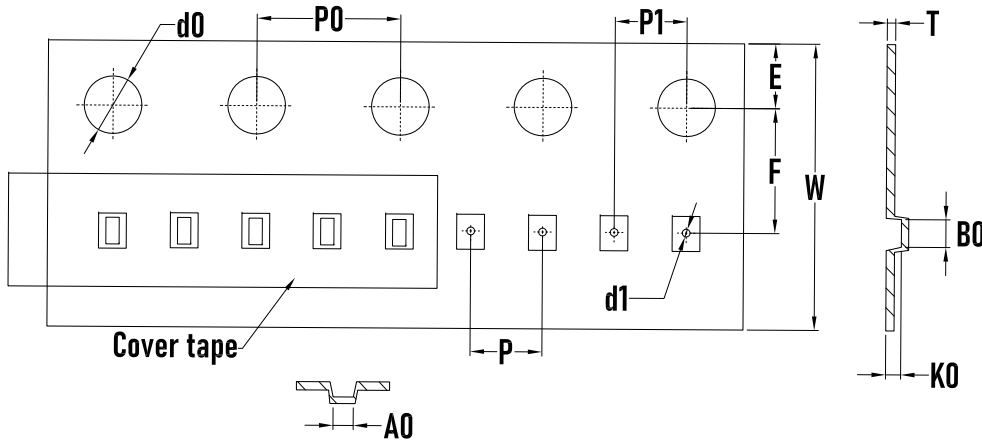
ESD Protection Diode

**Outline Drawing – DFN0603**



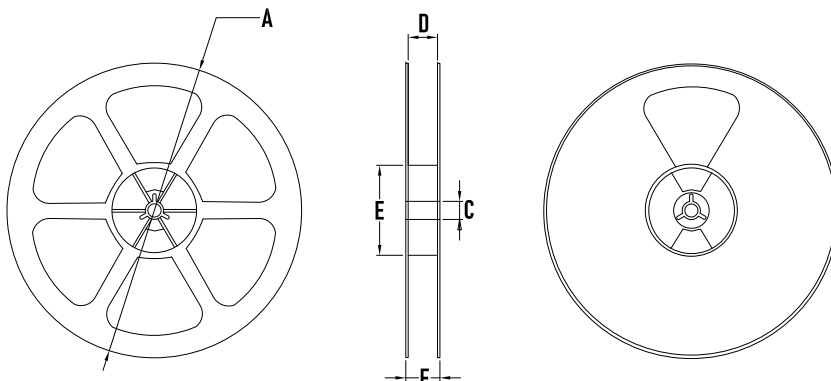
SYMBOL	MILLIMETER		
	MIN.	Typ.	MAX.
A	0.28	0.30	0.32
A1	0.00	0.02	0.05
C	0.05	0.10	0.15
D	0.55	0.60	0.65
E	0.25	0.30	0.35
b	0.14	0.19	0.24
L	0.20	0.25	0.30
h	-	0.05	0.10

**Packaging Tape - DFN0603**



SYMBOL	MILLIMETER
A0	0.39±0.03
B0	0.70±0.03
d0	1.55±0.05
d1	0.20±0.05
E	1.75±0.10
F	3.50±0.04
K0	0.37 <sup>+0.03</sup> <sub>-0.02</sub>
P	2.00±0.10
P0	4.00±0.10
P1	2.00±0.05
W	8.00±0.10
T	0.18±0.03

**Packaging Reel**



SYMBOL	MILLIMETER
A	178±2
C	13.0 <sup>+0.5</sup> <sub>-0.2</sub>
D	9.5
E	55±5
F	14.4 max.
Quantity	10000PCS

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Specifications are subject to change without notice.

Please refer to <http://www.born-tw.com> for current information.

Revision: 2022-Jan-1-A

