

RESD9B15

1-Line Bi-directional Diode

Discription

The RESD9B15 is designed to protect voltage sensitive components from ESD. Excellent clamping capability, low leakage, and fast response time provide best in class protection on designs that are exposed to ESD. Because of its small size, it is suited for use in cellular phones, MP3 players, digital cameras and many other portable applications where board space is at a premium.

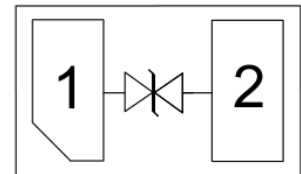
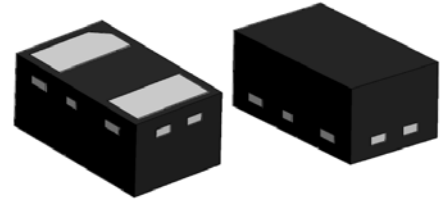
Applications

Cellular phones audio
 MP3 players
 Digital cameras
 Portable applicationss
 mobile telephone

Features

Small Body Outline Dimensions:
 1.00 mm x 0.60 mm
 Low Body Height: 0.50 mm
 Low Leakage
 Response Time is Typically < 1 ns
 ESD Rating of Class 3 (> 16 kV) per Human Body Model
 IEC61000-4-2 Level 4 ESD Protection
 We declare that the material of product compliance with RoHS requirements.

Circuit Diagram



Ordering information

Device	Marking	Shipping
RESD9B15	15	10000/Tape&Reel

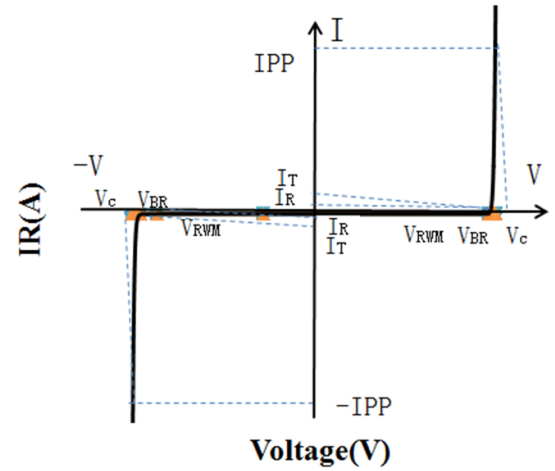
Absolute Maximum Ratings (T_A=25°C unless otherwise specified)

Parameter	Symbol	Value	Unit
Peak Pulse Power (8/20μs)	Ppk	240	W
Peak Pulse Current (8/20μs)	IPP	6	A
ESD per IEC 61000-4-2 (Air)	VESD	±25	kV
ESD per IEC 61000-4-2 (Contact)		±25	
Operating Temperature Range	TJ	-55 to +125	°C
Storage Temperature Range	Tstg	-55 to +150	°C

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Portion Electronics Parameter

Symbol	Parameter
I_T	Test Current
I_{PP}	Maximum Reverse Peak Pulse Current
V_C	Clamping Voltage @ I_C

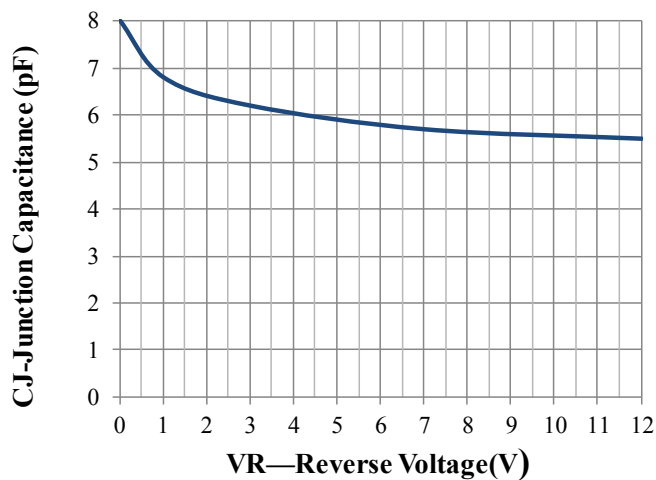


Electrical Characteristics ($T_A=25^{\circ}\text{C}$ unless otherwise specified)

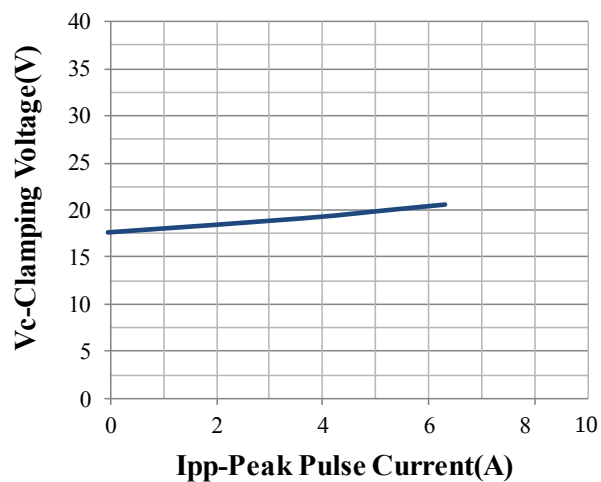
Parameter	Symbol	Test Condition	Min	Typ	Max	Unit
Reverse Working Voltage	V_{RWM}				15	V
Breakdown Voltage	V_{BR}	$I_T = 1\text{mA}$	15.3	16.4	21	V
Reverse Leakage Current	I_R	$V_{RWM} = 15\text{V}$			0.2	μA
Clamping Voltage	V_C	$I_{PP} = 6\text{A}$ (8 x 20 μs pulse)			40	V
Junction Capacitance	C_J	$V_R = 0\text{V}$, $f = 1\text{MHz}$		8	20	pF

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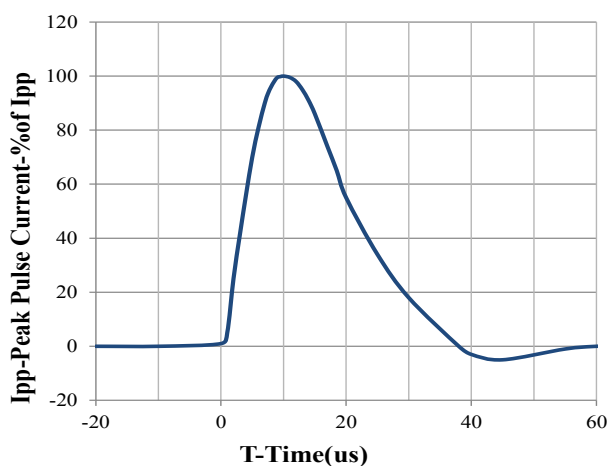
Typical Performance Characteristics ($T_A=25^{\circ}\text{C}$ unless otherwise Specified)



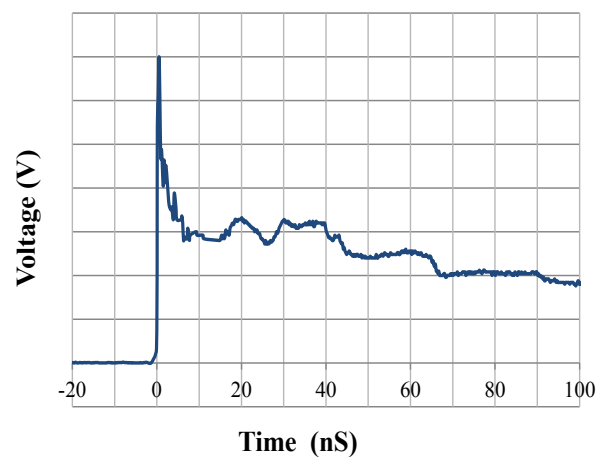
Junction Capacitance vs. Reverse Voltage



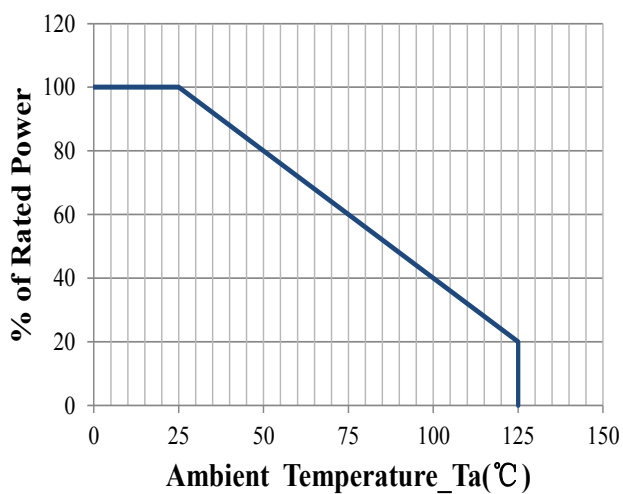
Clamping Voltage vs. Peak Pulse Current



8 X 20us Pulse Waveform



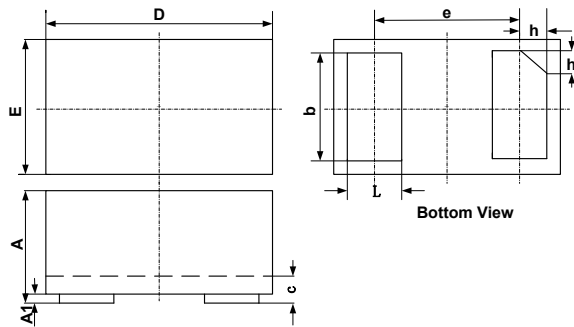
IEC61000-4-2 Pulse Waveform



Power Derating Curve

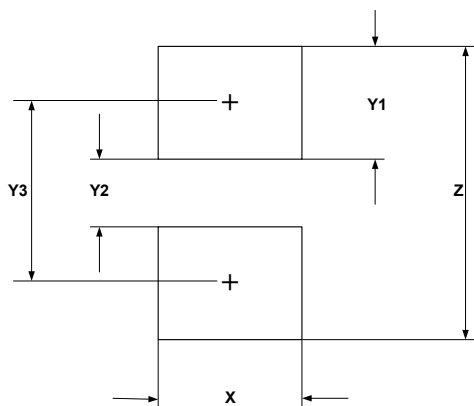
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DFN1006-2(0402)Package Outline Drawing



SYM	DIMENSIONS					
	MILLIMETERS			INCHES		
	MIN	NOM	MAX	MIN	NOM	MAX
A	0.45	0.50	0.55	0.018	0.020	0.022
A1	0.00	0.02	0.05	0.000	0.001	0.002
b	0.45	0.50	0.55	0.018	0.020	0.022
c	0.12	0.15	0.18	0.005	0.006	0.007
D	0.95	1.00	1.05	0.037	0.039	0.041
e	0.65 BSC			0.026 BSC		
E	0.55	0.60	0.65	0.022	0.024	0.026
L	0.20	0.25	0.30	0.008	0.010	0.012
h	0.07	0.12	0.17	0.003	0.005	0.007

Suggested Land Pattern



SYM	DIMENSIONS	
	MILLIMETERS	INCHES
X	0.60	0.024
Y1	0.50	0.020
Y2	0.30	0.012
Y3	0.80	0.032
Z	1.30	0.052