

**LOW CAPACITANCE BIDIRECTIONAL TVS DIODE**

**Features**

- Provides ESD Protection per IEC 61000-4-2 Standard: Air ±30KV, Contact ±30KV
- 1 Channel of ESD Protection
- High Peak Pulse Current per IEC 61000-4-5 Standard
- Low Channel Input Capacitance
- Typically Used in Cellular Handsets, Portable Electronics, Communication Systems, Computers and Peripherals
- Response time is Typically <1ns
- **Lead Free/RoHS Compliant**

**Mechanical Data**

- Case: 0402(DFN1006)
- Case Material: Molded Plastic, "Green" Molding Compound. UL Flammability Classification Rating 94V-0
- Moisture Sensitivity: Level 1 per J-STD-020
- Terminals: NiPdAu over Copper leadframe. Solderable per MIL-STD-202, Method 208



**Ordering Information**

Part Number	Marking	Case	Packaging
RSD6325FT	PB	DFN1006	10,000/Tape & Reel

Notes:

1. Halogen and Antimony free "Green" products are defined as those which contain <900ppm bromine, <900ppm chlorine (<1500ppm total Br + Cl) and <1000ppm antimony compounds.

**Circuit Diagram**



**Maximum Ratings** @ $T_A = 25^\circ\text{C}$  unless otherwise specified

Characteristic	Symbol	Value	Unit	Conditions
Peak Pulse Power Dissipation	$P_{PP}$	100	W	8/20 $\mu\text{s}$
Peak Pulse Current	$I_{PP}$	6	A	8/20 $\mu\text{s}$
ESD Protection – Contact Discharge	$V_{ESD\_Contact}$	$\pm 30$	KV	IEC 61000-4-2 Standard
ESD Protection – Air Discharge	$V_{ESD\_Air}$	$\pm 30$	KV	IEC 61000-4-2 Standard

**Thermal Characteristics**

Characteristic	Symbol	Value	Unit
Package Power Dissipation	$P_D$	250	mW
Thermal Resistance, Junction to Ambient	$R_{\theta JA}$	500	$^\circ\text{C}/\text{W}$
Operating and Storage Temperature Range	$T_J, T_{STG}$	-55 to +150	$^\circ\text{C}$

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

Device	$V_{RWM}$ (V)	$I_{R1}$ ( $\mu\text{A}$ ) @ $V_{RWM}$	$I_{R2}$ ( $\mu\text{A}$ ) @ $V_R=3.5\text{V}$	$V_{BR}$ (V)@ $I_T$ (Note 1)	$I_T$	$V_C$ (V) @ $I_{PP}=5\text{ A}^*$	$V_C$ (V) @ Max $I_{PP}^*$	$I_{PP}$ (A)*	$P_{PK}$ (W)*	C (pF)
	Max	Max	Max	Min	mA	Typ	Max	Max	Max	Typ
RSD6325FT	5.0	0.5	0.3	6.0	1.0	13.6	17	6.0	100	7

\*Surge current waveform per Figure 1.

- $V_{BR}$  is measured with a pulse test current  $I_T$  at an ambient temperature of  $25^\circ\text{C}$ .

Rating and Characteristic Curves

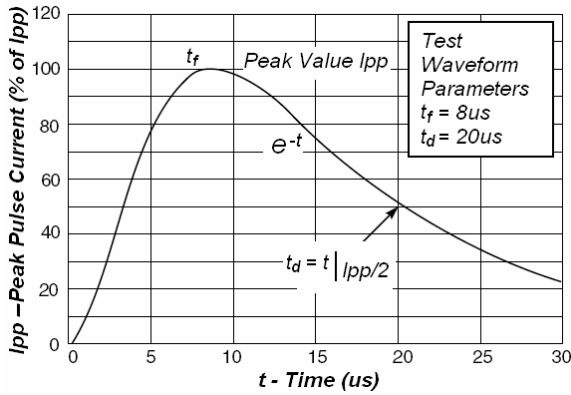


Fig1. Pulse Waveform

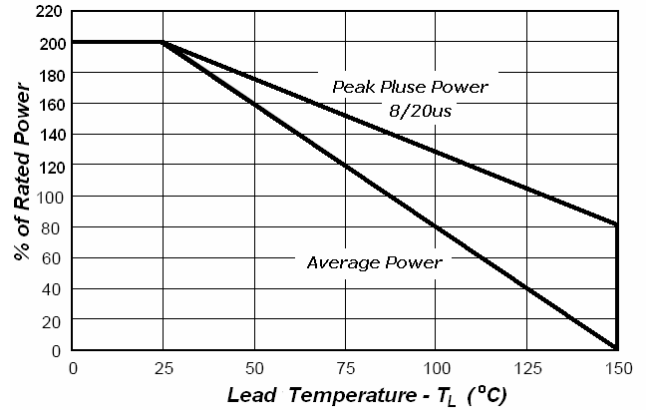


Fig2. Power Derating Curve

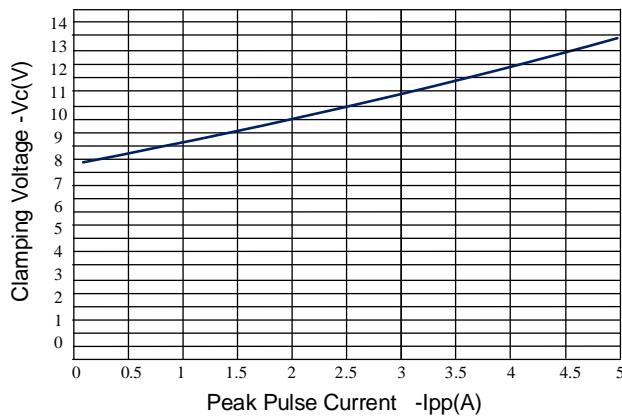


Figure 3: Clamping Voltage vs. Peak Pulse Current

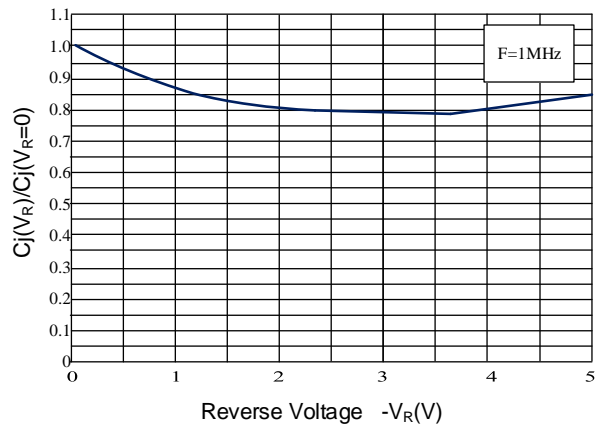
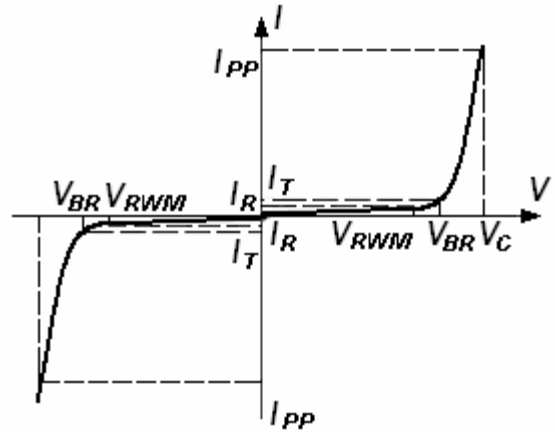


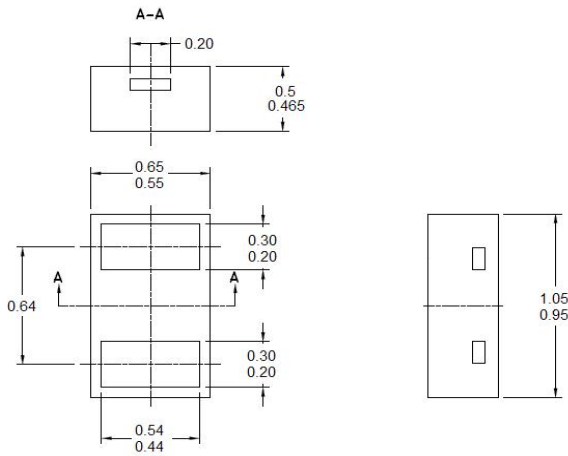
Figure 4: Normalized Junction Capacitance vs. Reverse Voltage

**Electrical Parameter**

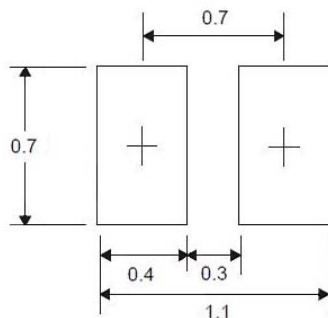
Symbol	Parameter
$I_{PP}$	Maximum Reverse Peak Pulse Current
$V_C$	Clamping Voltage @ $I_{PP}$
$V_{RWM}$	Working Peak Reverse Voltage
$I_R$	Maximum Reverse Leakage Current @ $V_{RWM}$
$I_T$	Test Current
$V_{BR}$	Breakdown Voltage @ $I_T$



**Package Outline Dimensions**



**Suggested Pad Layout**



(Unit : mm)