

# TE05DF-BN

## ESD Protection Diode

**VOLTAGE** 5 Volt

### FEATURES

- Protects one I/O or Power Line
- Low Clamping Voltage
- Working Voltage: 5V
- Low Leakage Current
- Response Time is Typically < 1 ns
- IEC 61000-4-2 ±30KV contact ; ±30KV air
- IEC 61000-4-4 (EFT) 40A (5/50ns)
- Lead free in compliance with EU RoHS
- Marking code: C

### MECHANICAL DATA

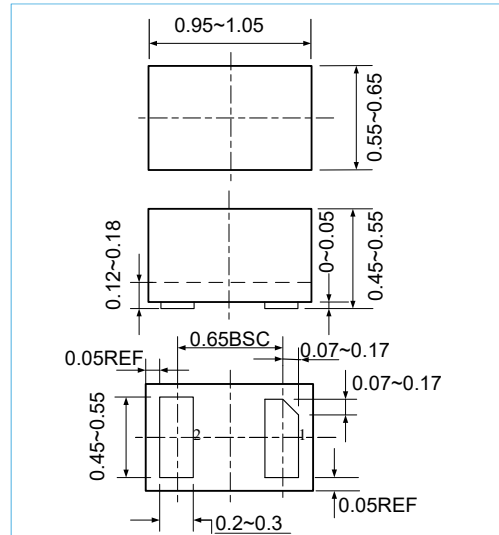
- Case Material: Molded Plastic.
- UL Flammability Classification Rating 94V-0



Schematic Diagram

**DFN1006-2L**

Unit:mm

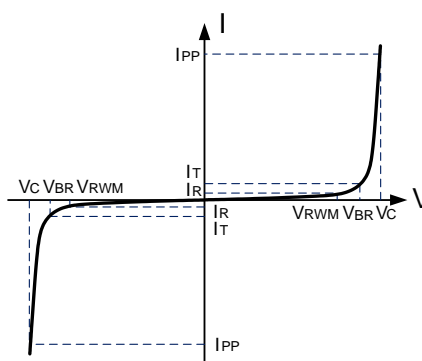


### ABSOLUTE MAXIMUM RATINGS( $T_A = 25^\circ\text{C}$ unless otherwise noted)

Parameter	Symbol	Value	Unit
Peak Pulse Power ( $T_P=8/20\mu\text{S}$ )	$P_{PP}$	100	W
Peak Pulse Current ( $T_P=8/20\mu\text{S}$ )	$I_{PP}$	5	A
Junction Temperature	$T_J$	-55 to +125	$^\circ\text{C}$
Storage temperature	$T_{STG}$	-55 to +150	$^\circ\text{C}$

### Electrical Parameters ( $T=25^\circ\text{C}$ )

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



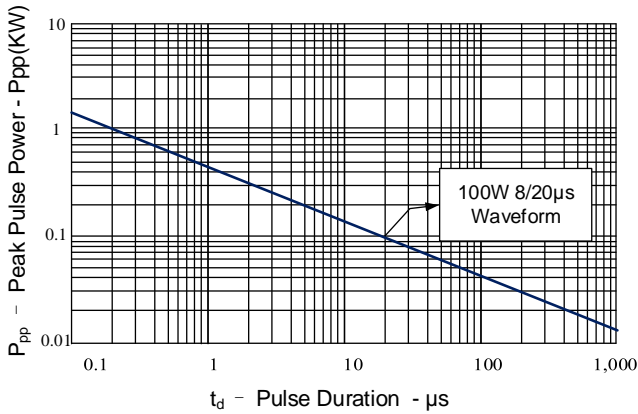
### ELECTRICAL CHARACTERISTICS( $T_A = 25^\circ\text{C}$ unless otherwise noted)

Parameter	Symbol	Condition	Min	Typ	Max	Unit
Reverse stand-off Voltage	$V_{RWM}$				5	V
Reverse Breakdown Voltage	$V_{BR}$	$I_T=1\text{mA}$	6.0			V
Reverse Leakage Current	$I_R$	$V_R=5\text{V}$			0.2	$\mu\text{A}$
Clamping Voltage	$V_C$	$I_{PP}=1\text{A}$ , $t_p=8/20\mu\text{s}$			9.5	V
	$V_C$	$I_{PP}=5\text{A}$ , $T_P=8/20\mu\text{S}$		13	15	V
Junction Capacitance	$C_J$	$V_R=0\text{V}$ , $f=1\text{MHz}$		7	10	pF

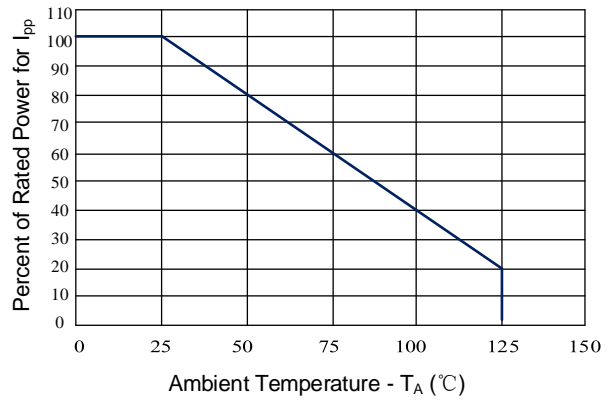
# TE05DF-BN

## Typical Characteristics

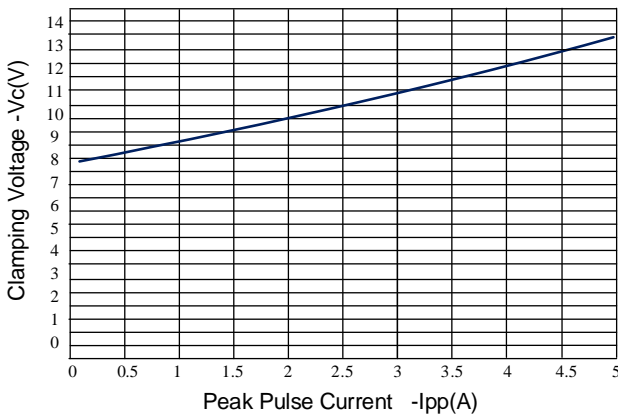
**Figure 1: Peak Pulse Power Vs Pulse Time**



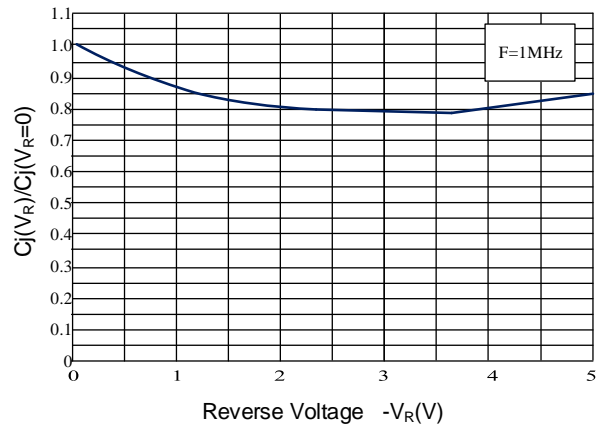
**Figure 2: Power Derating Curve**



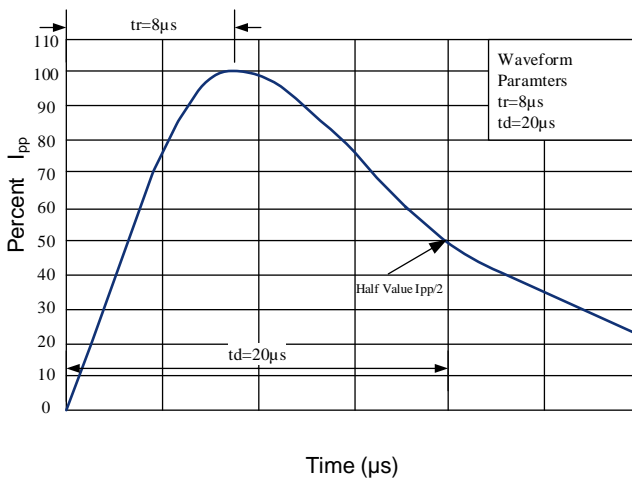
**Figure 3: Clamping Voltage vs. Peak Pulse Current**



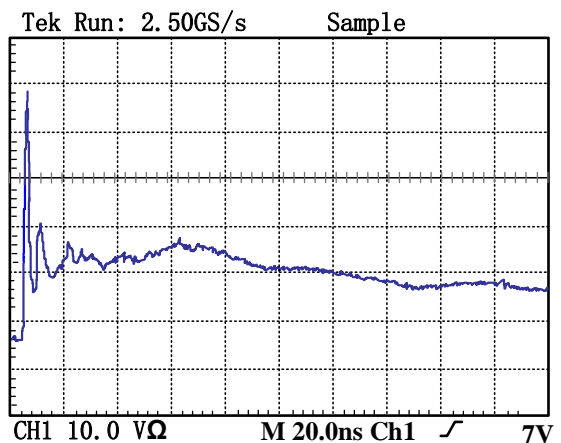
**Figure 4: Normalized Junction Capacitance vs. Reverse Voltage**



**Figure 5: Pulse Waveform**



**Figure 6: ESD Clamping( 8kV Contact per IEC 61000-4-2)**



## TE05DF-BN

---

### ORDER INFORMATION

- Packing information

Part Number	Case	Reel Size	QUANTITY
TE05DF-BN	DFN1006-2L	7 Inch	10000