

### Features

- Small Body Outline Dimensions:  
0.60 mm x 0.30 mm
- Bidirectional ESD Protection of one line
- Low Clamping Voltage
- Working Voltage: 5 V
- Low Leakage Current

### IEC COMPATIBILITY (EN61000-4)

- IEC 61000-4-2 (ESD)  $\pm 25\text{kV}$  (air),  $\pm 20\text{kV}$  (contact)
- IEC 61000-4-4 (EFT) 40A (5/50ns)
- IEC 61000-4-5 (Lightning) 5.5A (8/20 $\mu\text{s}$ )



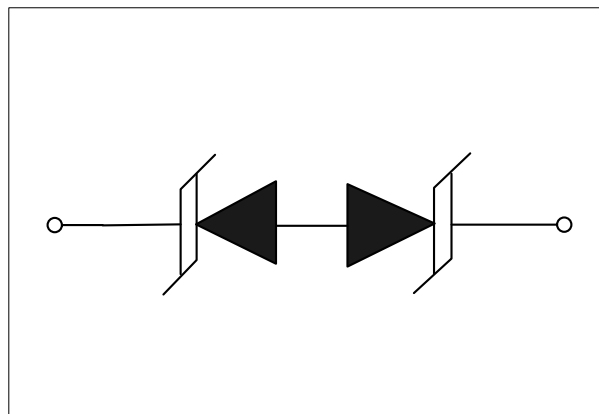
### Mechanical Characteristics

- DFN0603-D package
- Molding compound flammability rating:  
UL 94V-0
- Marking: Marking Code
- Packaging: Tape and Reel per EIA 481
- RoHS Compliant

### Applications

- Cellular handsets and accessories
- Portable electronics
- Communication systems
- Computers and peripherals

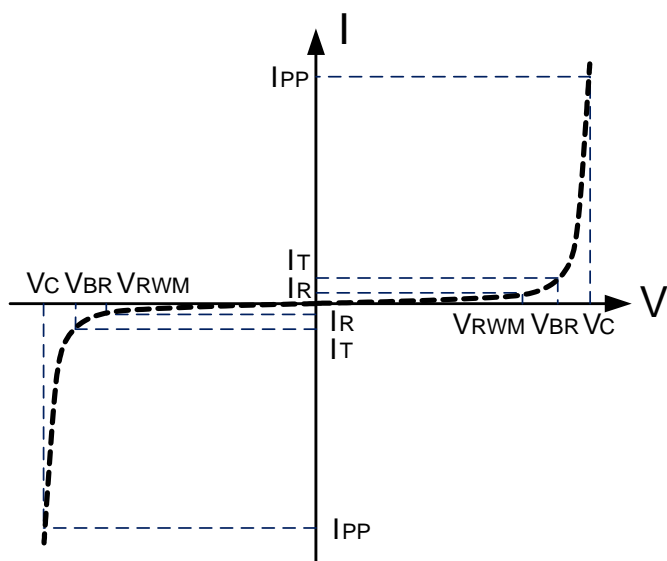
### Schematic & PIN Configuration



Absolute Maximum Rating			
Rating	Symbol	Value	Units
Electrostatic discharge Voltage	$V_{ESD}$	20KV (contact)	Volts
		25KV (air)	
Peak Pulse Current ( $t_p = 8/20\mu s$ )	$I_{pp}$	5.5	A
Operating Temperature	$T_J$	-55 to + 125	°C
Storage Temperature	$T_{STG}$	-55 to +150	°C

### Electrical Parameters (T=25°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
$I_F$	Forward Current
$V_F$	Forward Voltage @ $I_F$



### Electrical Characteristics

DW05DS-B-E						
Parameter	Symbol	Conditions	Minimum	Typical	Maximum	Units
Reverse Stand-Off Voltage	$V_{RWM}$				5.0	V
Reverse Breakdown Voltage	$V_{BR}$	$I_T=1mA$	6.0		10.0	V
Reverse Leakage Current	$I_R$	$V_{RWM}=5V, T=25^\circ C$			0.5	$\mu A$
Clamping Voltage	$V_C$	$I_{PP}=1A, t_p=8/20\mu s$			9.8	V
		$I_{PP}=5.5A, t_p=8/20\mu s$			12.5	
Junction Capacitance	$C_j$	$V_R = 0V, f = 1MHz$		12	15	pF

**Note1:** ESD Pulse Waveform according to IEC 61000-4-2. see Table1 and Figure4.

**Note2:** ESD tests Setup see Figure 5.

### Typical Characteristics

Figure 1: Pulse Waveform

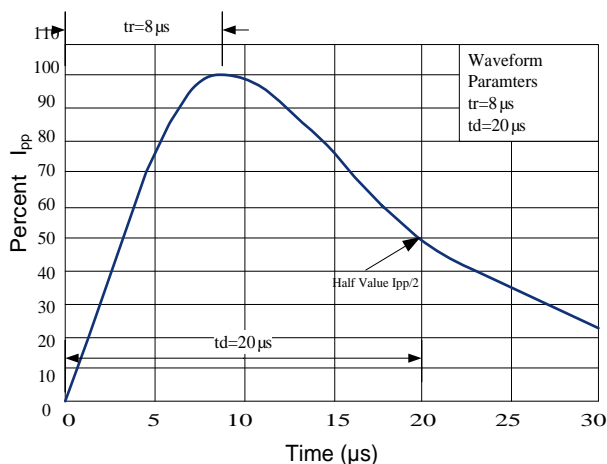


Figure 2: Power Derating Curve

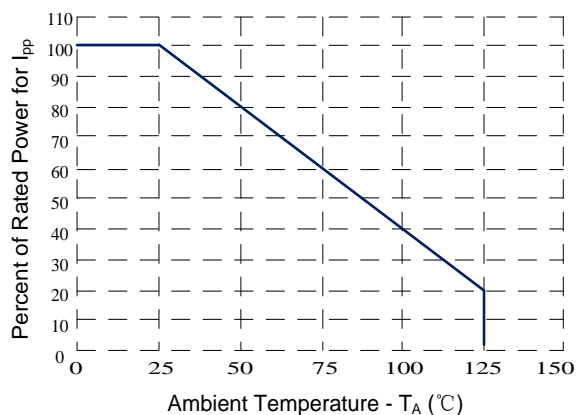


Figure 3: Normalized Junction Capacitance

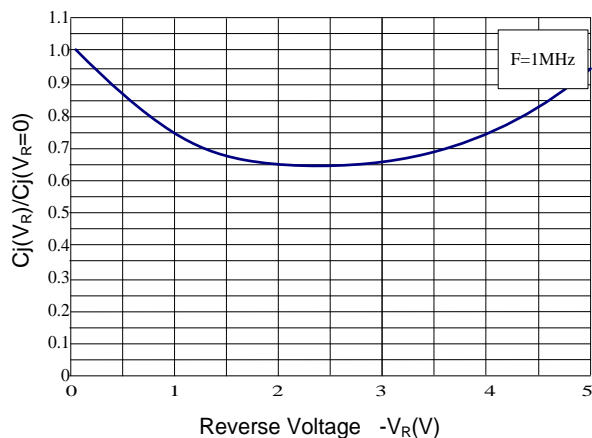


Table 1. IEC 61000-4-2 Discharge Parameters

Level	First Peak Current (A)	Peak Current at 30 ns (A)	Peak Current at 60 ns (A)	Test Voltage (Contact Discharge) (kV)	Test Voltage (Air Discharge) (kV)
1	7.5	4	2	2	2
2	15	8	4	4	4
3	22.5	12	6	6	8
4	30	16	8	8	15

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

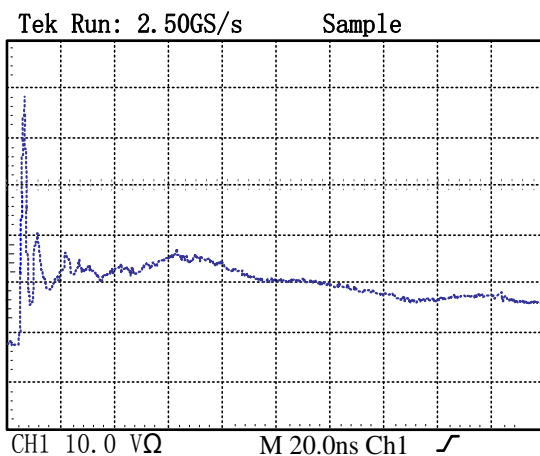
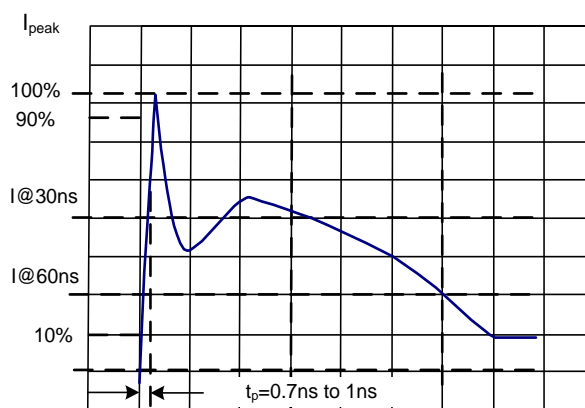
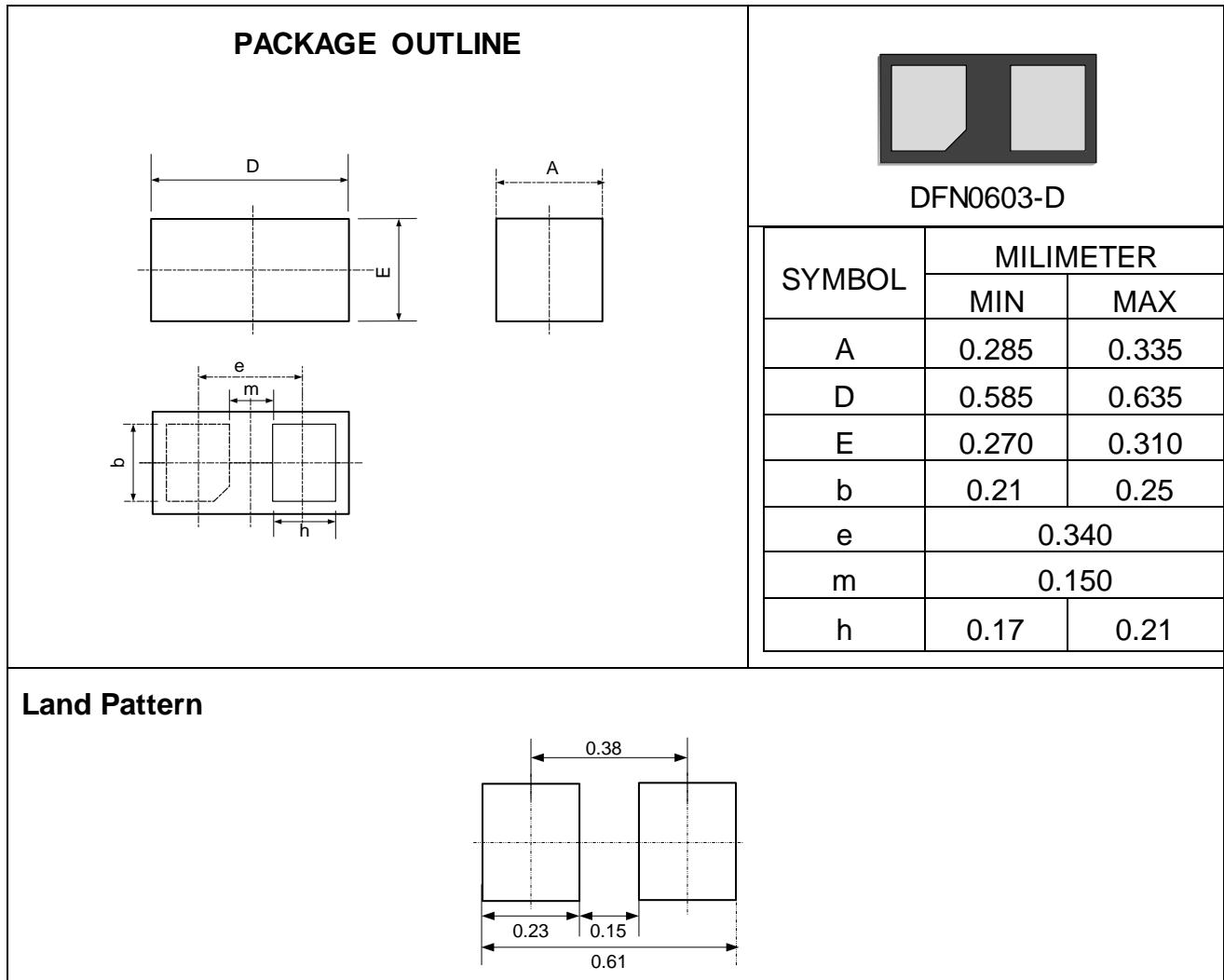


Figure 5: IEC 61000-4-2 Waveform



Outline Drawing –DFN0603-D



**Marking Codes**

Part Number	Marking Code
DW05DS-B-E	<div style="border: 1px solid black; padding: 2px; display: inline-block;">A Σ</div> A = Specific Device Code M = Month Code

**Package Information**

Qty: 15k/Reel