



### FEATURES:

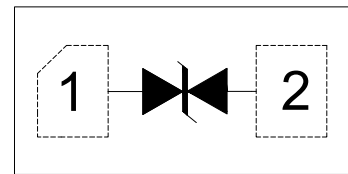
- ✧ Protects one bi-directional I/O line
- ✧ Low clamping voltage
- ✧ Low operating voltage: 5.0V
- ✧ RoHS compliant



DFN0603-2L(Bottom view)

### MAIN APPLICATIONS

- ✧ Cell phone handsets and accessories
- ✧ Personal digital assistants (PDA's)
- ✧ Notebooks, desktops, and servers
- ✧ Portable instrumentation
- ✧ Communication systems
- ✧ Microprocessor based equipment



Pin Configuration(Top view)

### PROTECTION SOLUTION TO MEET

- ✧ IEC61000-4-2 (ESD) ±30kV (air), ±30kV (contact)
- ✧ IEC61000-4-4 (EFT) 40A(5/50ns)
- ✧ IEC61000-4-5(Lightning) 5A(8/20us)

### MECHANICAL CHARACTERISTICS

- ✧ DFN0603-2L package
- ✧ Molding compound flammability rating : UL 94V-0
- ✧ Quantity per reel : 10,000pcs
- ✧ Lead finish : lead Free
- ✧ Marking code: A/M

### ABSOLUTE MAXIMUM RATINGS(T<sub>A</sub>=25°C, RH=45%-75%, unless otherwise noted)

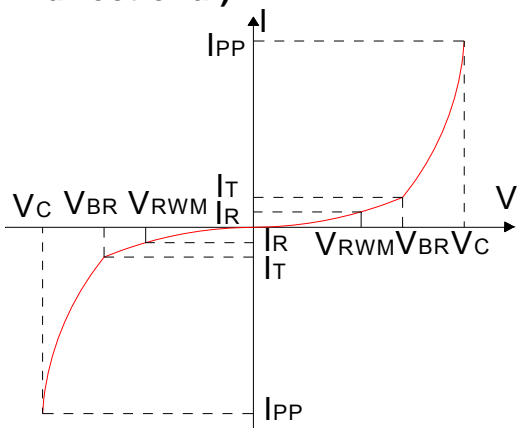
Parameter	Symbol	Value	Unit
Peak pulse power dissipation on 8/20 μs waveform	P <sub>PP</sub>	80	W
ESD per IEC 61000-4-2 (Air) ESD per IEC 61000-4-2 (Contact)	V <sub>ESD</sub>	+/- 30 +/- 30	kV
Lead soldering temperature	T <sub>L</sub>	260 (10 sec.)	°C
Operating junction temperature range	T <sub>J</sub>	-55 to +125	°C
Storage temperature range	T <sub>STG</sub>	-55 to +150	°C

**ELECTRICAL CHARACTERISTICS** ( $T_A=25^{\circ}\text{C}$ )

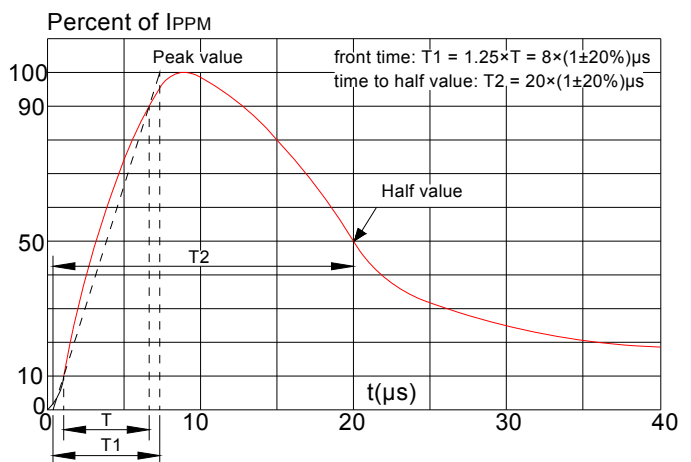
Parameter	Symbol	Conditions	Min	Typ	Max	Unit
Reverse working voltage	$V_{RWM}$				5.0	V
Reverse breakdown voltage	$V_{BR}$	$I_T = 1\text{mA}$	5.5			V
Reverse leakage current	$I_R$	$V_{RWM} = 5\text{V}$			100	nA
Peak pulse current	$I_{PP}$	$t_P = 8/20\mu\text{s}$			5	A
Clamping voltage	$V_C$	$I_{PP} = 1\text{A}, t_P = 8/20\mu\text{s}$		9.5	11	V
		$I_{PP} = 5\text{A}, t_P = 8/20\mu\text{s}$		13	15	V
Junction capacitance	$C_J$	$V_{RWM} = 0\text{V}, f = 1\text{MHz}$		10	15	pF

**RATINGS AND V-I CHARACTERISTICS CURVES** ( $T_A=25^{\circ}\text{C}$ , unless otherwise noted)

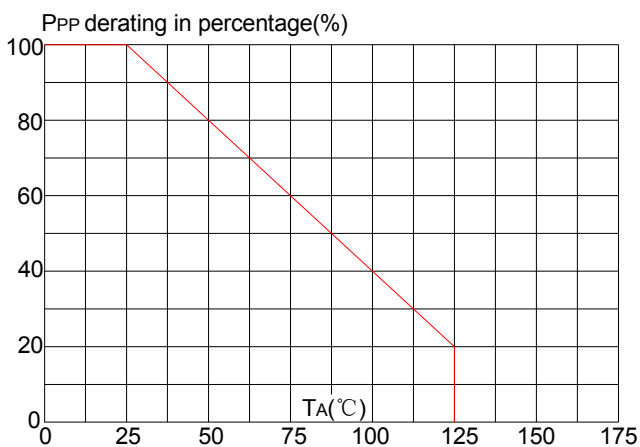
**FIG.1: V- I curve characteristics (Bi-directional)**



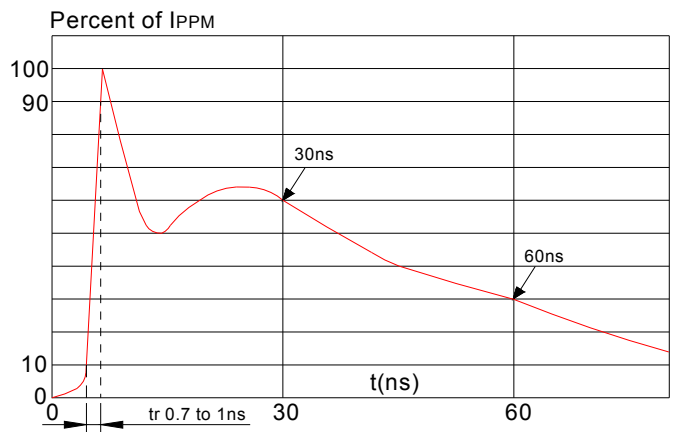
**FIG.2: Pulse waveform (8/20μs)**



**FIG.3: Pulse derating curve**

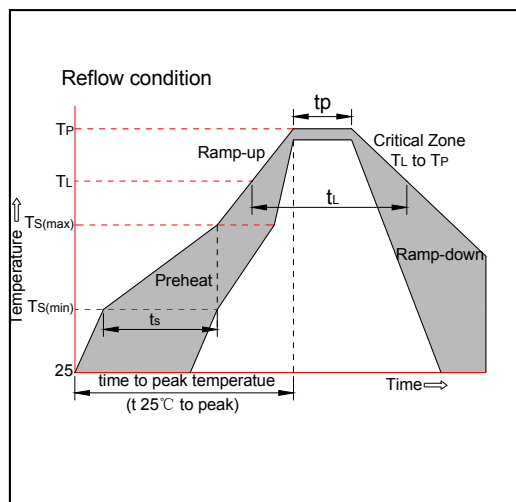


**FIG.4: ESD clamping (8KV contact)**

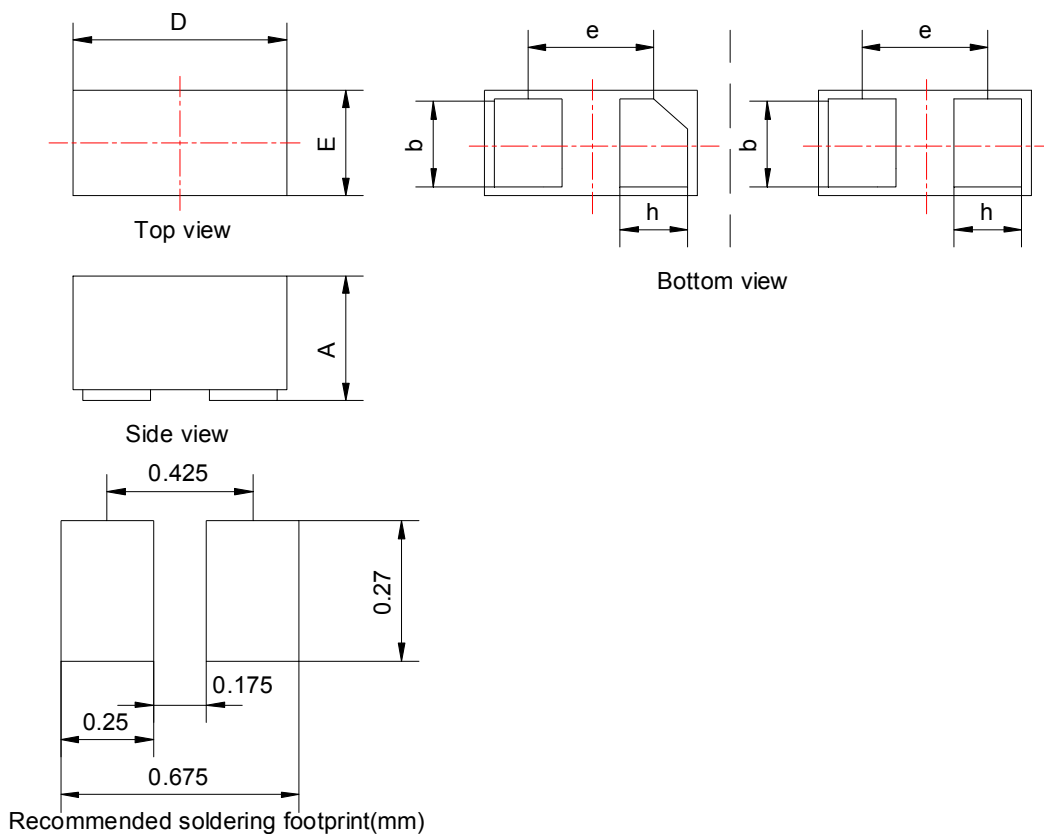


**SOLDERING PARAMETERS**

Reflow Condition		Pb-Free assembly (see figure at right)
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/sec. Max
$T_{s(max)}$ to $T_L$ - Ramp-up Rate		3°C/sec. Max
Reflow	-Temperature( $T_L$ )(Liquidus)	+217°C
	-Temperature( $t_L$ )	60-150 secs.
Peak Temp ( $T_P$ )		+260(+0/-5)°C
Time within 5°C of actual Peak Temp ( $t_p$ )		20-40secs.
Ramp-down Rate		6°C/sec. Max
Time 25°C to Peak Temp ( $T_P$ )		8 min. Max
Do not exceed		+260°C

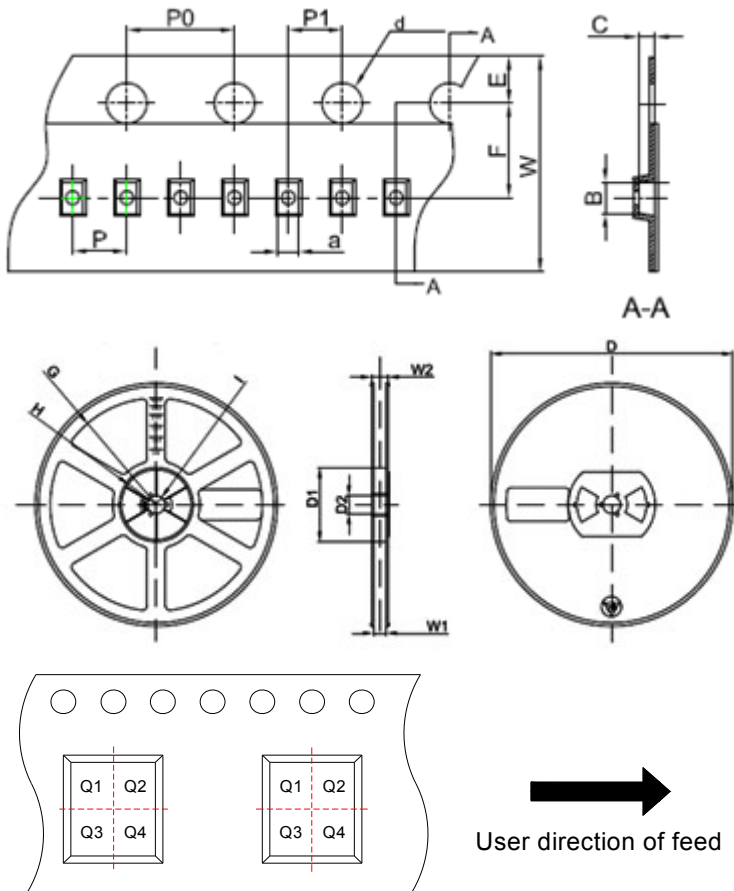


**PACKAGE MECHANICAL DATA**



Symbol	Millimeters			Inches		
	Min.	Typ.	Max.	Min.	Typ.	Max.
A	0.25	0.30	0.34	0.010	0.012	0.013
D	0.55	0.60	0.65	0.022	0.024	0.026
E	0.25	0.30	0.35	0.010	0.012	0.014
b	0.2	0.23	0.3	0.008	0.009	0.012
e	0.4			0.016		
h	0.13	0.17	0.24	0.005	0.007	0.009

TAPE AND REEL INFORMATION-DFN0603-2L



Pin 1 quadrant:Q1&Q2

Packaging Description:

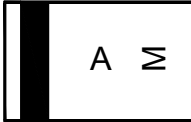
DFN0603-2L parts are shipped in tape. The carrier tape is made from a dissipative(carbon filled) polycarbonate resin. The cover tape is a multilayer film(heat activated adhesive in nature)primarily composed of polyester film, adhesive layer, sealant, and anti-static sprayed agent. These reeled parts in standard option are shipped with 10,000units per 7" or 17.8cm diameter reel. The reels are clear in color and made of polystyrene plastic(anti-static coated).

Symbol	Millimeters	Inches
	Typ.	Typ.
a	0.41	0.016
B	0.70	0.028
C	0.38	0.015
d	Φ1.50	Φ0.059
E	1.75	0.069
F	3.50	0.138
P0	4.00	0.157
P	2.00	0.079
P1	2.00	0.079
W	8.00	0.315
D	Φ178	Φ7.008
D1	54.40	2.142
D2	13.00	0.512
G	R78.00	R3.071
H	R25.60	R1.008
I	R6.50	R0.256
W1	9.50	0.374
W2	12.30	0.484

ORDERING INFORMATION

PART No.	PACKAGE TYPE	QUANTITY(PCS) REEL	DESCRIPTION
JEB05DS-A	DFN0603-2L	10,000	7 inch reel pack

**MARKING CODE**

Part Number	Marking Code
JEB05DS-A	<p data-bbox="852 322 932 349">PIN 1</p>  <p data-bbox="852 504 1136 530">A = Specific Device Code</p> <p data-bbox="852 533 1037 560">M = Month Code</p>

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