



FEATURES

- ◇ 450 Watts peak pulse power per line ($t_p=8/20\mu s$)
- ◇ Protects four I/O lines and one V_{CC} line
- ◇ Low clamping voltage
- ◇ Ultra low capacitance: $<3pF$ for high-speed interfaces
- ◇ Working voltage: 3.3V
- ◇ Low leakage current
- ◇ RoHS compliant

MAIN APPLICATIONS

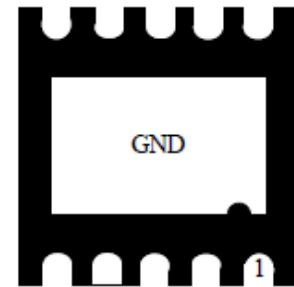
- ◇ USB 2.0
- ◇ 10/100/1000 ethernet
- ◇ DVI interfaces
- ◇ Wireless data (WAN/LAN) systems
- ◇ Analog video
- ◇ T1/E1 secondary protection
- ◇ T3/E3 secondary protection

PROTECTION SOLUTION TO MEET

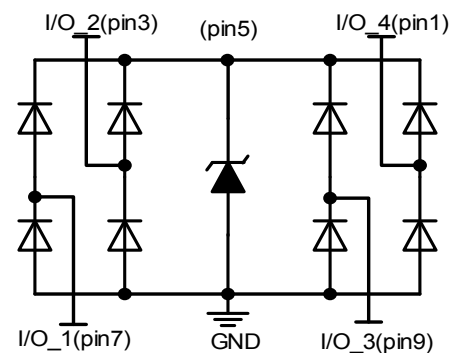
- ◇ IEC61000-4-2 (ESD) $\pm 30kV$ (air), $\pm 30kV$ (contact)
- ◇ IEC61000-4-4 (EFT) 40A (5/50ns)
- ◇ IEC61000-4-5 (Lightning) 25A (8/20 μs)

MECHANICAL CHARACTERISTICS

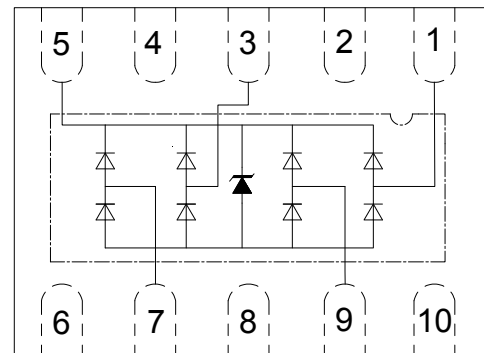
- ◇ JEDEC DFN2.6 \times 2.6-10L package
- ◇ Molding compound flammability rating : UL 94V-0
- ◇ Quantity per reel : 3,000pcs
- ◇ Lead finish : lead free
- ◇ Marking code: 2201+data code



DFN2.6 \times 2.6-10L



Pin configuration



Top view

ABSOLUTE MAXIMUM RATINGS (T_A=25°C, RH=45%-75%, unless otherwise noted)

Parameter	Symbol	Value	Unit
Peak pulse power dissipation on 8/20μs waveform	P _{PP}	450	W
ESD per IEC 61000-4-2 (Air) ESD per IEC 61000-4-2 (Contact)	V _{ESD}	+/- 30 +/- 30	kV
Lead soldering temperature	T _L	260 (10 sec.)	°C
Operating junction temperature range	T _J	-55 to +125	°C
Storage temperature range	T _{STG}	-55 to +150	°C

ELECTRICAL CHARACTERISTICS (T_A=25°C)

Parameter	Symbol	Conditions	Min	Typ	Max	Unit
Reverse working voltage	V _{RWM}	Any pin to ground			3.3	V
Reverse breakdown voltage	V _{BR}	I _T =1mA pin to ground	3.7			V
Reverse holding voltage	V _H	I _H =50mA	3.5			V
Reverse leakage current	I _R	V _{RWM} =3.3V, T=25°C			0.1	μA
Clamping voltage	V _C	I _{PP} = 5A, t _P =8/20μs I/O pin to GND			10	V
	V _C	I _{PP} = 25A, t _P =8/20μs I/O pin to GND			16	V
Junction capacitance	C _J	V _{RWM} =0V, f=1MHz Between I/O pins		2		pF
		V _{RWM} =0V, f=1MHz I/O pin to GND		3.8	5	

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

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

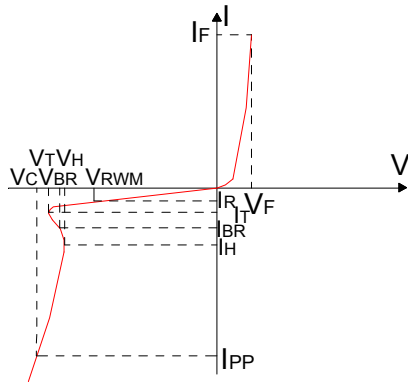


FIG.2: Pulse waveform (8/20 μs)

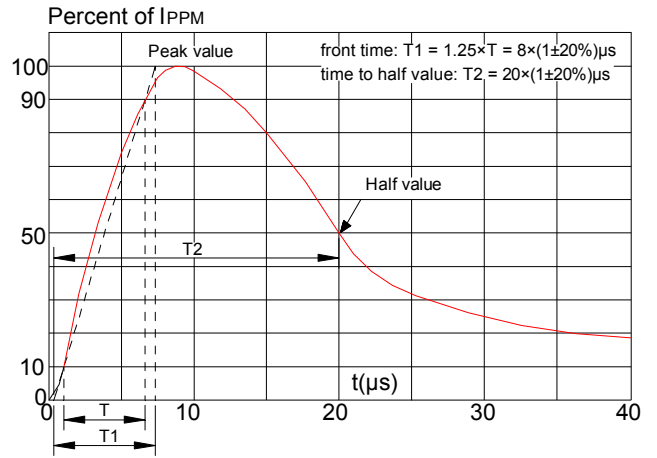


FIG.3: Pulse derating curve

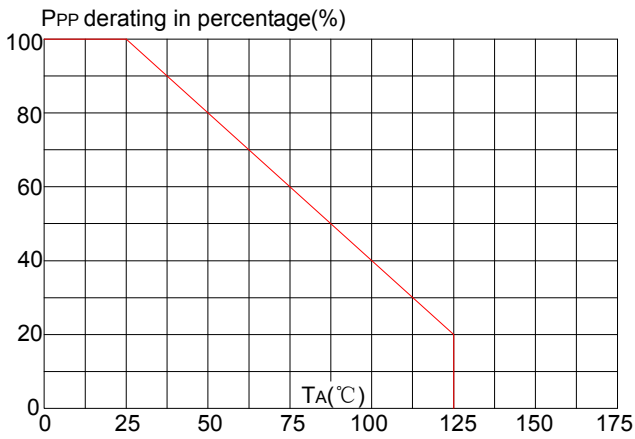
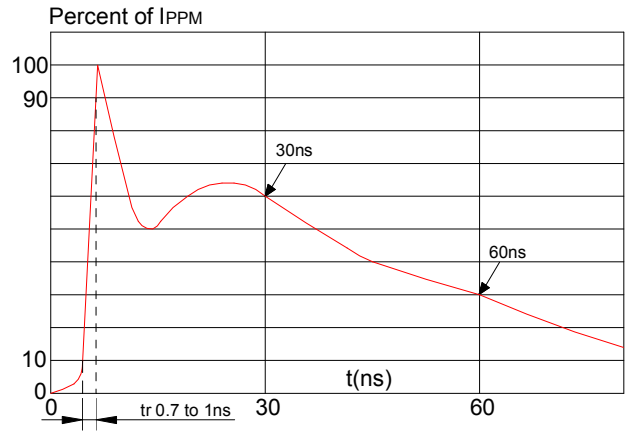
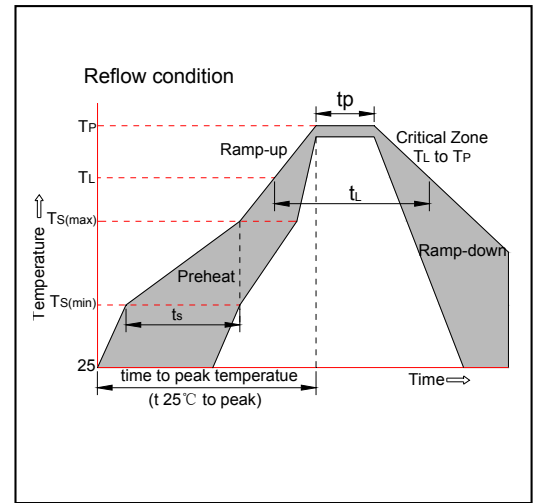


FIG.4: ESD clamping (30kV contact)

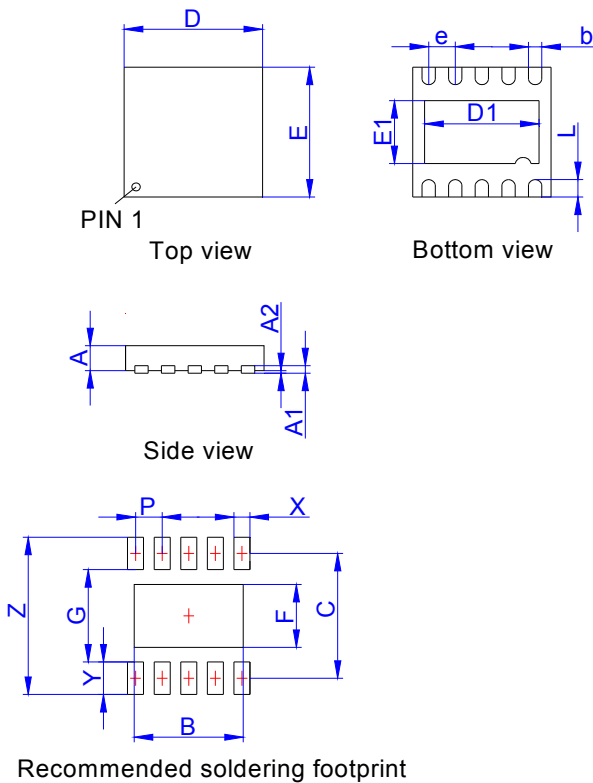


SOLDERING PARAMETERS

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

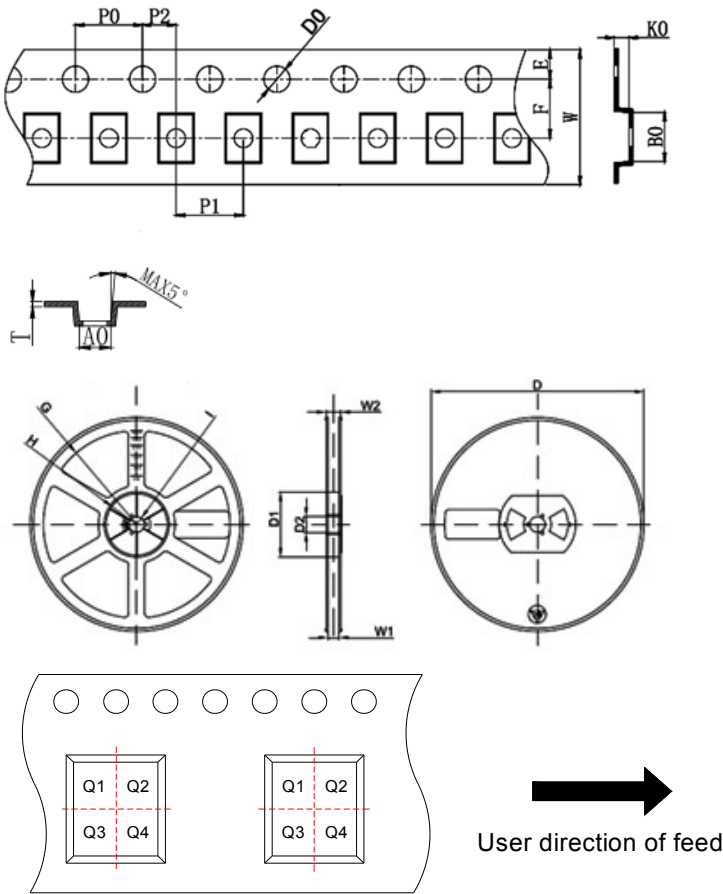


PACKAGE MECHANICAL DATA



Symbol	Dimensions					
	Millimeters			Inches		
	Min.	Typ.	Max.	Min.	Typ.	Max.
D	2.55	2.60	2.65	0.100	0.102	0.104
E	2.55	2.60	2.65	0.100	0.102	0.104
D1	2.10	2.15	2.20	0.083	0.085	0.087
E1	1.21	1.26	1.31	0.048	0.050	0.052
L	0.30	0.35	0.40	0.012	0.014	0.016
b	0.20	0.25	0.30	0.008	0.010	0.012
e	0.50BSC			0.020BSC		
A	0.45	0.50	0.55	0.018	0.020	0.022
A1	0.15REF			0.006REF		
A2	0.00	0.02	0.05	0.000	0.001	0.002
B	2.05			0.081		
C	2.50			0.098		
F	1.26			0.050		
G	1.85			0.073		
P	0.50			0.020		
X	0.30			0.012		
Y	0.65			0.026		
Z	3.15			0.124		

TAPE AND REEL INFORMATION-DFN2.6×2.6-10L



Pin 1 quadrant:Q1&Q2

Packaging Description:

DFN2.6×2.6-10L 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 3,000units 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.
A0	2.73	0.107
B0	2.78	0.109
K0	0.97	0.038
D0	Φ1.50	Φ0.059
P0	4.00	0.157
P1	4.00	0.157
P2	2.00	0.079
E	1.75	0.069
F	3.50	0.138
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

OUTLINE	Package	Reel Size	Quantity Per Reel
TAPING	DFN2.6×2.6-10L	7 Inch	3,000 pcs

MARKING CODE

Part Number	Marking Code	
JEU3K4DF	<table border="1" data-bbox="847 333 1117 510"><tr><td data-bbox="847 333 1117 510">2201 ● YYWW</td></tr></table>	2201 ● YYWW
2201 ● YYWW		

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