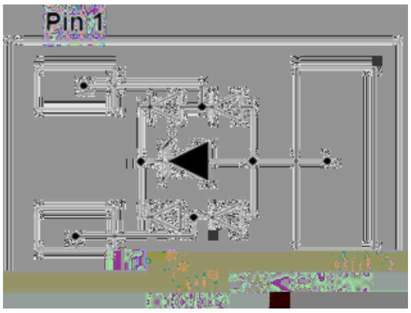
JEU05DF3 Uni-directional TVS Diode for ESD Protection

Rev.2.3

DESCRIPTION

The JEU05DF3 is an ultra low capacitance transient voltage suppressor array, designed to protect computing applications from the damaging effects of electrostatic discharge and electrical fast transients.

DFN1006-3L



Schematic &Pin Configuration (Top view)

FEATURES

- — Protects one uni-directional I/O line

RoHS compliant

MAIN APPLICATIONS

- — Firewire and USB ports
- — Display port
- — LAN/WAN equipment
- — Wireless communications
- — Digital visual interface (DVI)
- — Microcontroller input protection

PROTECTION SOLUTION TO MEET

- — IEC61000-4-2 (ESD) ±15kV (air), ±8kV (contact)
- — IEC61000-4-4 (EFT) 40A (5/50ns)
- — IEC61000-4-5 (Lightning) 5A (8/20µs)

MECHANICAL CHARACTERISTICS

- — DFN1006-3L package
- — Molding compound flammability rating : UL 94V-0
- — Quantity per reel : 10,000pcs
- — Lead finish : lead free
- — Marking code ÖU3

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

Parameter	Symbol	Value	Unit
Peak pulse power dissipation at 8/20μs waveform	P_{PP}	60	W
ESD per IEC 61000-4-2 (Air) ESD per IEC 61000-4-2 (Contact)	V_{ESD}	+/- 15 +/- 8	kV
Lead soldering temperature	T_L	260 (10 sec.)	
Operating junction temperature range	T_J	-55 to +125	
Storage temperature range	T_{STG}	-55 to +150	

ELECTRICAL CHARACTERISTICS (T_A=25Ṇ)

Parameter	Symbol	Conditions	Min	Typ	Max	Unit
Reverse working voltage	V_{RWM}				5.0	V
Reverse breakdown voltage	V_{BR}	I_T=1mA	6.0			V
Reverse leakage current	I_R	V_{RWM}=5V			1.0	μA
Peak pulse current	I_{PP}	t_P=8/20μs			5	A
Clamping voltage	V_C	I_{PP}=5A, t_P=8/20μs		13	15	V
Junction capacitance	C_J	V_{RWM}=0V, f=1MHz Between I/O			0.8	pF

RATINGS AND V-I CHARACTERISTICS CURVES (T_A=25ºC, unless otherwise noted)

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

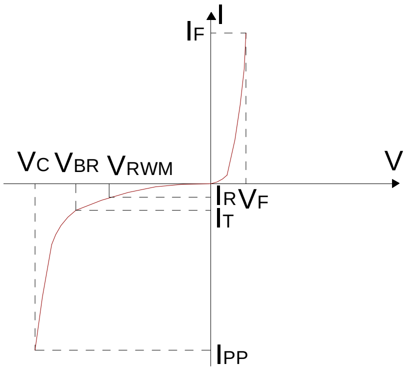


FIG.2: Pulse waveform (8/20μs)

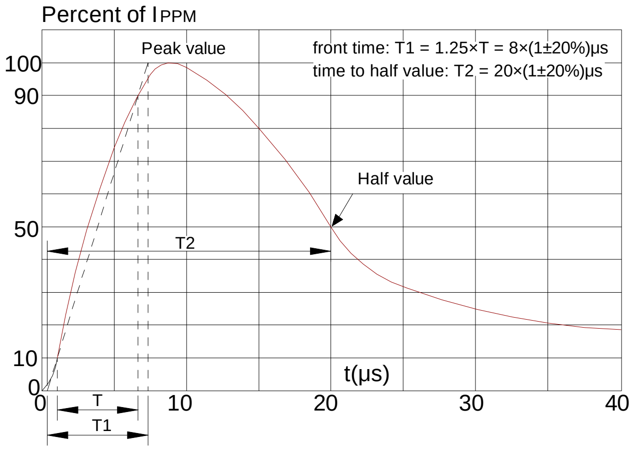


FIG.3: Pulse derating curve

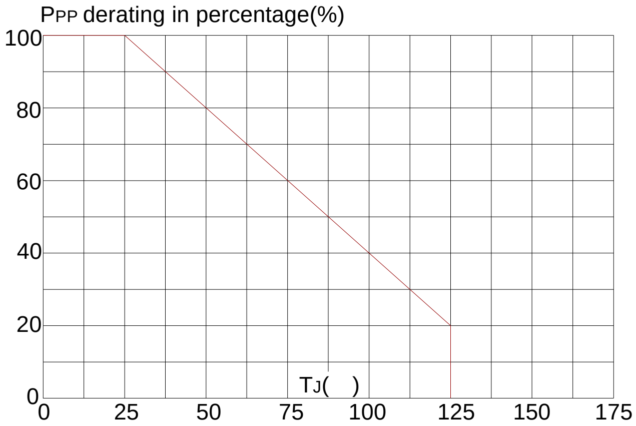
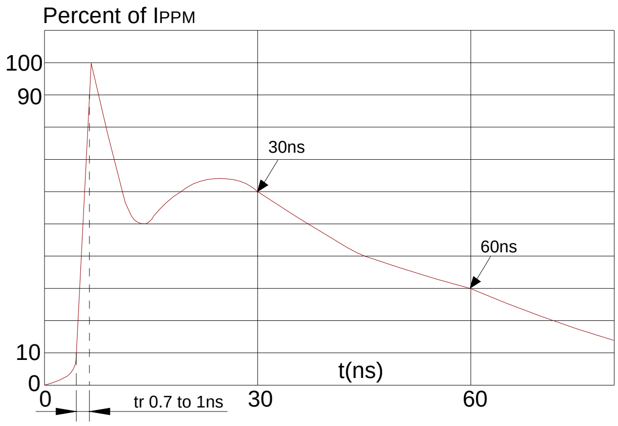


FIG.4: ESD clamping (8KV contact)



SOLDERING PARAMETERS

Reflow Condition		Pb-Free assembly (see figure at right)
Pre Heat	-Temperature Min ($T_{s(min)}$)	+150
	-Temperature Max($T_{s(max)}$) ŋ-/nq 2020ɷ ή	+200
	-Time (Min to Max) (ts)	60-180 secs.
[redacted] (T_L)to peak)		3 /nq

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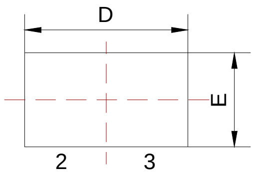
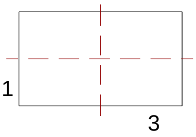
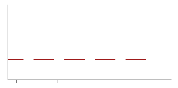
PACKAGE MECHANICAL DATA



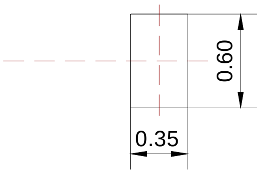
Top view



Bottom view

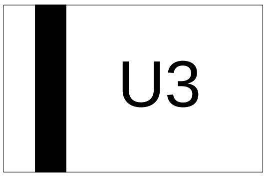


Side view



Recommended soldering footprint(mm)

MARKING CODE

Part Number	Marking Code
JEU05DF3	

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