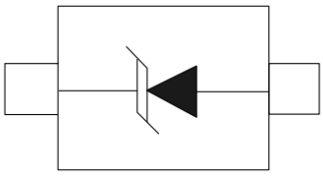
JEU36D9P Uni-directional TVS Diode for ESD Protection Rev.1.0

FEATURES

- ✧ Small body outline dimensions：
  0.039″ x 0.024″ (1.0mmx0.6mm)
- ✧ Protects one I/O line
- ✧ Low clamping voltage
- ✧ Working voltage:36V
- ✧ Low leakage current

SOD-923



Pin Configuration

MAIN APPLICATIONS

- ✧ Cellular handsets and accessories
- ✧ Portable electronics
- ✧ Industrial controls
- ✧ Set-top box
- ✧ Instrumentation
- ✧ Servers, notebook, and desktop PC
- ✧ Display ports

PROTECTION SOLUTION TO MEET

- ✧ IEC61000-4-2 (ESD) ±25kV (air), ±25kV (contact)
- ✧ IEC61000-4-4 (EFT) 40A (5/50ns)
- ✧ IEC61000-4-5 (Lightning) 1A (8/20μs)

MECHANICAL CHARACTERISTICS

- ✧ SOD-923 package
- ✧ Molding compound flammability rating : UL 94V-0
- ✧ Quantity per reel : 8,000pcs
- ✧ Lead finish : lead free
- ✧ Marking code: TG

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

Parameter	Symbol	Value	Unit
Peak pulse power dissipation on 8/20μs waveform	P_{PP}	100	W
ESD per IEC 61000-4-2 (Air) ESD per IEC 61000-4-2 (Contact)	V_{ESD}	+/- 25 +/- 25	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=25℃)

Parameter	Symbol	Conditions	Min	Typ	Max	Unit
Reverse working voltage	V_{RWM}				36	V
Reverse breakdown voltage	V_{BR}	I_T=1mA	40			V
Reverse leakage current	I_R	V_{RWM}=36V			1	μA
Clamping voltage	V_C	I_{PP}=1A, t_P=8/20μs			57	V
Junction capacitance	C_J	V_{RWM}=0V, f=1MHz		25		pF

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

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

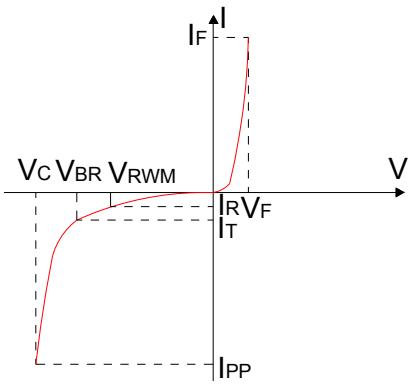


FIG.2: Pulse waveform (8/20μs)

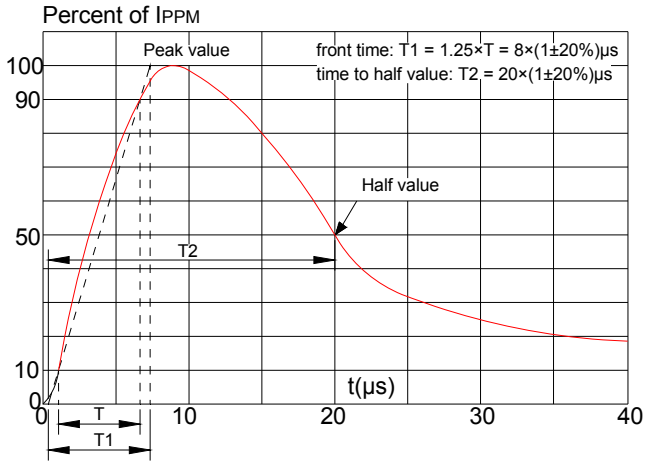


FIG.3: Pulse derating curve

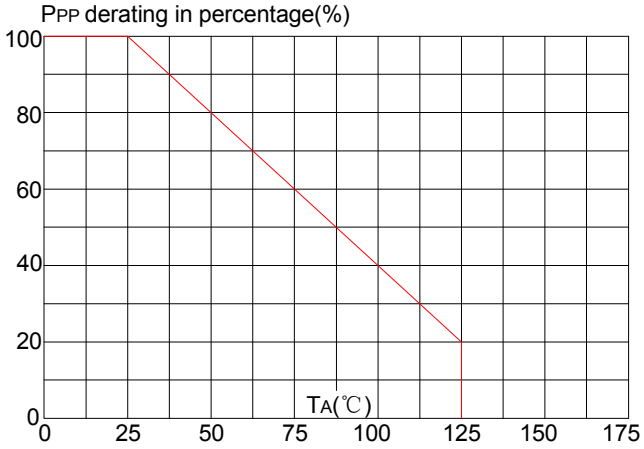
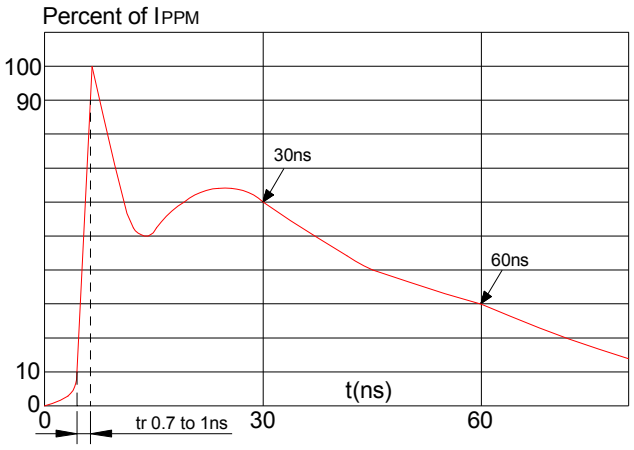
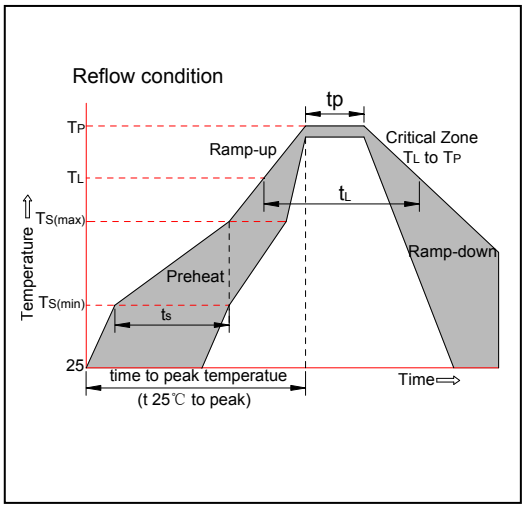


FIG.4: ESD clamping (25kV contact)

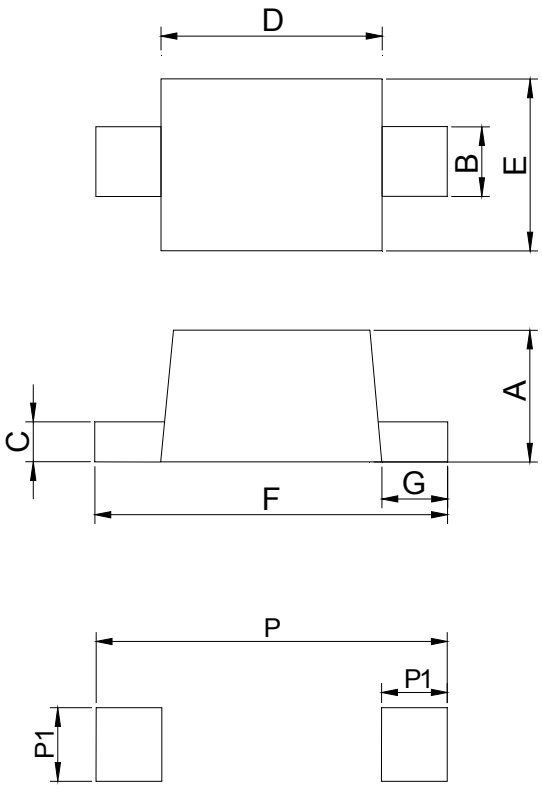


SOLDERING PARAMETERS

Reflow Condition		Pb-Free assembly (see figure at right)
Pre Heat	-Temperature Min ($T_{s(min)}$)	+150℃
	-Temperature Max($T_{s(max)}$)	+200℃
	-Time (Min to Max) (ts)	60-180 secs.
Average ramp up rate (Liquidus Temp (T_L)to peak)		3℃/sec. Max
$T_{s(max)}$ to T_L - Ramp-up Rate		3℃/sec. Max
Reflow	-Temperature(T_L)(Liquidus)	+217℃
	-Temperature(t_L)	60-150 secs.
Peak Temp (T_p)		+260(+0/-5)℃
Time within 5℃of actual Peak Temp (t_p)		20-40secs.
Ramp-down Rate		6℃/sec. Max
Time 25℃ to Peak Temp (T_P)		8 min. Max
Do not exceed		+260℃



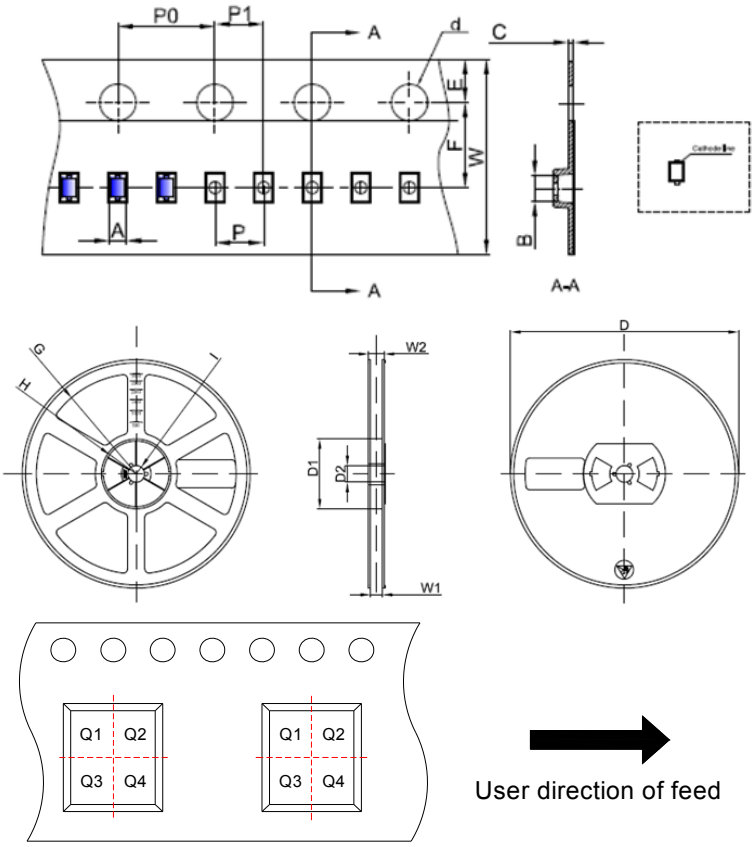
PACKAGE MECHANICAL DATA



Land Pattern

Symbol	Millimeters			Inches		
	Min	Typ	Max	Min	Typ	Max
A	0.36	0.42	0.45	0.014	0.017	0.018
B	0.15	0.20	0.30	0.006	0.008	0.012
C	0.06	0.11	0.20	0.002	0.004	0.008
D	0.70	0.80	0.90	0.028	0.031	0.035
E	0.55	0.60	0.65	0.022	0.024	0.026
F	0.90	1.00	1.10	0.035	0.039	0.043
G	0.05	0.115	0.15	0.002	0.005	0.006
P1	0.45			0.018		
P	1.40			0.055		

TAPE AND REEL INFORMATION-SOD-923



Pin 1 quadrant:Q1&Q2

Symbol	Millimeters	Inches
	Typ.	Typ.
A	0.70	0.028
B	1.12	0.044
C	0.20	0.008
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

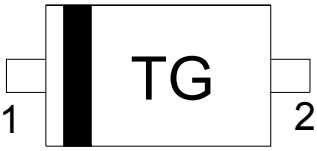
Packaging description:

SOD-923 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 8,000 units per 7" or 17.8cm diameter reel. The reels are clear in color and made of polystyrene plastic(anti-static coated).

ORDERING INFORMATION

PART No.	PACKAGE TYPE	QUANTITY(PCS) REEL	DESCIPTION
JEU36D9P	SOD-923	8,000	7 inch reel pack

MARKING CODE

Part Number	Marking Code
JEU36D9P	

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