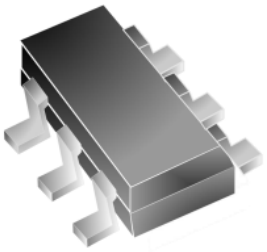
JEU05MFC TVS Diode Array Rev.3.2

FEATURES

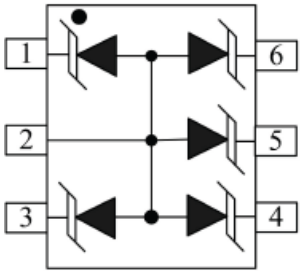
- ✧ 150 watts peak pulse power per line (t_P=8/20μs)
- ✧ Protects five I/O lines
- ✧ Low clamping voltage
- ✧ Working voltage:5V
- ✧ Low capacitance:75pF typical
- ✧ RoHS compliant



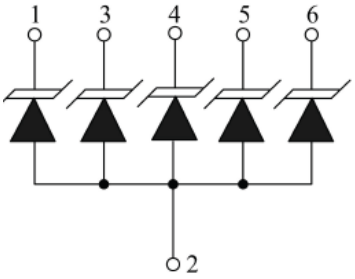
SOT-363

MAIN APPLICATIONS

- ✧ Cellular handsets & accessories
- ✧ Digital video interface (DVI)
- ✧ Notebook computers
- ✧ Video graphics cards
- ✧ Monitors and flat panel displays
- ✧ SIM ports
- ✧ ATM interfaces



Pin Configuration



Circuit Diagram

PROTECTION SOLUTION TO MEET

- ✧ IEC61000-4-2 (ESD) ±30kV (air), ±30kV (contact)
- ✧ IEC61000-4-4 (EFT) 40A (5/50ns)
- ✧ IEC61000-4-5 (Lightning) 10A (8/20μs)

MECHANICAL CHARACTERISTICS

- ✧ JEDEC SOT-363 package
- ✧ Molding compound flammability rating: UL 94V-0
- ✧ Quantity per reel: 3, 000pcs
- ✧ Lead finish: lead free
- ✧ Marking code: 5FC

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

Parameter	Symbol	Value	Unit
Peak pulse power dissipation on 8/20μs waveform	P_{PP}	150	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.)	℃
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}				5.0	V
Reverse breakdown voltage	V_{BR}	I_T=1mA	6.0	7.5		V
Reverse leakage current	I_R	V_{RWM}=5V			0.5	μA
Peak pulse current	I_{PP}	t_P=8/20μs			10	A
Clamping voltage (I/O pin to Ground)	V_C	I_{PP}=10A, t_P=8/20μs		11	15	V
Junction capacitance	C_J	V_{RWM}=0V, f=1MHz Any I/O pin to Ground		75		pF

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

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

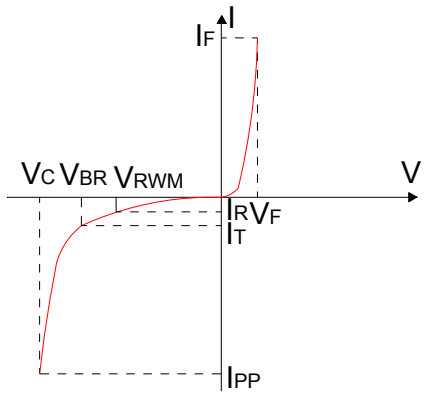


FIG.2: Pulse waveform (8/20μs)

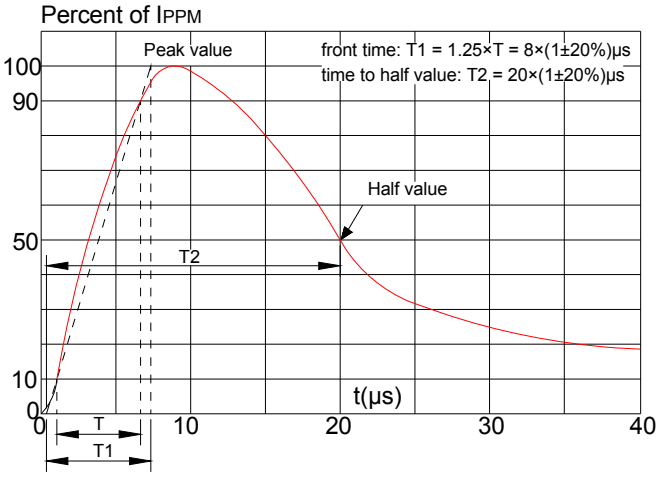


FIG.3: Pulse derating curve

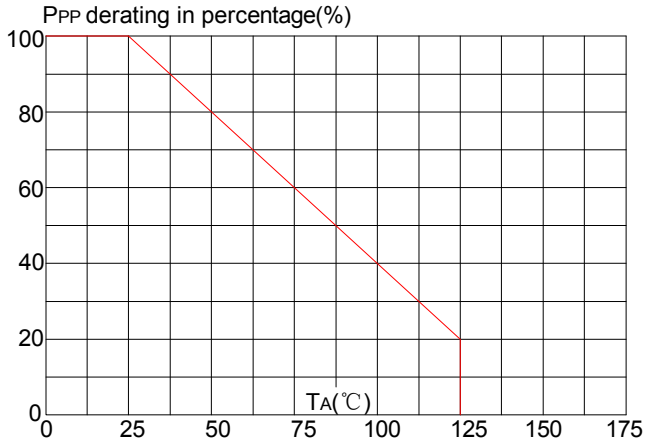
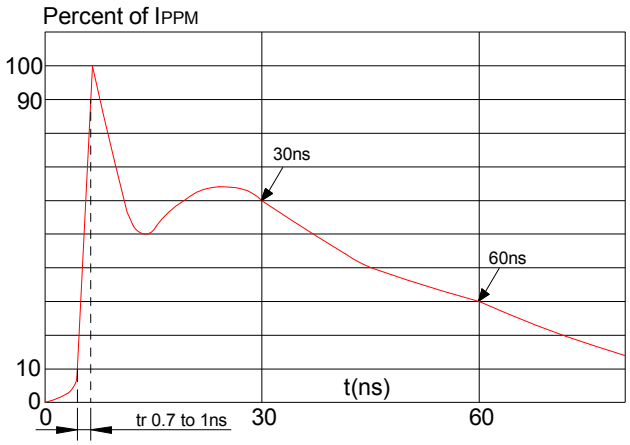
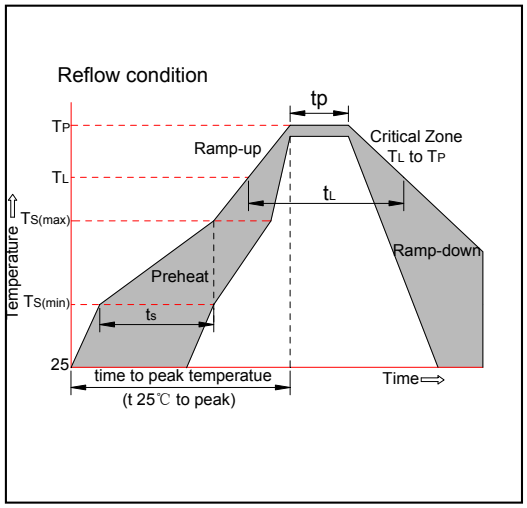


FIG.4: ESD clamping (30kV contact)

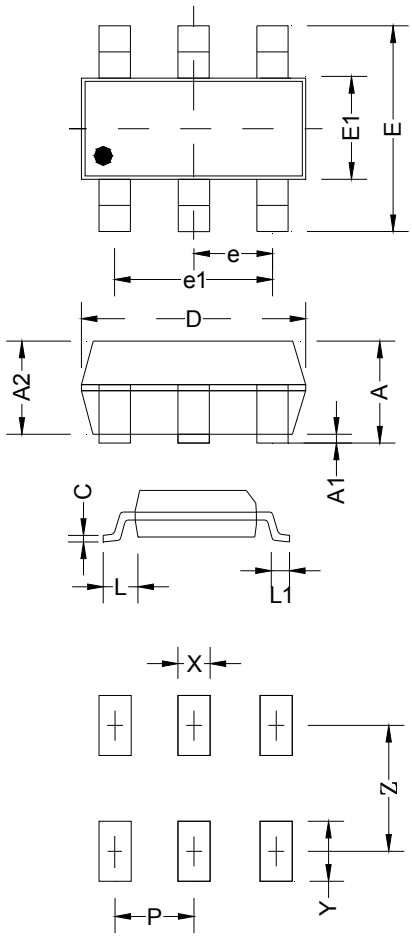


SOLDERING PARAMETERS

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℃



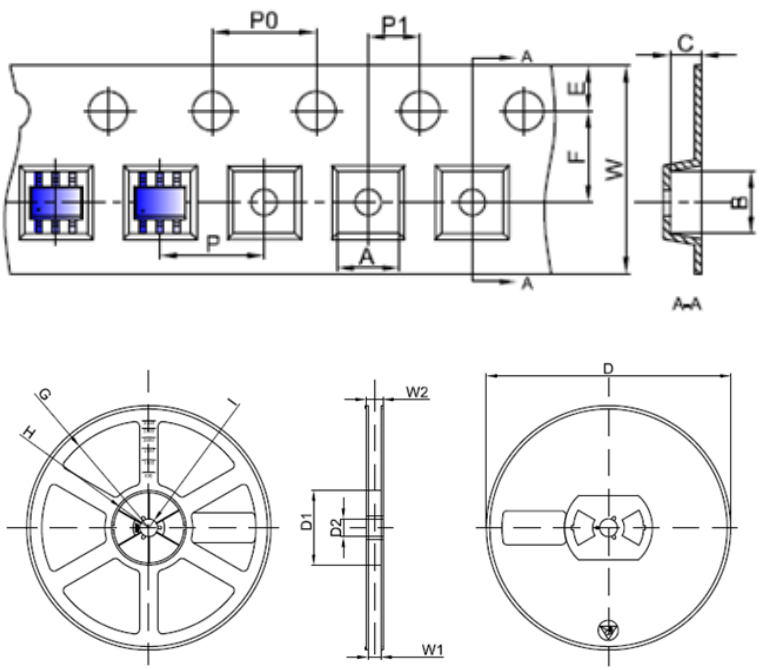
PACKAGE MECHANICAL DATA



Land Pattern

Symbol	Millimeters			Inches		
	Min	Typ	Max	Min	Typ	Max
A	0.90	1.00	1.10	0.035	0.039	0.043
A1	0.00	0.03	0.10	0.000	0.001	0.004
A2	0.90	0.95	1.00	0.035	0.037	0.039
D	2.00	2.10	2.20	0.079	0.083	0.087
E1	1.15	1.20	1.35	0.045	0.047	0.053
E	2.150	-	2.450	0.085	-	0.096
e	0.65Typ.			0.026Typ.		
e1	1.20	1.30	1.40	0.047	0.051	0.055
L	0.525Ref.			0.021Ref.		
L1	0.15	-	0.46	0.006	-	0.018
Z	1.94			0.076		
P	0.65			0.026		
X	0.4			0.016		
Y	0.8			0.031		

TAPE AND REEL INFORMATION-SOT-363



Symbol	Millimeters	Inches
	Typ.	Typ.
A	2.25	0.089
B	2.55	0.100
C	1.20	0.047
d	Φ1.50	Φ0.059
E	1.75	0.069
F	3.50	0.138
P0	4.00	0.157
P	4.00	0.157
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:

SOT-363 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 3,000 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
JEU05MFC	SOT-363	3,000	7 inch reel pack

MARKING CODE

Part Number	Marking Code
JEU05MFC