



FEATURES

- ◇ 400 watts peak pulse power per line ($t_P=8/20\mu s$)
- ◇ Protects two -7V~12V line
- ◇ Low clamping voltage
- ◇ Low capacitance
- ◇ RoHS compliant
- ◇ Solid-state silicon avalanche technology

MAIN APPLICATIONS

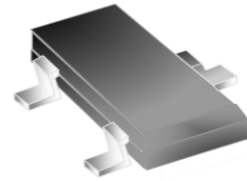
- ◇ Protection of RS-485 transceivers with extended common-mode range
- ◇ Security systems
- ◇ Automatic teller machines
- ◇ HFC systems
- ◇ Net works

PROTECTION SOLUTION TO MEET

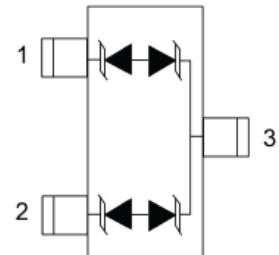
- ◇ IEC61000-4-2 (ESD) $\pm 15kV$ (air), $\pm 8kV$ (contact)
- ◇ IEC61000-4-4 (EFT) 40A (5/50ns)
- ◇ IEC61000-4-5 (Lightning) 12A (8/20 μs)

MECHANICAL CHARACTERISTICS

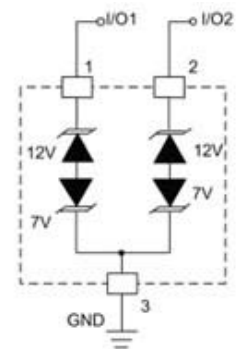
- ◇ SOT-23 package
- ◇ Molding compound flammability rating: UL 94V-0
- ◇ Weight 8 milligrams (approximate)
- ◇ Quantity per reel: 3,000pcs
- ◇ Lead finish: lead free
- ◇ Marking code: 7AM



SOT-23



PIN Configuration



Circuit Diagram

ABSOLUTE MAXIMUM RATINGS ($T_A=25^{\circ}\text{C}$, RH=45%-75%, unless otherwise noted)

Parameter	Symbol	Value	Unit
Peak pulse power dissipation on 8/20 μs waveform	P_{PP}	400	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.)	$^{\circ}\text{C}$
Operating junction temperature range	T_J	-55 to +125	$^{\circ}\text{C}$
Storage temperature range	T_{STG}	-55 to +150	$^{\circ}\text{C}$

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

JEB712M									
			Pins 1、Pin2 to Pin 3 (12V TVS)			Pins 3 to Pin 1、Pin2 (7V TVS)			
Parameter	Symbol	Conditions	Min	Typ	Max	Min	Typ	Max	Unit
Reverse stand-off voltage	V_{RWM}				12			7	V
Reverse breakdown voltage	V_{BR}	$I_T=1\text{mA}$	13.3			7.5			V
Reverse leakage current	I_R	$V_R = V_{RWM}$			1			1	μA
Clamping voltage	V_C	$I_{PP}^{\text{①}}=5\text{A}$, $t_P = 8/20\mu\text{s}$		20	23		12	15	V
Clamping voltage	V_C	$I_{PP}^{\text{①}}=12\text{A}$, $t_P = 8/20\mu\text{s}$		23	26		15	18	V
Junction capacitance	C_J	$V_R=0\text{V}$, $f=1\text{MHz}$			75			75	pF
		$V_R=V_{RWM}$, $f=1\text{MHz}$		45			45		pF

① Surge waveform: 8/20 μs

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

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

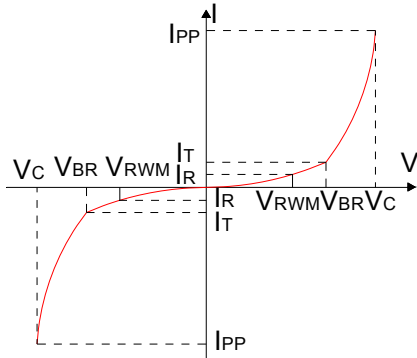


FIG.2: Pulse waveform (8/20μs)

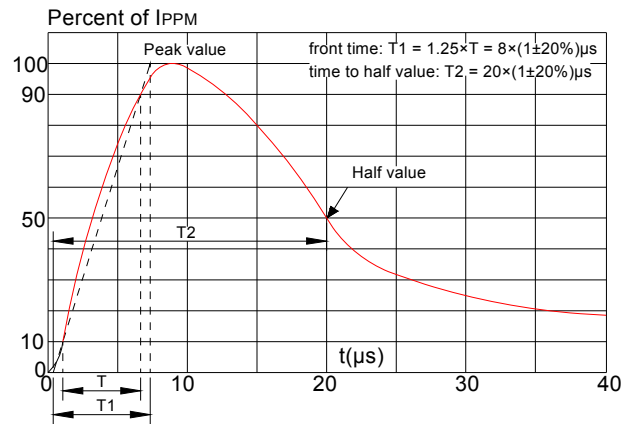


FIG.3: Pulse derating curve

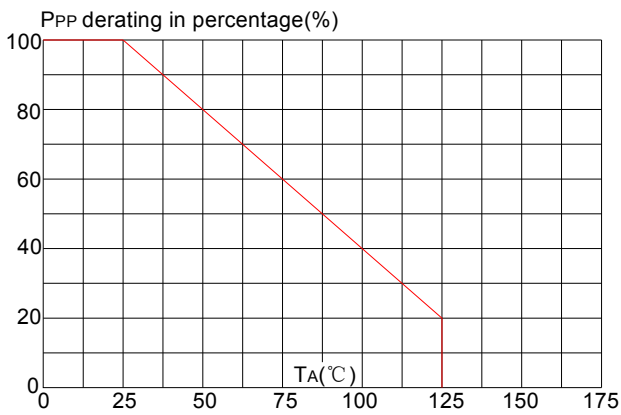
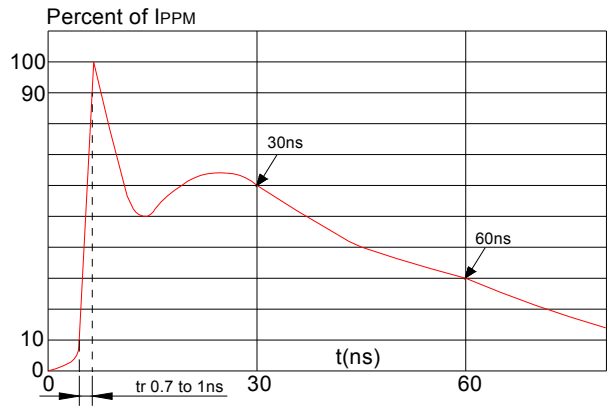
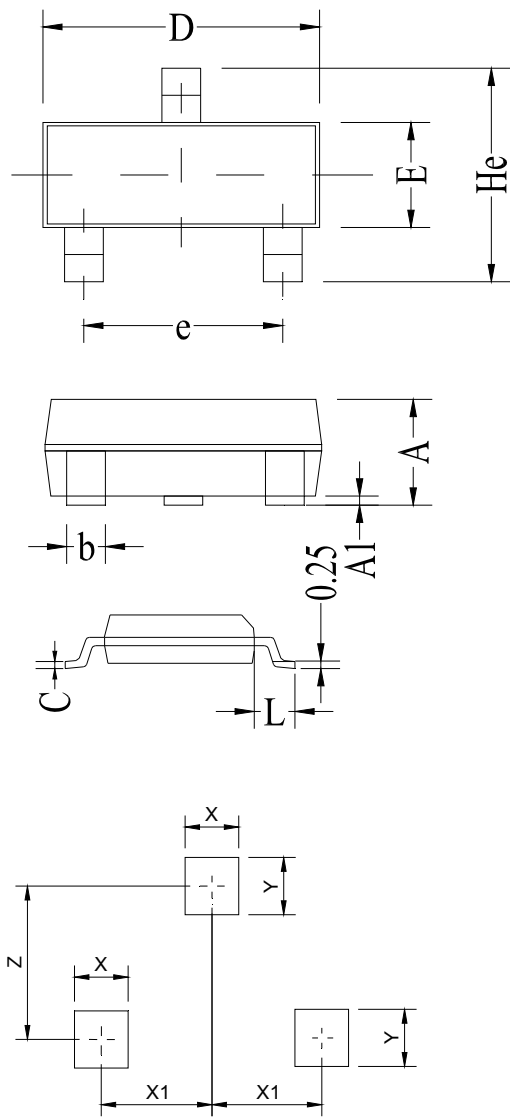


FIG.4: ESD clamping (8KV contact)



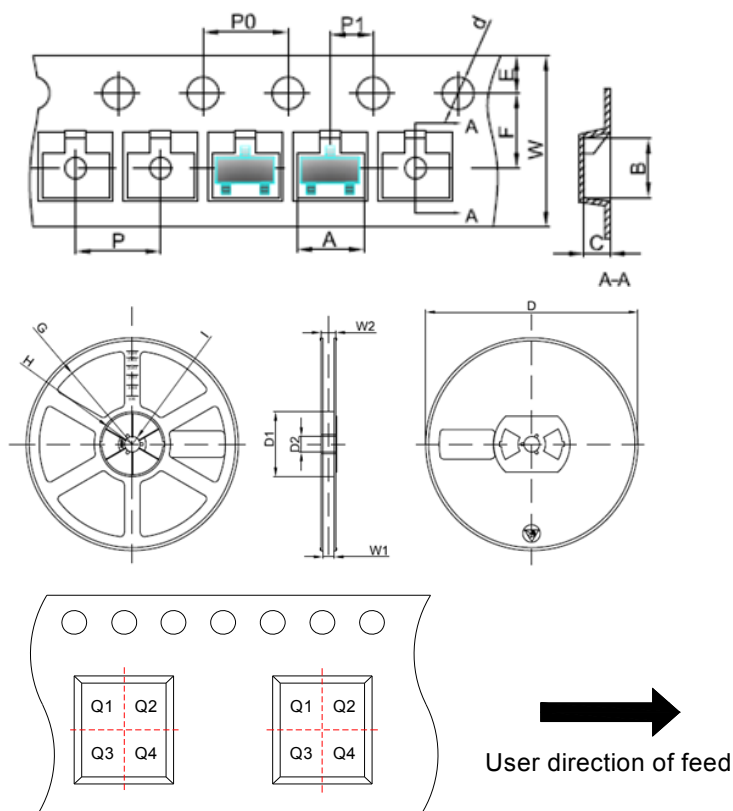
PACKAGE MECHANICAL DATA



Land Pattern

Symbol	Millimeter		Inches	
	Min	Max	Min	Max
A	0.9	1.15	0.035	0.045
A1	0.00	0.10	0.000	0.004
b	0.25	0.325	0.01	0.013
C	0.22	0.25	0.009	0.01
D	2.8	3.0	0.11	0.118
e	1.8	1.9	0.071	0.075
E	1.2	1.4	0.047	0.055
L	0.30	0.50	0.012	0.02
He	2.25	2.55	0.089	0.1
X	0.8		0.0315	
X1	0.95		0.037	
Y	0.80		0.0315	
Z	2.02		0.0795	

TAPE AND REEL SPECIFICATION-SOT-23



Pin 1 quadrant: Q3

Packaging Description:

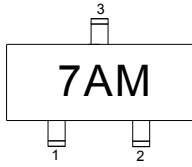
SOT-23 parts are shipped in tape. The carrier tape is made from a dissipative(carbon filled) polycarbonate resin. The cover tape is a multilayer film(heat activated adhesive in nature)primarily composed of polyester film, adhesive layer, sealant, and anti-static sprayed agent. These reeled parts in standard 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	Millimeter	Inches
	Typ.	Typ.
A	3.15	0.124
B	2.77	0.109
C	1.22	0.048
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

ORDERING INFORMATION

PART No.	PACKAGE TYPE	QUANTITY(PCS) REEL	DESCRIPTION
JEB712M	SOT-23	3,000	7 inch reel pack

MARKING CODE

Part Number	Marking Code
JEB712M	

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