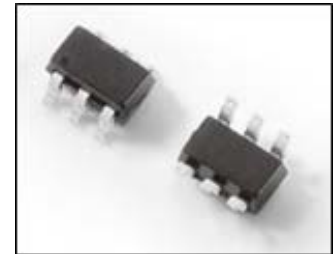




DESCRIPTION:

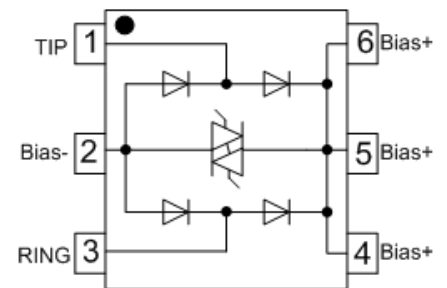
The integrated thyristor series provide overvoltage protection for applications such as VDSL2, ADSL2, and ADSL2+ with minimal effect on data signals. This silicon design innovation results in a capacitive loading characteristic that is compatible with these high bandwidth applications. The devices is also bi-directional between pin1 to pin3. All electrical parameters and surge ratings apply to forward and reverse polarities. This surface mount SOT23-6 package provides a surge capability that exceeds most worldwide standards and recommendations for lightning surge withstand capability of tertiary protectors.



SOT23-6

FEATURES:

- ✧ Compatible with VDSL2、ADSL2
- ✧ Low capacitance and leakage current
- ✧ Balanced overvoltage protection
- ✧ Low clamping voltage
- ✧ Response time under 500ns
- ✧ Low insertion loss
- ✧ Low distortion
- ✧ Meets MSL level 3



Schematic & PIN Configuration

PROTECTION SOLUTION TO MEET

- ✧ IEC61000-4-2 (ESD)±15kV (air), ±8kV (contact)
- ✧ IEC61000-4-4 (EFT)40A(5/50ns)
- ✧ IEC61000-4-5 (Lightning) 35A (8/20μs)

MECHANICAL CHARACTERISTICS

- ✧ JEDEC SOT23-6 package
- ✧ Molding compound flammability rating: UL 94V-0
- ✧ Quantity per reel: 3, 000pcs
- ✧ Lead finish: lead free
- ✧ Marking code: J24G

ABSOLUTE MAXIMUM RATINGS(between pin1 and pin3, T_A=25°C, RH=45%-75%, unless otherwise noted)

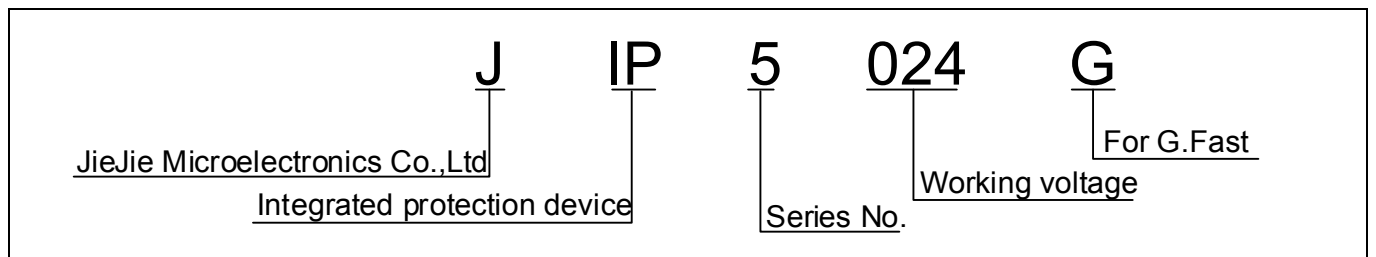
Parameter	Symbol	Value	Unit
Non-repetitive impulse current on 8/20μs waveform	I _{PP}	35	A
ESD per IEC 61000-4-2 (Air) ESD per IEC 61000-4-2 (Contact)	V _{ESD}	+/- 15 +/- 8	kV
Lead soldering temperature	T _L	260 (10 sec.)	°C
Operating junction temperature range	T _J	-40 to +150	°C
Storage temperature range	T _{STG}	-65 to +150	°C

ELECTRICAL CHARACTERISTICS(T_A=25°C)

Parameter	Symbol	Conditions	Min	Typ	Max	Unit
Stand-off voltage	V _{DRM}	I _{DRM} =1μA	24			V
Off-state current	I _{DRM}	V _{DRM} =24V			1	μA
Switching voltage	V _S	100kV/s		30		V
Switching current	I _S		10			mA
Holding current	I _H			40		mA
On-state voltage	V _T	I _T =1A		3.5		V
		I _T =1A, pin 5 to pin2		1		
Clamping voltage	V _C	I _{PP} =35A, t _P =8/20μs		32	35	V
Off-state capacitance	C _O	f=1MHz, 2V		1.1	3.0	pF
Delta Co	ΔC _O	Line bias=1V to V _{DRM}			0.5	pF

Note 1: All measurements made between pin 1 and pin 3 unless otherwise stated.

ORDERING INFORMATION



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

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

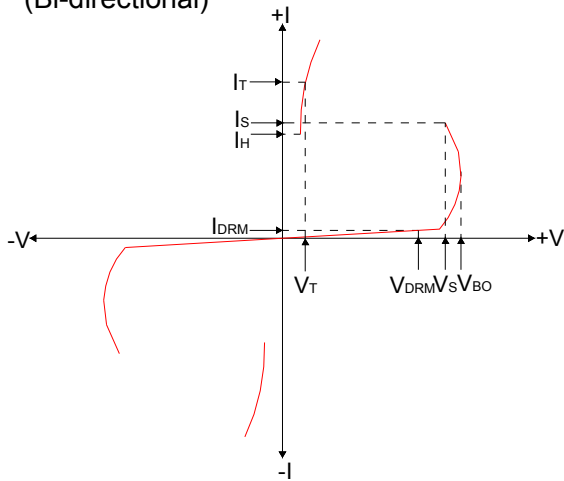


FIG.2: Pulse waveform (8/20 μs)

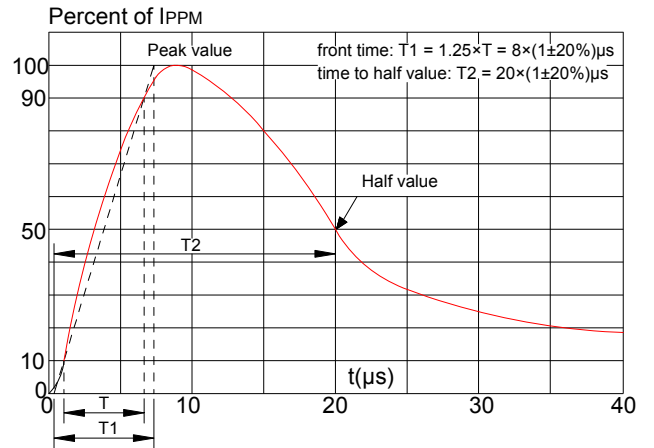


FIG.3: ESD clamping (8kV contact)

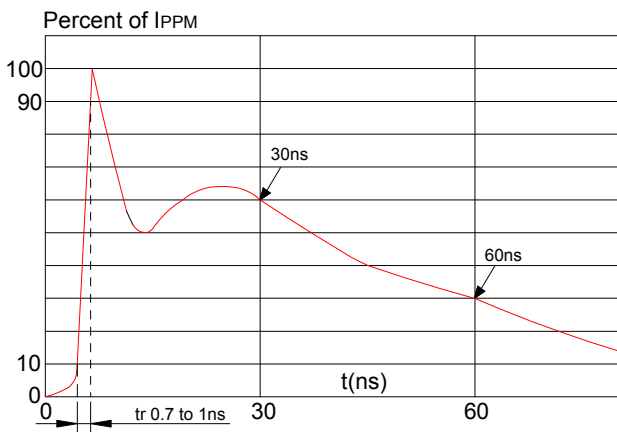


FIG.4: Typical capacitance against line voltage
(without external bias)

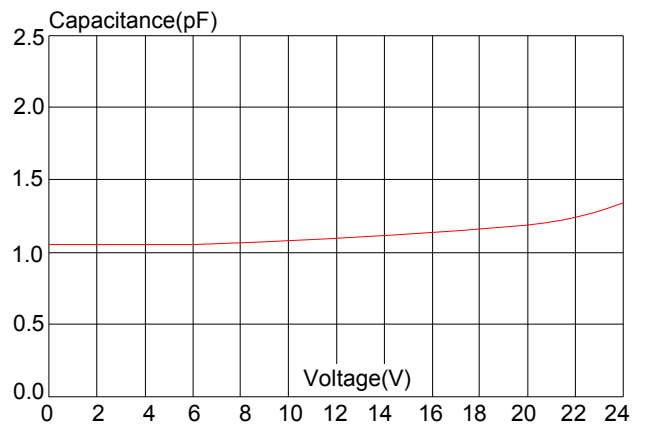


FIG.5: Normalized Vs change vs. junction temperature

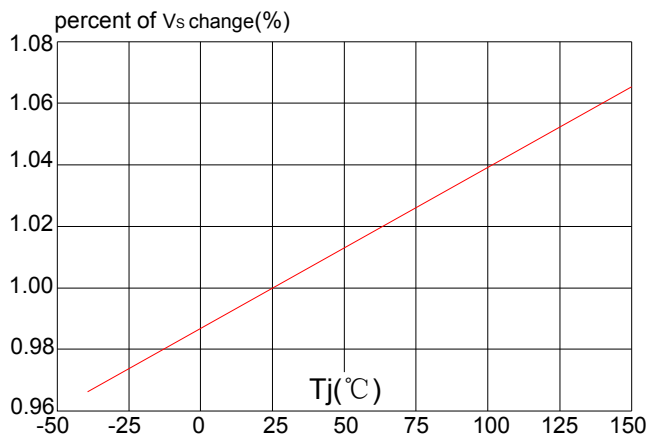
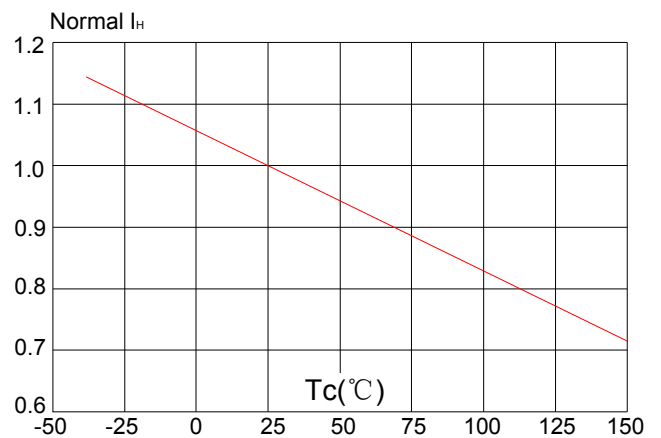
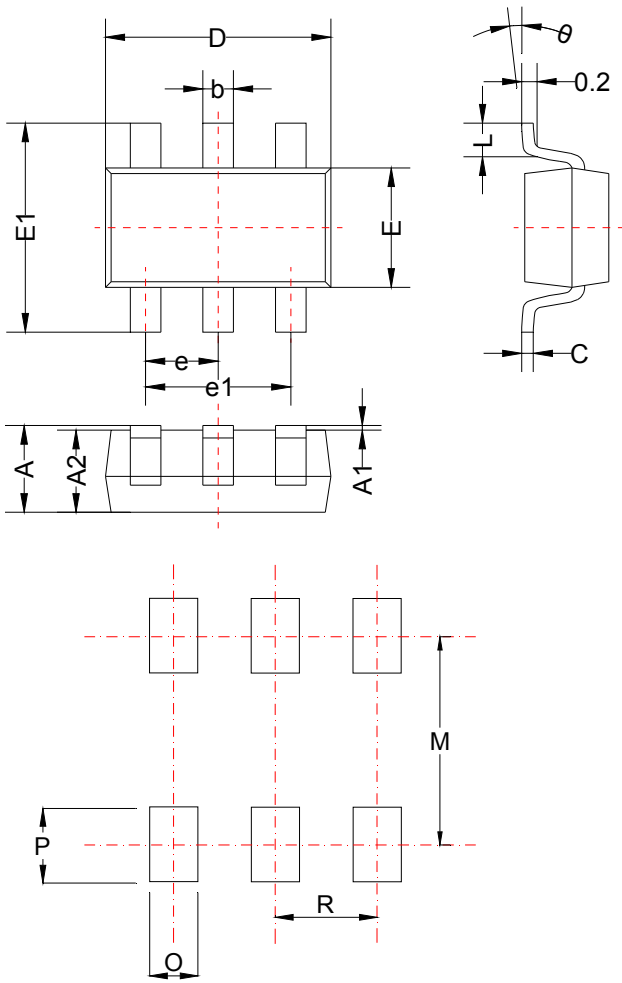


FIG.6: Normalized holding current vs. case temperature



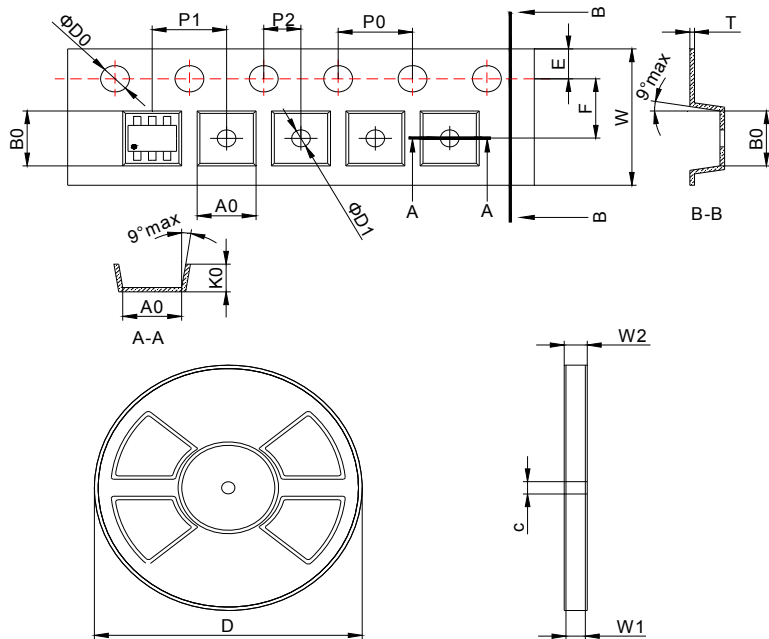
PACKAGE MECHANICAL DATA



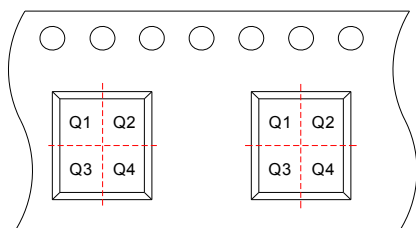
Symbol	Millimeters		Inches	
	Min	Max	Min	Max
A	1.05	1.25	0.041	0.049
A1	0.00	0.10	0.000	0.004
A2	1.05	1.15	0.041	0.045
b	0.30	0.50	0.012	0.020
c	0.10	0.20	0.004	0.008
D	2.85	3.05	0.112	0.120
E	1.50	1.70	0.059	0.067
E1	2.65	2.95	0.104	0.116
e	0.95(BSC)		0.037(BSC)	
e1	1.80	2.00	0.071	0.079
L	0.30	0.60	0.012	0.024
θ	0°	8°	0°	8°
M	-	2.59	-	0.102
O	-	0.69	-	0.027
P	-	0.99	-	0.039
R	-	0.95	-	0.038

Recommended solder pad layout

TAPE AND REEL SPECIFICATION-SOT23-6



Symbol	Millimeters	Inches
W	8.0 ^{+0.30} _{-0.10}	0.315 ^{+0.012} _{-0.004}
P1	4.0±0.10	0.157±0.004
E	1.75±0.1	0.069±0.004
F	3.5±0.05	0.138±0.002
D0	Φ1.55±0.05	Φ0.061±0.002
D1	Φ1.0 ^{+0.25} _{-0.00}	Φ0.039 ^{+0.010} _{-0.000}
P0	4.0±0.10	0.157±0.004
P2	2.0±0.05	0.079±0.002
A0	3.17±0.10	0.125±0.004
B0	3.23±0.10	0.127±0.004
K0	1.37±0.10	0.054±0.004
T	0.25±0.02	0.010±0.001
D	177.8	7.00
W1	10.4±2.0	0.409±0.079
W2	16.2±1.8	0.638±0.071
c	13.25±0.25	0.522±0.010



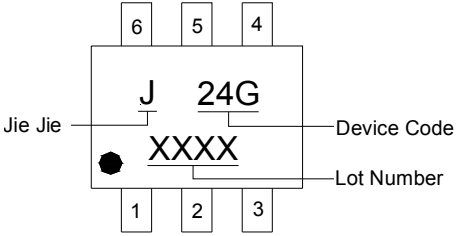
➔ User direction of feed

Pin 1 quadrant: Q3

ORDERING INFORMATION

PART No.	REEL (PCS)	PER CARTON (PCS)	DESCRIPTION
JIP5024G	3,000	120,000	7 inch reel pack

MARKING CODE

Part Number	Marking Code
JIP5024G	 <p>The diagram shows a rectangular marking area on a component. At the top, there are three boxes labeled 6, 5, and 4. At the bottom, there are three boxes labeled 1, 2, and 3. Inside the rectangle, the letter 'J' is positioned above the number '24G'. Below '24G' is the text 'XXXX'. To the left of the rectangle is the text 'Jie Jie' with a line pointing to a small black dot on the left edge of the rectangle. To the right of the rectangle, the text 'Device Code' has a line pointing to '24G', and 'Lot Number' has a line pointing to 'XXXX'.</p>

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