



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.

FEATURES

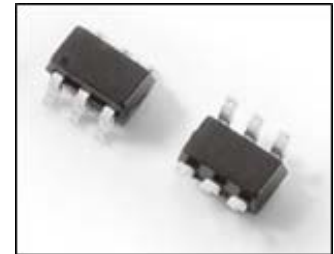
- ✧ Compatible with VDSL2、ADSL2
- ✧ Low capacitance and leakage current
- ✧ Balanced overvoltage protection
- ✧ Low clamping voltage
- ✧ Response time under 500ns
- ✧ Low insertion loss
- ✧ Low distortion
- ✧ Meets MSL level 3

PROTECTION SOLUTION TO MEET

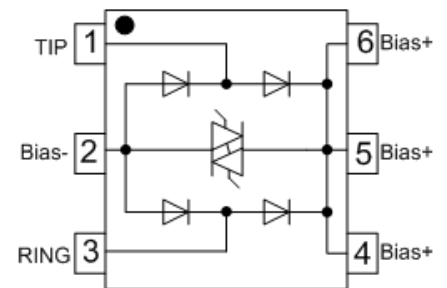
- ✧ IEC61000-4-2 (ESD)±15kV (air), ±8kV (contact)
- ✧ IEC61000-4-4 (EFT)40A(5/50ns)
- ✧ IEC61000-4-5 (Lightning) 35A (8/20μs)

MECHANICAL CHARACTERISTICS

- ✧ JEDEC SOT23-6 package
- ✧ Molding compound flammability rating: UL 94V-0
- ✧ Quantity per reel: 3, 000pcs
- ✧ Lead finish: lead free
- ✧ Marking code: W24GF



SOT23-6



Schematic & PIN Configuration

ABSOLUTE MAXIMUM RATINGS(between pin1 and pin3, $T_A=25^{\circ}\text{C}$, $\text{RH}=45\%-75\%$, unless otherwise noted)

Parameter	Symbol	Value	Unit
Non-repetitive impulse current at 8/20 μs 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.)	$^{\circ}\text{C}$
Operating junction temperature range	T_J	-40 to +150	$^{\circ}\text{C}$
Storage temperature range	T_{STG}	-65 to +150	$^{\circ}\text{C}$

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

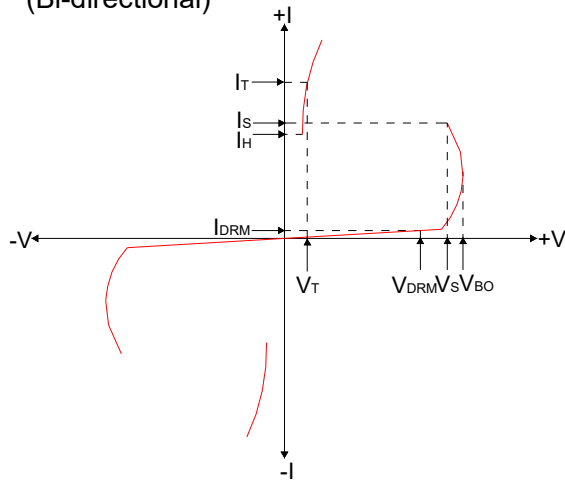
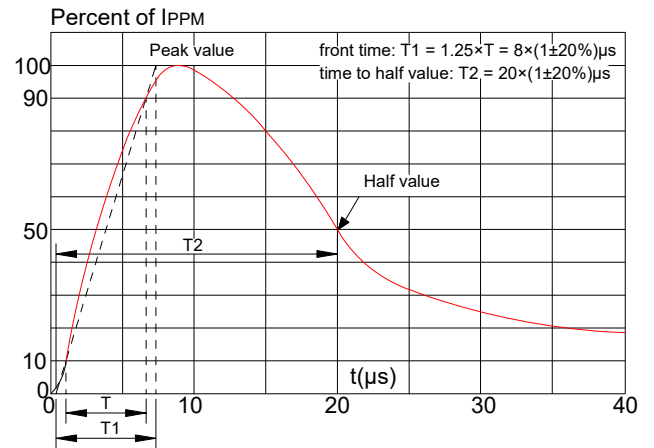
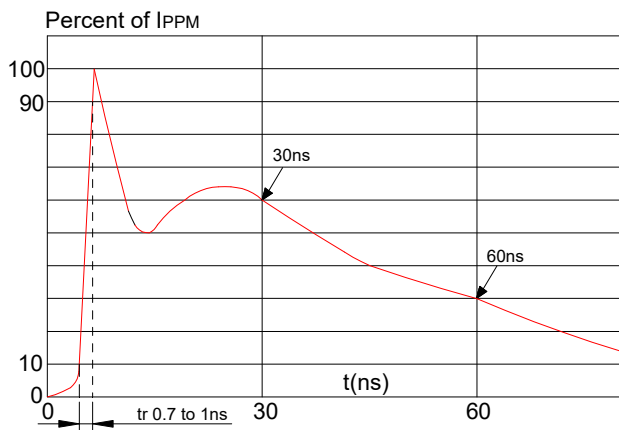
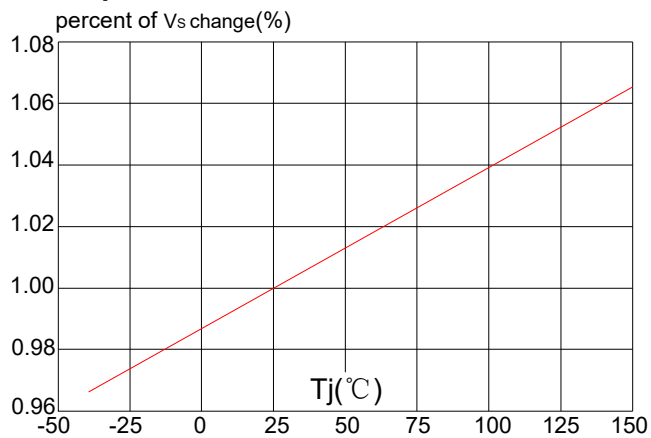
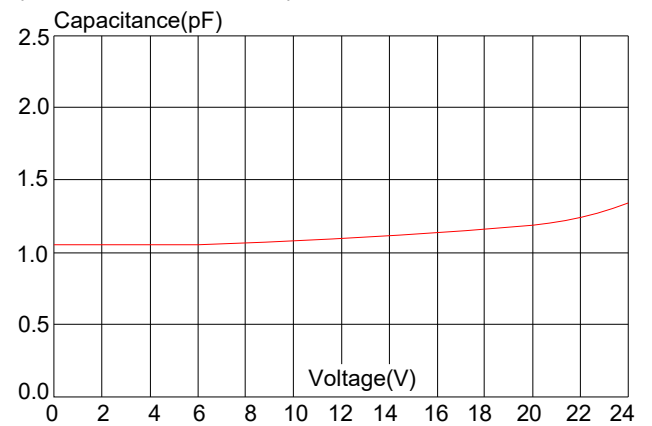
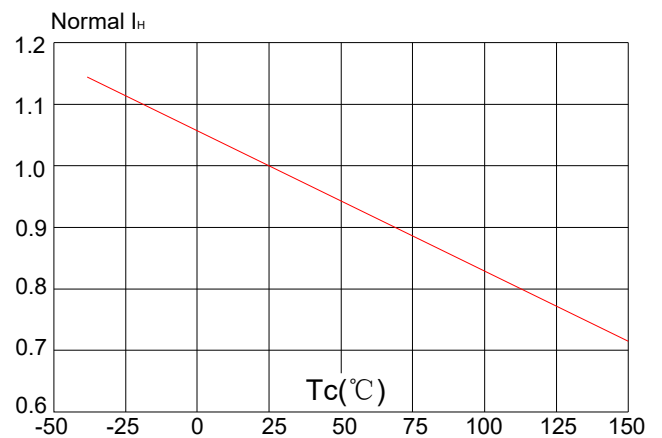
Parameter	Symbol	Conditions	Min	Typ	Max	Unit
Stand-off voltage	V_{DRM}	$I_{DRM}=1\mu\text{A}$	24			V
Off-state current	I_{DRM}	$V_{DRM}=24\text{V}$			1	μA
Switching voltage	V_S	100kV/s		30		V
Switching current	I_S		10			mA
Holding current	I_H			40		mA
On-state voltage	V_T	$I_T=1\text{A}$		3.5		V
		$I_T=1\text{A}$, pin 5 to pin2		1		
Clamping voltage	V_C	$I_{PP}=35\text{A}$, $t_P=8/20\mu\text{s}$		32	35	V
Off-state capacitance	C_O	$f=1\text{MHz}$, 2V		1.1	3.0	pF
Delta C_O	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.

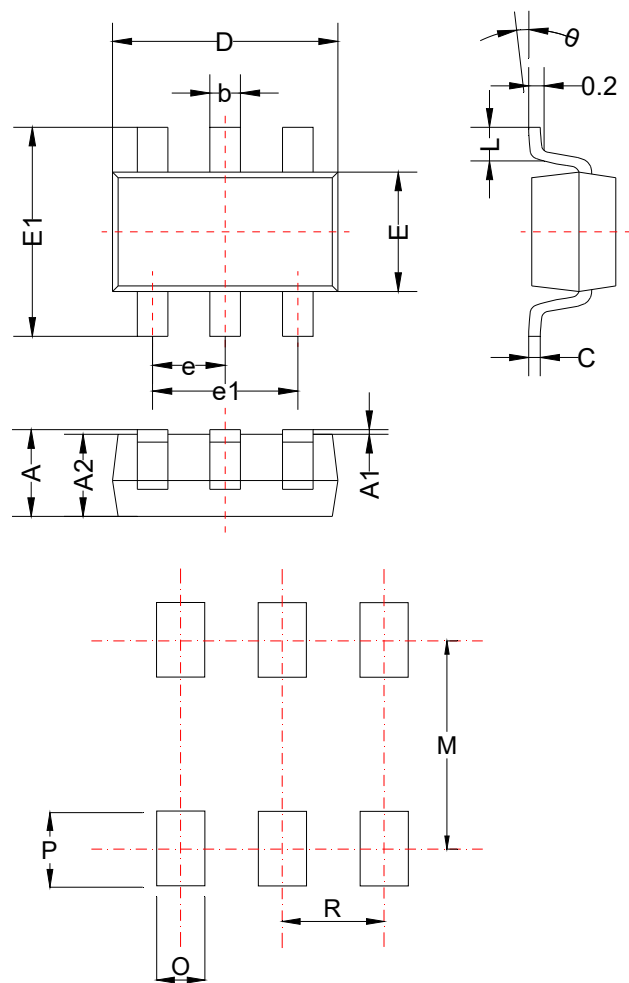
ORDERING INFORMATION

J IP 5 024 G				
	JieJie Microelectronics Co.,Ltd	Integrated protection device	Series No.	Working voltage For G.Fast

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.5: Normalized Vs change vs.junction temperature

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

FIG.6: Normalized holding current vs. case temperature


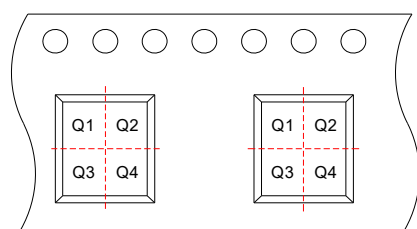
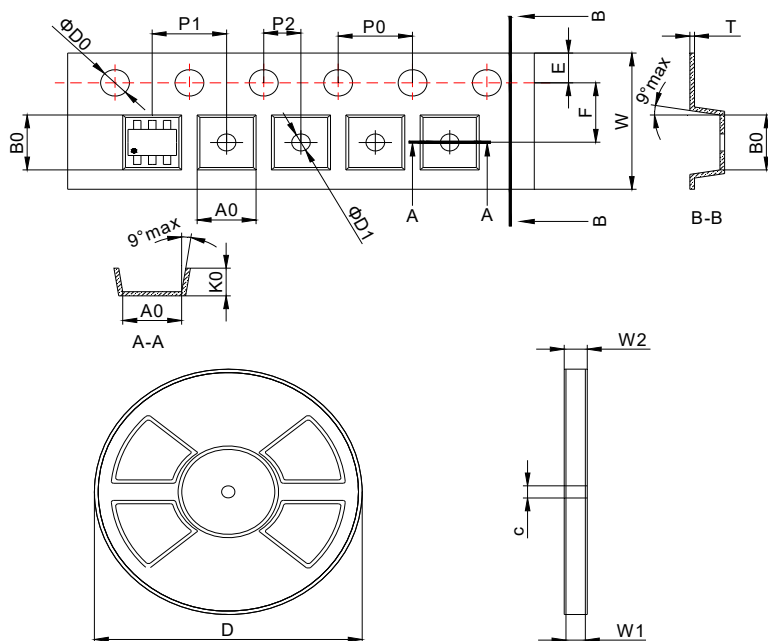
PACKAGE MECHANICAL DATA



Recommended solder pad layout

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

TAPE AND REEL SPECIFICATION-SOT23-6



Pin 1 quadrant: Q3

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	$\Phi 1.55 \pm 0.05$	$\Phi 0.061 \pm 0.002$
D1	$\Phi 1.0^{+0.25}_{-0.00}$	$\Phi 0.039^{+0.010}_{-0.000}$
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

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	654 W 24GF ● XXXX 123 Device Code Lot number

JieJie products are not designed for, and shall not be used for, any purpose (including, without limitation, automotive, military, aerospace, medical, life-saving, life-sustaining or nuclear facility applications, devices intended for surgical implant into the body, or any other application in which the failure or lack of desired operation of the product may result in personal injury, death, or property damage) other than those expressly set forth in applicable JieJie product documentation. Warranties granted by JieJie shall be deemed void for products used for any purpose not expressly set forth in applicable JieJie documentation. JieJie shall not be liable for any claims or damages arising out of products used in applications not expressly intended by JieJie as set forth in applicable JieJie documentation. The sale and use of JieJie products is subject to JieJie terms and conditions of sale, unless otherwise agreed by JieJie.

Information furnished in this document is believed to be accurate and reliable. However, Jiangsu JieJie Microelectronics Co., Ltd. assumes no responsibility for the consequences of use without consideration for such information nor use beyond it.

Information mentioned in this document is subject to change without notice, apart from that when an agreement is signed, Jiangsu JieJie complies with the agreement.

Products and information provided in this document have no infringement of patents. Jiangsu JieJie assumes no responsibility for any infringement of other rights of third parties which may result from the use of such products and information.

This document is the second version which is made in 9-Sep.-2025. This document supersedes and replaces all information previously supplied.

 is a registered trademark of Jiangsu JieJie Microelectronics Co., Ltd.

Copyright ©2025 Jiangsu JieJie Microelectronics Co., Ltd. Printed All rights reserved.