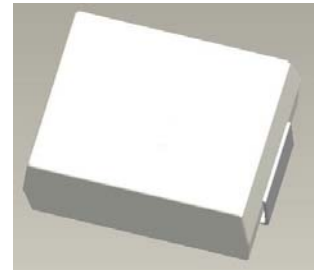




### FEATURES

- Improved component design in a compact case
- High surge current capability of up to 3.5kA
- Superior performance at high temperature
- White package design without shadow in LED lighting application
- SMD mountable disk varistors, suitable for lead-free Reflow/wave soldering



### APPLICATIONS

- Power supplies for telecommunication systems
- Protection for LED circuits
- Protection for consumer, industrial equipment
- Protection for automotive electronics

### APPLICABLE STANDARDS

- UL1449
- IEC61051-1, -2, -2-2, IEC60950-1 Annex Q
- GB/T10193, GB/T10194, GB4943.1, GB8898
- IEC61000-4-5

### TYPE CODE DESIGNATION

JJ	SV	4032	K	471	G2
JJ: JieJie Semiconductor				Tape and reel (1000 pcs/reel)	
SV: SMD disk varistors				Varistor voltage V <sub>1mA</sub> : 47×10 <sup>1</sup> =470 V	
4032: 40/100''×32/100''(10.4mm×8.2mm)			Tolerance of varistor voltage at 1 mA: ±10%(V <sub>1mA</sub> )		

### GENERAL TECHNICAL DATA

Parameter	Value	Unit
Operating temperature	-55 to +125	°C
Storage temperature	-55 to +150	°C
Electric strength	≥2.5	kV <sub>RMS</sub>
Insulation resistance	≥100	MΩ



## ELECTRICAL CHARACTERISTICS (T<sub>A</sub>=125°C)

SMD Types (EIA Case 40×32 in inch)	Varistor Voltage at 1 mA  [V]	Continuous Voltage		Peak Current (8/20 μs)		Energy (2 ms)	Rated Power  [mW]	Clamping Voltage at Class Current (8/20μs) [V]	Class Current (8/20μs) [A]	Capacitance
		Max		Max		Max				Max
		V <sub>RMS</sub>	V <sub>DC</sub>	(1 time)	(2 times)	(1 time)				(at 1 kHz)
		[V]	[V]	[A]	[A]	[J]				[pF]
JJSV4032K180G2	18(16~20)	11	14	1000	500	2.2	50	36	5	16000
JJSV4032K220G2	22(20~24)	14	18	1000	500	2.6	50	43	5	11000
JJSV4032K270G2	27(24~30)	17	22	1000	500	3.2	50	53	5	8000
JJSV4032K330G2	33(30~36)	20	26	1000	500	4.0	50	65	5	6300
JJSV4032K390G2	39(35~43)	25	31	1000	500	4.7	50	77	5	5200
JJSV4032K470G2	47(42~52)	30	38	1000	500	5.6	50	93	5	4600
JJSV4032K560G2	56(50~62)	35	45	1000	500	6.7	50	110	5	3750
JJSV4032K680G2	68(61~75)	40	56	1000	500	8.2	50	135	5	2800
JJSV4032K820G2	82(74~90)	50	65	3500	2500	10	400	135	25	2000
JJSV4032K101G2	100(90~110)	60	85	3500	2500	12	400	165	25	1700
JJSV4032K121G2	120(108~132)	75	100	3500	2500	14.5	400	200	25	1400
JJSV4032K151G2	150(135~165)	95	125	3500	2500	18	400	250	25	1100
JJSV4032K181G2	180(162~198)	115	150	3500	2500	25	400	300	25	430
JJSV4032K201G2	200(180~220)	130	170	3500	2500	25	400	340	25	430
JJSV4032K221G2	220(198~242)	140	180	3500	2500	27.5	400	360	25	410
JJSV4032K241G2	240(216~264)	150	200	3500	2500	30	400	395	25	380
JJSV4032K271G2	270(243~297)	175	225	3500	2500	35	400	455	25	350
JJSV4032K331G2	330(297~363)	210	270	3500	2500	42	400	545	25	300
JJSV4032K361G2	360(324~396)	230	300	3500	2500	45	400	595	25	300
JJSV4032K391G2	390(351~429)	250	320	3500	2500	50	400	650	25	300
JJSV4032K431G2	430(387~473)	275	350	3500	2500	55	400	710	25	270
JJSV4032K471G2	470(423~517)	300	385	3500	2500	60	400	775	25	230
JJSV4032K511G2	510(459~561)	320	420	3500	2500	67	400	845	25	210
JJSV4032K561G2	560(504~616)	350	460	3500	2500	67	400	930	25	200
JJSV4032K621G2	620(558~682)	385	505	3500	2500	67	400	1025	25	190
JJSV4032K681G2	680(612~748)	420	560	3500	2500	67	400	1120	25	170
JJSV4032K751G2	750(675~825)	460	615	3500	2500	70	400	1240	25	160

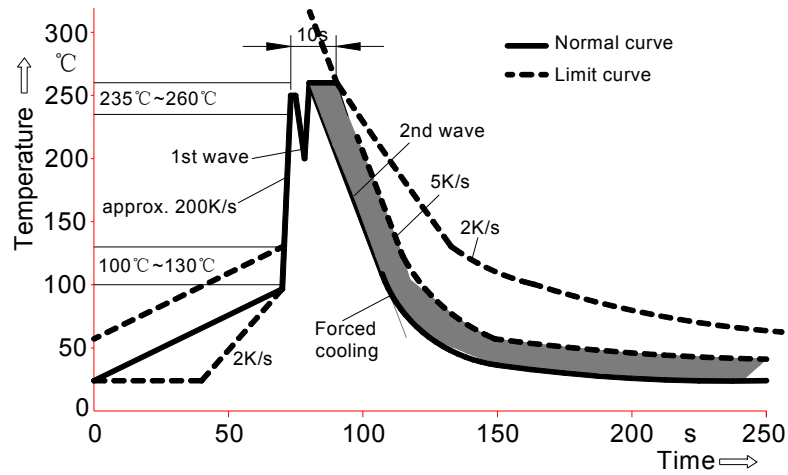


## SOLDERING GUIDELINES

The usage of mild, non-activated fluxes for soldering is recommended, as well as proper cleaning of the PCB.

The components are suitable for reflow soldering per JEDEC J-STD-020C.

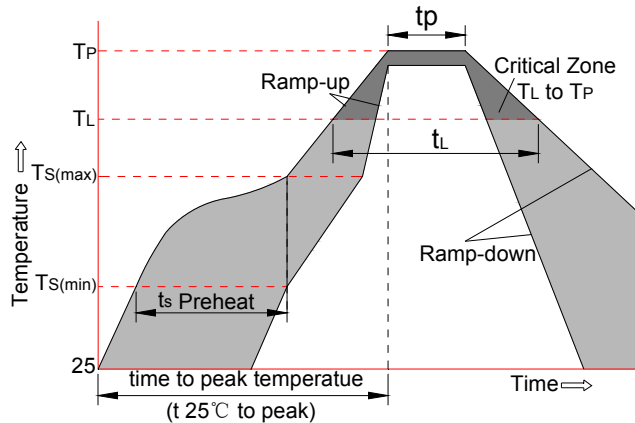
### - Wave soldering



Temperature characteristics at component terminal with dual-wave soldering



## - Reflow soldering



Profile feature		Sn-Pb assembly	Pb-Free assembly
Average ramp-up rate (TSmax to TP)		3°C/sec. Max	3°C/sec. Max
Preheat	-Temperature min. (TS(min))	+100°C	+150°C
	-Temperature max.(TS(max))	+150°C	+200°C
	-Time (tsmin to tsmax)	60-120 secs.	60-180 secs.
TS(max) to TL - Ramp-up Rate		3°C/sec. Max	3°C/sec. Max
Time maintained above	-Temperature min. (TL)	+183°C	+217°C
	-Time (tL)	60-150 secs.	60-150 secs.
Peak classification temperature (TP)		+220°C to +240°C	+240°C to +260°C
Time within 5°C of actual peak temperature (tp)		10 secs. to 30 secs.	20 secs. to 40 secs.
Ramp-down rate		6°C/sec. max.	6°C/sec. max.
Time 25°C to peak temperature		6 min. max.	8 min. max.

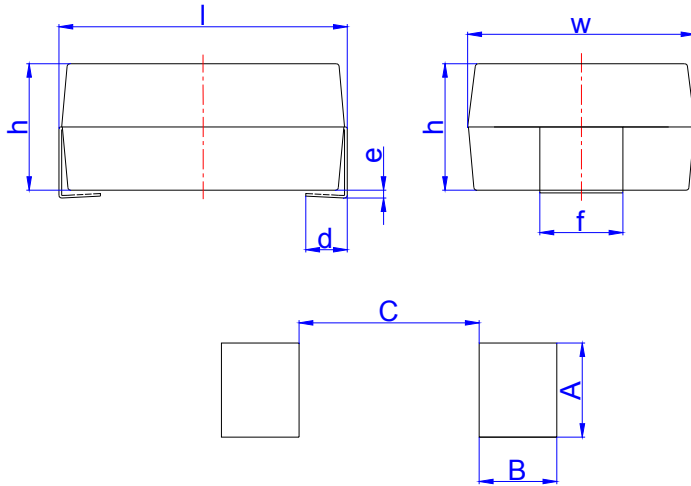
Notes: All temperature refer to topside of the package, measured on the package body surface  
 Maximum number of reflow cycles: 3

## STORAGE CONDITION

- As far as possible, the components should be employed within 24 months after delivery from JieJie Semiconductor.
- They should be left in their original packing to avoid soldering problems due to oxidized contacts.
- Storage temperature: - 25 up to + 45°C.
- Relative humidity: < 75 % annual average, < 95 % on max. 30 days in a year.



## DIMENSIONAL DRAWINGS

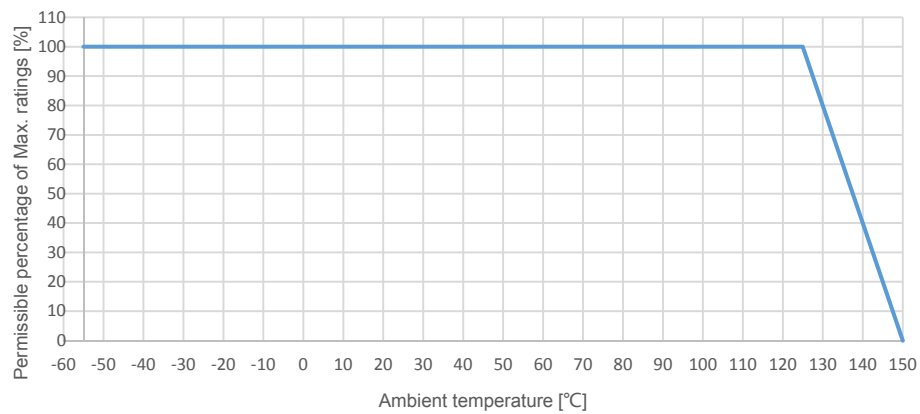


Ref.	Dimensions					
	Millimeters			Inches		
	Min.	Typ.	Max.	Min.	Typ.	Max.
l	10.20		11.00	0.402		0.433
w	7.90		8.50	0.311		0.335
h	4.40		5.00	0.173		0.197
d	1.20		1.80	0.047		0.071
e	0		0.30	0		0.012
f	2.70		3.30	0.106		0.130
A		3.50			0.138	
B		2.80			0.110	
C		6.50			0.256	

Recommended solder pad layout

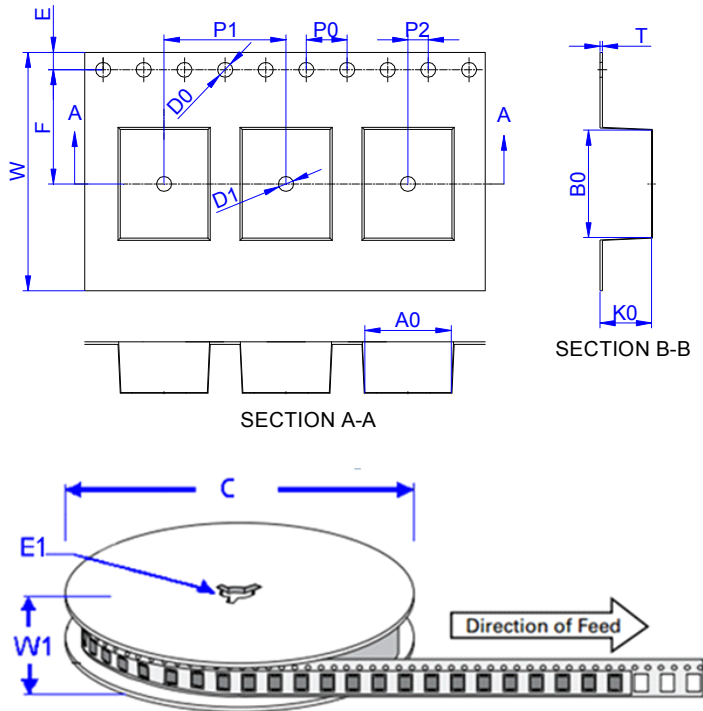
## TEMPERATURE RATING CURVE

Max. current, energy, operating voltage and average power dissipation depending on ambient temperature





## TAPING AND PACKAGING SPECIFICATION-SMD-4032



Ref.	Dimensions	
	Millimeters	Inches
A0	8.50±0.10	0.335±0.004
B0	10.80±0.10	0.425±0.004
C	330.0	13.0
D0	1.50±0.10	0.059±0.004
D1	1.50±0.10	0.059±0.004
E	1.75±0.10	0.069±0.004
E1	13.3±0.3	0.524±0.012
F	11.50±0.10	0.453±0.004
K0	5.10±0.10	0.201±0.004
P0	4.00±0.10	0.157±0.004
P1	12.00±0.10	0.472±0.004
P2	2.00±0.10	0.079±0.004
T	0.30±0.05	0.012±0.002
W	24.00±0.30	0.945±0.012
W1	28.5±2.0	1.122±0.079

OUTLINE	UNIT WEIGHT (g/PCS) typ.	REEL (PCS)	PER CARTON (PCS)	DESCRIPTION
TAPING	0.8535	1,000	8,000	13 inch reel pack

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