

FEATURES

- Improved component design in a compact case
- High surge current capability of up to 3.5 kA
- 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

:	LDT	4032	-	471	H
	Leiditech: logo				High absorption
4032: 40/100"×32/100"(10.4mm×8.2mm)				Varistor voltage V _{1mA} : 47×10 ¹ =470 V	Tolerance of varistor voltage at 1 mA: ±10%(V _{1mA})

GENERAL TECHNICAL DATA

Parameter	Value	Unit
Operating temperature	-55 to +125	°C
Storage temperature	-55 to +150	°C
Electric strength	≥2.5	kV _{RMS}
Insulation resistance	≥100	MΩ

ELECTRICAL CHARACTERISTICS

(Ta=125°C)

SMD Types (EIA Case 40×32 in inch)	Continuous Voltage		Peak Current (8/20 μs)		Energy (2 ms)	Rated Power
	Max		Max		Max	
	V _{RMS}	V _{DC}	(1 time)	(2 times)	(1 time)	
	[V]	[V]	[A]	[A]	[J]	[mW]
LDT4032 - 271H	175	225	2500	1500	35	400
LDT4032 - 391H	250	320	2500	1500	50	400
LDT4032 - 431H	275	350	2500	1500	55	400
LDT4032 - 471H	300	385	2500	1500	60	400
LDT4032 - 511H	320	420	2500	1500	67	400
LDT4032 - 561H	350	460	2500	1500	67	400
LDT4032 - 621H	385	505	2500	1500	67	400
LDT4032 - 681H	420	560	2500	1500	67	400

(Ta=25°C)

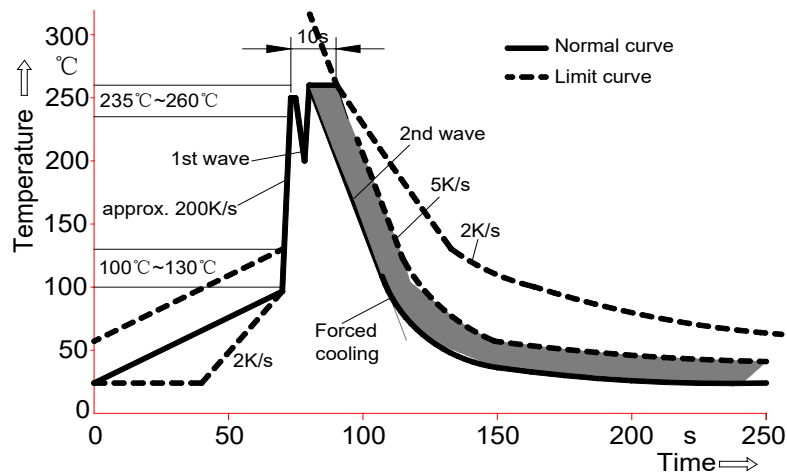
SMD Types (EIA Case 40×32 in inch)	Varistor Voltage at 1 mA	Clamping Voltage at Class Current (8/20 μs)	Class Current (8/20 μs)	Capacitance
	(±10%)			Max
	[V]	[V]	[A]	(at 1 kHz) [pF]
LDT4032 - 271H	270	455	25	350
LDT4032 - 391H	390	650	25	300
LDT4032 - 431H	430	710	25	270
LDT4032 - 471H	470	775	25	230
LDT4032 - 511H	510	845	25	210
LDT4032 - 561H	560	930	25	200
LDT4032 - 681H	680	1120	25	170

SOLDERING GUIDELINES

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

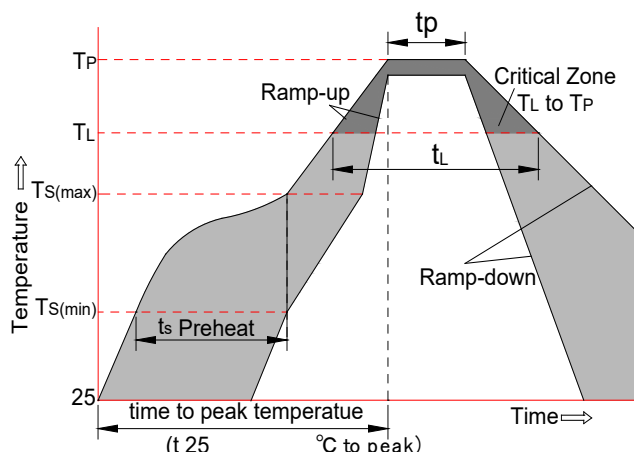
The components are suitable for reflow soldering per JEDEC J-STD-020C.

- Wave soldering



Temperature characteristics at component terminal with dual-wave soldering

- Reflow soldering



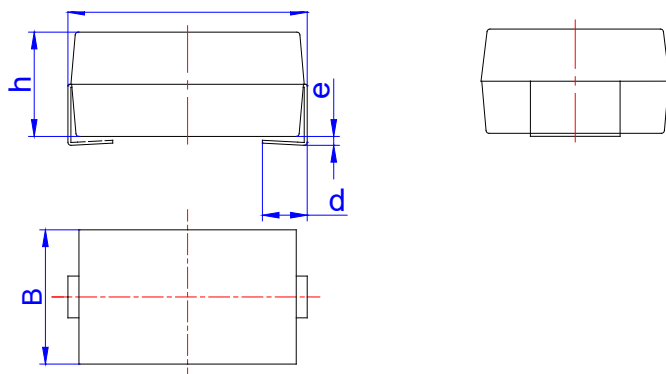
Profile feature		Sn-Pb assembly	Pb-Free assembly
Average ramp-up rate (T_{Smax} to T_p)		3°C/sec. Max	3°C/sec. Max
Preheat	-Temperature min. ($T_{s(min)}$)	+100°C	+150°C
	-Temperature max. ($T_{s(max)}$)	+150°C	+200°C
	-Time (t_{Smin} to t_{Smax})	60-120 secs.	60-180 secs.
$T_{s(max)}$ to T_L - Ramp-up Rate		3°C/sec. Max	3°C/sec. Max
Time maintained above	-Temperature min. (T_L)	+183°C	+217°C
	-Time (t_L)	60-150 secs.	60-150 secs.
Peak classification temperature (T_p)		+220°C to +240°C	+240°C to +260°C
Time within 5°C of actual peak temperature (t_p)		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

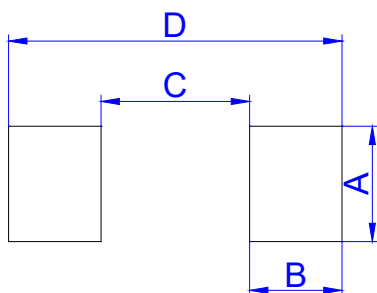
- As far as possible, the components should be employed within 24 months after delivery from Kangtai Semiconductor.
- They should be left in their original packing to avoid soldering problems due to oxidized contacts.
- Storage temperature: - 25 up to + 45°C.
- Relative humidity: < 75 % annual average,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

DIMENSIONAL DRAWINGS



Ref.	Dimensions					
	Millimeters			Inches		
	Min.	Typ.	Max.	Min.	Typ.	Max.
I	10.1	10.4	10.7	0.398	0.409	0.421
B	7.7	8.0	8.3	0.303	0.315	0.327
h	4.2	4.5	4.8	0.165	0.177	0.189
d	1.2	1.5	1.8	0.047	0.059	0.071
e			0.3			0.012

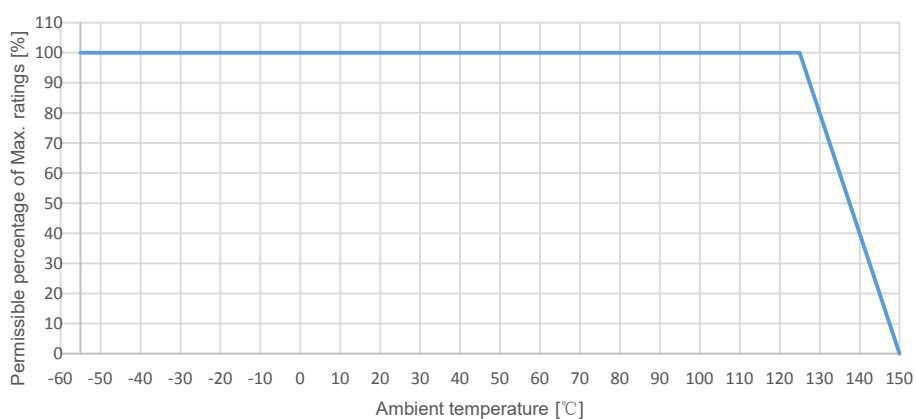
RECOMMENDED SOLDER PAD LAYOUT



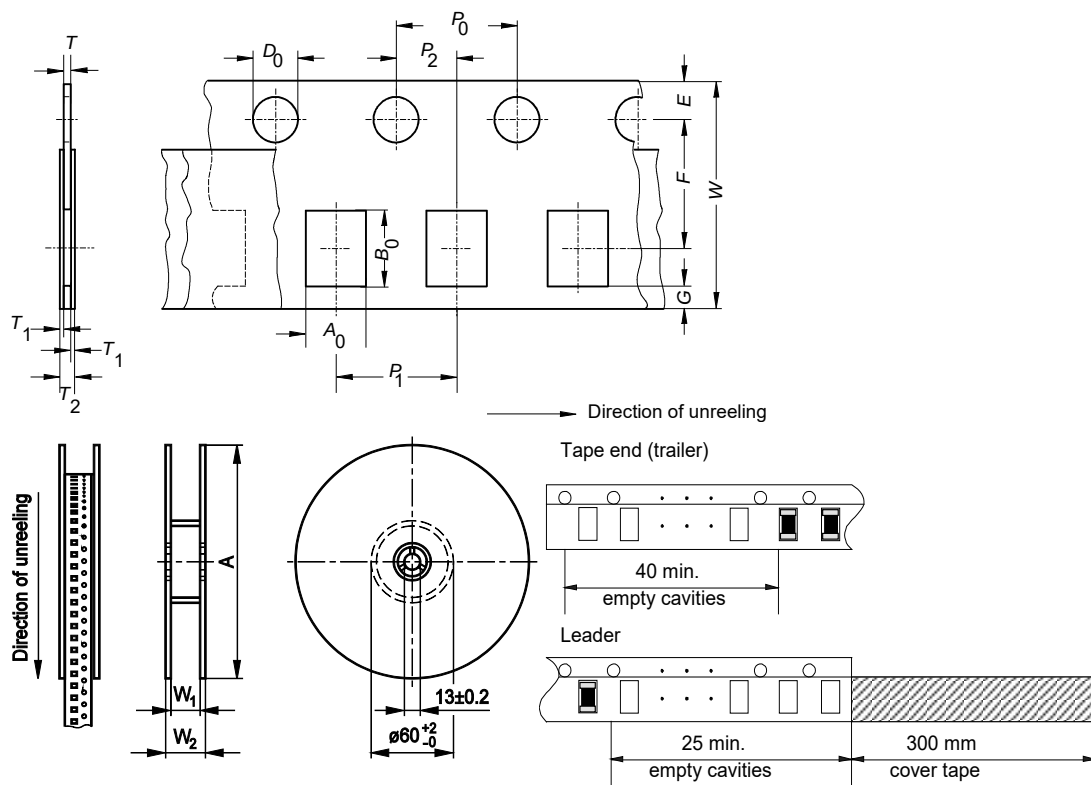
Ref.	Dimensions					
	Millimeters			Inches		
	Min.	Typ.	Max.	Min.	Typ.	Max.
A		3.5			0.138	
B		2.8			0.110	
C		6.5			0.265	
D		12.1			0.476	

TEMPERATURE DERATING CURVE

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



TAPING AND PACKAGING SPECIFICATION ACCORDING TO IEC 60286-3



- Dimensions of packing

Definition	Symbol	Dimension					
		Millimeters			inches		
		Min.	Typ.	Max.	Min.	Typ.	Max.
Compartment width	A ₀	8.2	8.4	8.6	0.323	0.331	0.339
Compartment length	B ₀	10.6	10.8	11.0	0.417	0.425	0.433
Sprocket hole diameter	D ₀	-	1.5	-	-	0.059	-
Sprocket hole pitch	P ₀	3.9	4.0	4.1	0.154	0.157	0.161
Distance center hole to center compartment	P ₂	1.95	2.00	2.05	0.077	0.079	0.081
Pitch of the component compartments	P ₁	11.9	12.0	12.1	0.469	0.472	0.476
Tape width	W	15.7	16.0	16.3	0.618	0.630	0.642
Distance edge to center of hole	E	1.65	1.75	1.85	0.065	0.069	0.073
Distance center hole to center compartment	F	7.45	7.50	7.55	0.293	0.295	0.297
Distance compartment to edge	G	0.75	-	-	0.295	-	-
Overall thickness	T ₂	-	-	5.5	-	-	0.217
Thickness tape	T	-	-	0.3	-	-	0.012
Reel diameter	A	328	330	-	12.91	12.99	-
Reel width (inside)	W ₁	-	16.4	17.9	-	0.646	0.705
Reel width (outside)	W ₂	-	-	22.4	-	-	0.882

1) Quantity of taping packing(pcs): 1000