



Chipsmall Limited consists of a professional team with an average of over 10 year of expertise in the distribution of electronic components. Based in Hongkong, we have already established firm and mutual-benefit business relationships with customers from,Europe,America and south Asia,supplying obsolete and hard-to-find components to meet their specific needs.

With the principle of “Quality Parts,Customers Priority,Honest Operation,and Considerate Service”,our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip,ALPS,ROHM,Xilinx,Pulse,ON,Everlight and Freescale. Main products comprise IC,Modules,Potentiometer,IC Socket,Relay,Connector.Our parts cover such applications as commercial,industrial, and automotives areas.

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LVM Series

Current Sensing Metal Chip Resistor



APPLICATIONS

- Power Management Applications
- Switching Power Supply
- Over Current Protection in Audio Applications
- Voltage Regulation Module (VRM)
- DC-DC Converter, Battery Pack, Charger, Adaptor

FEATURES

- SMD Type designed for automatic insertion
- High overload rating in small size (5 times rated wattage for 5 seconds)
- Metal foil construction ensures high reliability and performance with very low TCR values
- Designed for current sense circuits in power electronic systems
- Pb-Free to meet RoHS requirements

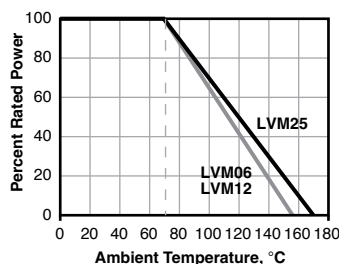
SERIES SPECIFICATIONS

Series	Power Rating	Resistance Range*	TCR ppm/°C	Tolerance
LVM06	0.125W	10m-19m	100	±1% ±2% ±5%
		20m- 100m	50, 100	
LVM12	0.5W	10m-19m	100	±1% ±2% ±5%
		20m- 100m	50, 100	
LVM25	1.0W	7m-100m	75	±0.5% ±1% ±5%
		15m- 100m	50	

CHARACTERISTICS

Rated Cont. Working Volts	$\sqrt{P \cdot R}$ or Max. Operating voltage whichever is lower
Derating	100% @ 70°C, Derates Linearly to Zero @ 155°C (170°C for LVM25)
Operating temp. range	-55°C ~ +155°C (LVM25, -55°C ~ +170°C)
Storage Temperature	25° ±3°C C; Humidity < 80%RH

Derating



PERFORMANCE DATA

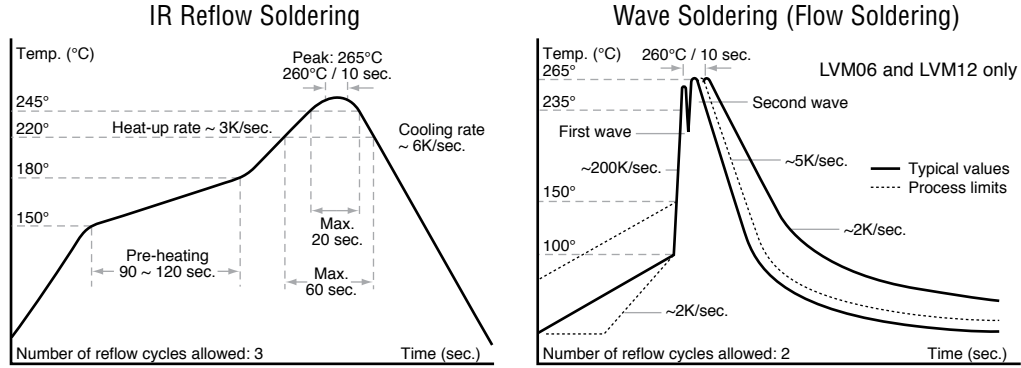
Item	Requirements	Test Method
TCR	As Spec.	JIS-C-5201-1 4.8, IEC-60115-1 4.8, -55°C~+125°C, 25°C is the reference temperature
Short Time Overload	±(0.5%+0.05Ω)	JIS-C-5201-1 4.13, IEC-60115-1 4.13, 5 X Rated Power for 5 seconds
Insulation Resistance	≥10G (100M for LVM25)	JIS-C-5201-1 4.6, IEC-60115-1 4.6, Max. Overload voltage for 1 minute
Endurance	±(1.0%+0.05Ω)	JIS-C-5201-1 4.25, IEC-60115-1 4.25.1, 70±2°C, RCWV for 1000 hrs with 1.5 hrs "ON" and 0.5 hrs "OFF"
Damp Heat with Load	±(1.0%+0.05Ω) (LVM06 & 12 only)	JIS-C-5201-1 4.24, 40±2°C, 90~95% R.H., RCWV for 1000 hrs with 1.5 hrs "ON" and 0.5 hrs "OFF"
Dry Heat	±(0.5%+0.05Ω) (1% for LVM25)	JIS-C-5201-1 4.23, IEC-60115-1 2.23.2, at +155°C for 1000 hrs
Bending Strength	±(1.0%+0.05Ω)	JIS-C-5201-1 4.33, IEC-60115-1 4.33, Bending once for 5 seconds with 3mm, 2010, 2512 sizes: 2mm
Solderability	95% min. coverage	JIS-C-5201-1 4.17, IEC-60115-1 4.17, 245±5°C for 3 seconds
Resistance to Soldering Heat	±(0.5%+0.05Ω) (LVM06 & 12 only)	JIS-C-5201-1 4.18, IEC-60115-1 4.18, 260±5°C for 10 seconds
Voltage Proof	No breakdown or flashover (LVM06 & 12 only)	JIS-C-5201-1 4.7, IEC-60115-1 4.7, 1.42 times Max. Operating Voltage for 1 minute
Leaching	Individual leaching area ≤5%, Total leaching area ≤10% (LVM06 & 12 only)	JIS-C-5201-1 4.18, IEC-60068-2-58 8.2.1, 260±5°C for 30 seconds
Rapid Change of Temp.	±(0.5%+0.05Ω) 1% for LVM25	JIS-C-5201-1 4.18, IEC-60115-1 4.18, -55°C to +155°C, 5 cycles

LVM Series

Current Sensing Metal Chip Resistor

CHARACTERISTICS

Soldering condition

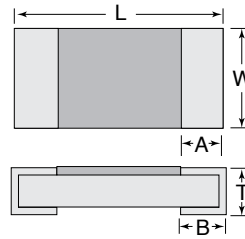


- (1) Time of IR reflow soldering at maximum temperature point 260°C, 10 sec.
- (2) Time of wave soldering at maximum temperature point 260°C, 10 sec.
- (3) Time of soldering iron at maximum temperature point 410°C, 5 sec.

DIMENSIONS

(mm)

Series	Size	Res. mΩ	L	W	T	A	B
LVM06	0603	10-29	1.55 ± 0.10	0.85 ± 0.10	0.40 ± 0.10	0.30 ± 0.15	0.45 ± 0.15
	30-100		1.55 ± 0.10	0.85 ± 0.10	0.40 ± 0.10	0.30 ± 0.15	0.35 ± 0.15
LVM12	1206	10-29	3.05 ± 0.15	1.55 ± 0.15	0.58 ± 0.15	0.50 ± 0.25	0.90 ± 0.25
	30-100		3.05 ± 0.15	1.55 ± 0.15	0.55 ± 0.15	0.50 ± 0.25	0.60 ± 0.25
LVM25	2512	7-100	6.40 ± 0.25	3.20 ± 0.25	0.70 ± 0.20	0.90 ± 0.30	0.90 ± 0.30



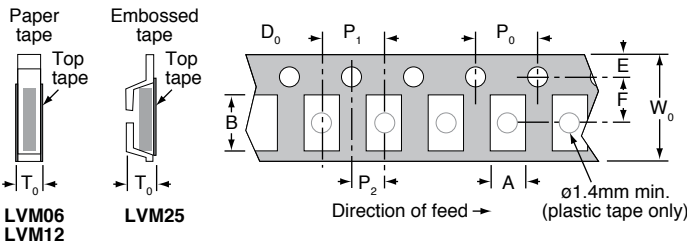
Land Pattern

A	B	C
0.40	1.20	0.9
0.70	1.05	0.9
0.9	1.70	1.70
1.50	1.40	1.70
4.00	2.00	3.50

REEL SPECIFICATIONS

(mm)

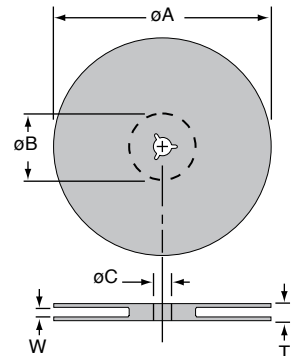
Tape



Series	A	B	W0	E	F	P0	P1	P2	φD0	T0
LVM06	1.10±0.10	1.90±0.10	8.0±0.20	1.75±0.10	3.50±0.05	4.00±0.10	4.00±0.05	2.00±0.05	1.50+0.1,-0	0.70±0.10
LVM12	1.90±0.10	3.50±0.20	8.0±0.20	1.75±0.10	3.50±0.05	4.00±0.10	4.00±0.05	2.00±0.05	1.50+0.1,-0	0.85±0.10
LVM25	3.50±0.10	6.70±0.10	12.0±0.30	1.75±0.10	5.5±0.05	4.00±0.10	4.00±0.10	2.00±0.05	1.50+0.1,-0	1.20 max.

Reel

Series	φA	φB	φC	W	T	Qty.
LVM06	178.0±1.0	60.0±1.0	13.5±0.7	9.5±0.1	11.5±1.0	5,000
LVM12	178.0±1.0	60.0±1.0	13.5±0.7	9.5±0.1	11.5±1.0	5,000
LVM25	178.0±1.5	60.0±1.0	13.0±0.5	13.0±1.0	15.5±0.5	4,000



ORDERING INFORMATION

Not all TCR's available in all resistance values. Please see characteristics chart above.

TCR
Z = 75ppm
V = 50ppm
T = 100ppm

RoHS Compliant

LVM06FTR050E-TR

Series	Case Size	Tolerance	Ohms	Packaging
	06 = 0603	D = 0.5%	R030 = 0.030	TR = Tape and reel
	12 = 1206	F = 1%	R100 = 0.100	
	25 = 2512	G = 2%		
		J = 5%		

Standard Part Numbers

LVM06FTR010E-TR	LVM12FTR010E-TR	LVM25FZR010E-TR
LVM06FTR015E-TR	LVM12FTR015E-TR	LVM25FVR015E-TR
LVM06FTR025E-TR	LVM12FTR025E-TR	LVM25FVR020E-TR
LVM06FTR050E-TR	LVM12FTR050E-TR	LVM25FVR025E-TR
LVM06FTR100E-TR	LVM12FTR100E-TR	LVM25FVR030E-TR
		LVM25FVR050E-TR
		LVM25FVR100E-TR