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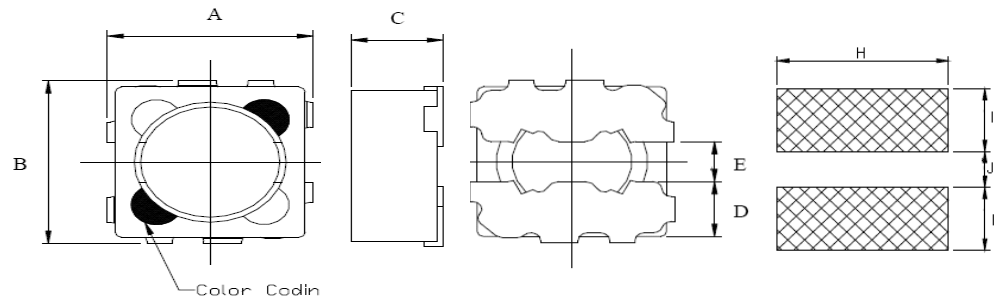
SPECIFICATIONS

Shielded SMD Power Inductor

SCDA-Serie

Version February 2013

Shielded SMD Power Inductor



■ Features

- low profile, low RDC, lower resistance and high current handling capacities
- Flat bottom surface ensures secure, reliable mounting
- Magnetically shielded structure that ensures the high-density mounting configurations.

■ Applications

- PDA, DSC, PDA And Other Electronic Equipments
- Hard Disk Drives
- Low Profile/ Low Resistance Specifically Suitable For Portable Telephones

■ Characteristics

- Saturation Rated Current(IDC): The current when the inductance becomes 10% or 35% lower than its initial value.
- Temperature Rise Current(Irms): For a 25°C rise above 25°C ambient.
- Operating temperature range: -25~105°C

■ Dimensions

Unit: mm

Type	A	B	C max.	D	E	H	I	J
SCDA2D10	3.2±0.2	3.2±0.2	1.05	1.1	0.8	3.6	1.4	0.8
SCDA2D15	3.2±0.2	3.2±0.2	1.6	1.1	0.8	3.6	1.4	0.8
SCDA2D18	3.2±0.2	3.2±0.2	1.8	1.1	0.8	3.6	1.4	0.8
SCDA3D12	4.2±0.2	4.2±0.2	1.25	1.3	1.4	4.6	1.6	1.4
SCDA3D15	4.2±0.2	4.2±0.2	1.6	1.3	1.4	4.6	1.6	1.4
SCDA3D18	4.2±0.2	4.2±0.2	1.8	1.3	1.4	4.6	1.6	1.4

■ Inductance and rated current ranges

– SCDA2D10	1.2~47μH	1.40~0.18A
– SCDA2D15L	1.0~18μH	1.40~0.30A
– SCDA2D15H	0.47~100μH	3.40~0.24A
– SCDA2D18L	1.0~27μH	1.36~0.22A
– SCDA2D18H	1.0~33μH	3.00~0.47A
– SCDA3D12	1.0~33μH	3.00~0.42A
– SCDA3D15	0.5~47μH	3.90~0.34A
– SCDA3D18	1.0~100μH	3.20~0.26A

– Test equipment:

L: HP4284A Precision LCR meter

DCR: Milli-ohm meter

– Electrical specifications at 25°C

■ Product Identification

SCDA	2D15	M	T	L	101
Product Type	Dimensions (AxBxC)	Inductance Tolerance	Packaging Style	Design Code	Inductance
	2D10: 3.2x3.2x1.05 2D15: 3.2x3.2x1.6 2D18: 3.2x3.2x1.8 3D12: 4.2x4.2x1.25 3D15: 4.2x4.2x1.6 3D18: 4.2x4.2x1.8	M: ±20% N: ±30%	T : Tape and Reel	: Standard L: Low Resistance H: High Current	1R1: 1.1μH 470: 47μH 101: 100μH

■Electrical Characteristics

SCDA2D10 Type

Codes	L (μ H)	Tolerance	Test Condition	DCR (Ω) Typ.	IDC (A) Typ.		I rms (A) Typ.	Color Code
					L drop 10%	L drop 35%		
1R2	1.2	N,M	1KHz, 1V	0.070	1.00	1.40	1.50	Black
1R5	1.5	N,M	1KHz, 1V	0.087	1.00	1.36	1.40	Brown
1R8	1.8	N,M	1KHz, 1V	0.097	0.90	1.24	1.35	Red
2R2	2.2	N,M	1KHz, 1V	0.136	0.80	0.97	1.10	Orange
2R7	2.7	N,M	1KHz, 1V	0.127	0.76	0.94	1.10	Yellow
3R3	3.3	N,M	1KHz, 1V	0.175	0.68	0.88	1.00	Green
3R9	3.9	N,M	1KHz, 1V	0.200	0.62	0.84	0.90	Blue
4R7	4.7	N,M	1KHz, 1V	0.274	0.60	0.82	0.85	Violet
5R6	5.6	N,M	1KHz, 1V	0.319	0.54	0.72	0.75	Gray
6R8	6.8	N,M	1KHz, 1V	0.330	0.46	0.60	0.70	White
8R2	8.2	N,M	1KHz, 1V	0.420	0.44	0.58	0.65	Black
100	10	M	1KHz, 1V	0.470	0.42	0.54	0.60	Brown
120	12	M	1KHz, 1V	0.675	0.32	0.44	0.55	Red
150	15	M	1KHz, 1V	0.800	0.30	0.40	0.50	Orange
180	18	M	1KHz, 1V	0.890	0.30	0.38	0.45	Yellow
220	22	M	1KHz, 1V	1.110	0.26	0.32	0.40	Green
270	27	M	1KHz, 1V	1.600	0.24	0.30	0.34	Black
330	33	M	1KHz, 1V	1.600	0.22	0.28	0.34	Blue
470	47	M	1KHz, 1V	2.430	0.18	0.22	0.24	Black

SCDA3D12 Type

Codes	L (μ H)	Tolerance	Test Condition	DCR (Ω) Typ.	IDC (A) Typ.		I rms (A) Typ.	Color Code
					L drop 10%	L drop 35%		
1R0	1.0	N,M	1KHz, 1V	0.045	2.30	3.00	2.00	Black
1R2	1.2	N,M	1KHz, 1V	0.048	2.20	2.80	1.90	Brown
1R5	1.5	N,M	1KHz, 1V	0.055	1.90	2.40	1.80	Red
1R8	1.8	N,M	1KHz, 1V	0.073	1.80	2.30	1.75	Orange
2R2	2.2	N,M	1KHz, 1V	0.083	1.70	2.10	1.75	Yellow
2R7	2.7	N,M	1KHz, 1V	0.109	1.40	1.70	1.44	Green
3R3	3.3	N,M	1KHz, 1V	0.118	1.30	1.70	1.40	Blue
3R9	3.9	N,M	1KHz, 1V	0.143	1.26	1.60	1.30	Violet
4R7	4.7	N,M	1KHz, 1V	0.159	1.24	1.58	1.20	Gray
5R6	5.6	N,M	1KHz, 1V	0.213	1.00	1.30	1.00	White
6R8	6.8	N,M	1KHz, 1V	0.224	1.00	1.30	0.96	Black
8R2	8.2	N,M	1KHz, 1V	0.252	0.92	1.14	0.94	Brown
100	10	M	1KHz, 1V	0.327	0.86	1.06	0.90	Red
120	12	M	1KHz, 1V	0.363	0.80	0.98	0.82	Orange
150	15	M	1KHz, 1V	0.516	0.60	0.80	0.64	Yellow
180	18	M	1KHz, 1V	0.625	0.56	0.76	0.60	Green
220	22	M	1KHz, 1V	0.732	0.46	0.64	0.52	Blue
330	33	M	1KHz, 1V	1.165	0.42	0.50	0.42	Violet

■Electrical Characteristics

SCDA3D15 Type

Codes	L (μ H)	Tolerance	Test Condition	DCR (Ω) Typ.	IDC (A) Typ.		I rms (A) Typ.	Color Code
					L drop 10%	L drop 35%		
R50	0.5	N	1KHz, 1V	0.035	3.10	3.90	2.50	Black
1R0	1.0	N,M	1KHz, 1V	0.040	2.30	3.00	2.40	Black
1R2	1.2	N,M	1KHz, 1V	0.043	2.20	2.80	2.34	Brown
1R5	1.5	N,M	1KHz, 1V	0.050	2.00	2.60	2.30	Red
1R8	1.8	N,M	1KHz, 1V	0.055	1.66	2.30	2.10	Orange
2R2	2.2	N,M	1KHz, 1V	0.071	1.60	2.20	2.00	Yellow
2R7	2.7	N,M	1KHz, 1V	0.078	1.40	2.00	1.60	Green
3R3	3.3	N,M	1KHz, 1V	0.087	1.34	2.00	1.60	Blue
3R9	3.9	N,M	1KHz, 1V	0.100	1.20	1.80	1.50	Violet
4R7	4.7	N,M	1KHz, 1V	0.137	1.14	1.60	1.40	Gray
5R6	5.6	N,M	1KHz, 1V	0.147	1.06	1.46	1.20	White
6R8	6.8	N,M	1KHz, 1V	0.170	1.00	1.40	1.15	Black
8R2	8.2	N,M	1KHz, 1V	0.195	0.94	1.28	1.10	Brown
100	10	M	1KHz, 1V	0.228	0.90	1.16	1.02	Red
120	12	M	1KHz, 1V	0.275	0.88	1.08	0.90	Orange
150	15	M	1KHz, 1V	0.340	0.64	0.86	0.72	Yellow
180	18	M	1KHz, 1V	0.380	0.60	0.82	0.68	Green
220	22	M	1KHz, 1V	0.495	0.54	0.74	0.65	Blue
270	27	M	1KHz, 1V	0.735	0.50	0.70	0.55	Violet
330	33	M	1KHz, 1V	0.890	0.46	0.58	0.48	Gray
390	39	M	1KHz, 1V	1.000	0.40	0.56	0.42	White
470	47	M	1KHz, 1V	1.150	0.34	0.52	0.35	Black

SCDA3D18 Type

Codes	L (μ H)	Tolerance	Test Condition	DCR (Ω) Typ.	IDC (A) Typ.		I rms (A) Typ.	Color Code
					L drop 10%	L drop 35%		
1R0	1.0	N,M	1KHz, 1V	0.038	2.60	3.20	2.40	Black
1R2	1.2	N,M	1KHz, 1V	0.044	2.40	3.00	2.20	Brown
1R5	1.5	N,M	1KHz, 1V	0.050	2.20	2.70	2.20	Red
1R8	1.8	N,M	1KHz, 1V	0.045	1.90	2.40	2.00	Orange
2R2	2.2	N,M	1KHz, 1V	0.062	1.80	2.20	1.90	Yellow
2R7	2.7	N,M	1KHz, 1V	0.068	1.70	2.10	1.80	Green
3R3	3.3	N,M	1KHz, 1V	0.080	1.50	1.88	1.65	Blue
3R9	3.9	N,M	1KHz, 1V	0.084	1.40	1.80	1.56	Violet
4R7	4.7	N,M	1KHz, 1V	0.099	1.22	1.46	1.40	Gray
5R6	5.6	N,M	1KHz, 1V	0.110	1.16	1.48	1.30	White
6R8	6.8	N,M	1KHz, 1V	0.128	1.02	1.26	1.20	Black
8R2	8.2	N,M	1KHz, 1V	0.146	1.000	1.24	1.15	Brown
100	10	M	1KHz, 1V	0.165	0.90	1.10	1.05	Red
120	12	M	1KHz, 1V	0.254	0.84	1.00	0.80	Orange
150	15	M	1KHz, 1V	0.320	0.74	0.88	0.72	Yellow
180	18	M	1KHz, 1V	0.360	0.70	0.84	0.68	Green
220	22	M	1KHz, 1V	0.418	0.60	0.74	0.65	Blue
270	27	M	1KHz, 1V	0.450	0.56	0.70	0.60	Violet
330	33	M	1KHz, 1V	0.620	0.46	0.58	0.58	Gray
390	39	M	1KHz, 1V	0.650	0.45	0.56	0.48	White
470	47	M	1KHz, 1V	0.790	0.43	0.52	0.45	Black
560	56	M	1KHz, 1V	0.862	0.38	0.48	0.40	Brown
680	68	M	1KHz, 1V	1.000	0.30	0.40	0.36	Red
101	100	M	1KHz, 1V	1.380	0.26	0.32	0.36	Yellow

Low Resistance Electrical Characteristics

SCDA2D15 Type

Codes	L (μ H)	Tolerance	Test Condition	DCR (Ω) Typ.	IDC (A) Typ.		I rms (A) Typ.	Color Code
					L drop 10%	L drop 35%		
1R0	1.0	N,M	1KHz, 1V	0.038	1.04	1.40	1.80	Green
1R2	1.2	N,M	1KHz, 1V	0.041	1.00	1.30	1.74	Blue
1R5	1.5	N,M	1KHz, 1V	0.046	0.94	1.22	1.70	Violet
1R8	1.8	N,M	1KHz, 1V	0.058	0.92	1.16	1.64	Gray
2R2	2.2	N,M	1KHz, 1V	0.066	0.88	1.10	1.60	White
2R7	2.7	N,M	1KHz, 1V	0.070	0.74	0.93	1.45	Green
3R3	3.3	N,M	1KHz, 1V	0.091	0.68	0.90	1.24	Blue
3R9	3.9	N,M	1KHz, 1V	0.115	0.62	0.82	1.12	Violet
4R7	4.7	N,M	1KHz, 1V	0.132	0.60	0.74	1.10	Gray
5R6	5.6	N,M	1KHz, 1V	0.156	0.58	0.70	1.06	White
6R8	6.8	N,M	1KHz, 1V	0.166	0.42	0.62	1.00	Green
8R2	8.2	N,M	1KHz, 1V	0.230	0.40	0.58	0.90	Blue
100	10	M	1KHz, 1V	0.244	0.38	0.50	0.80	Violet
120	12	M	1KHz, 1V	0.324	0.36	0.44	0.70	Gray
150	15	M	1KHz, 1V	0.370	0.36	0.42	0.70	White
180	18	M	1KHz, 1V	0.489	0.30	0.38	0.62	Green

SCDA2D18 Type

Codes	L (μ H)	Tolerance	Test Condition	DCR (Ω) Typ.	IDC (A) Typ.		I rms (A) Typ.	Color Code
					L drop 10%	L drop 35%		
1R0	1.0	N,M	1KHz, 1V	0.038	0.96	1.36	1.80	Green
1R2	1.2	N,M	1KHz, 1V	0.041	0.94	1.22	1.76	Blue
1R5	1.5	N,M	1KHz, 1V	0.048	0.90	1.14	1.70	Violet
1R8	1.8	N,M	1KHz, 1V	0.052	0.84	1.04	1.68	Gray
2R2	2.2	N,M	1KHz, 1V	0.055	0.75	0.95	1.64	White
2R7	2.7	N,M	1KHz, 1V	0.060	0.68	0.90	1.46	Green
3R3	3.3	N,M	1KHz, 1V	0.078	0.60	0.80	1.40	Blue
3R9	3.9	N,M	1KHz, 1V	0.090	0.58	0.80	1.22	Violet
4R7	4.7	N,M	1KHz, 1V	0.099	0.54	0.74	1.20	Gray
5R6	5.6	N,M	1KHz, 1V	0.110	0.50	0.66	1.12	White
6R8	6.8	N,M	1KHz, 1V	0.120	0.48	0.60	1.06	Green
8R2	8.2	N,M	1KHz, 1V	0.168	0.40	0.54	0.90	Blue
100	10	M	1KHz, 1V	0.190	0.36	0.46	0.88	Violet
120	12	M	1KHz, 1V	0.222	0.32	0.46	0.80	Gray
150	15	M	1KHz, 1V	0.285	0.30	0.40	0.72	White
180	18	M	1KHz, 1V	0.350	0.28	0.38	0.66	Green
220	22	M	1KHz, 1V	0.440	0.24	0.32	0.50	Blue
270	27	M	1KHz, 1V	0.490	0.22	0.28	0.42	Violet

High Current Electrical Characteristics

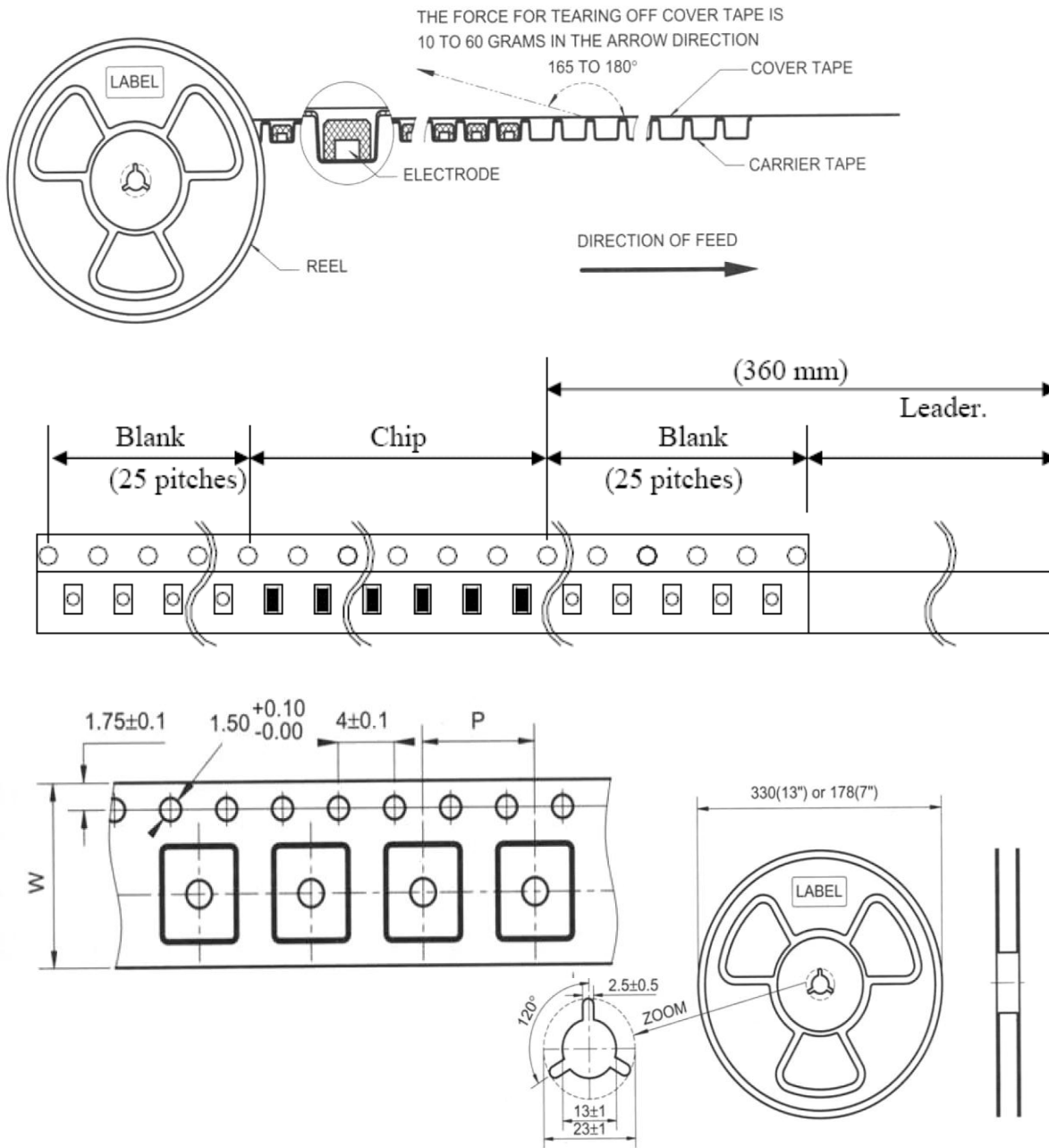
SCDA2D15 Type

Codes	L (uH)	Tolerance	Test Condition	DCR (Ω) Typ.	IDC (A) Typ.		I rms (A) Typ.	Color Code
					L drop 10%	L drop 35%		
R47	0.47	N,M	1KHz, 1V	0.040	3.00	3.40	2.20	Black
1R0	1.0	N,M	1KHz, 1V	0.049	2.60	3.00	2.00	Black
1R2	1.2	N,M	1KHz, 1V	0.083	2.30	2.50	1.90	Brown
1R5	1.5	N,M	1KHz, 1V	0.090	2.10	2.50	1.50	Brown
2R2	2.2	N,M	1KHz, 1V	0.090	1.80	2.10	1.28	Red
3R3	3.3	N,M	1KHz, 1V	0.149	1.50	1.72	1.10	Orange
3R9	3.9	N,M	1KHz, 1V	0.158	1.40	1.56	1.02	Yellow
4R7	4.7	N,M	1KHz, 1V	0.197	1.30	1.50	0.96	Black
5R6	5.6	N,M	1KHz, 1V	0.232	1.20	1.30	0.94	Black
6R8	6.8	N,M	1KHz, 1V	0.266	1.10	1.30	0.84	Brown
100	10	M	1KHz, 1V	0.403	0.94	1.10	0.74	Red
150	15	M	1KHz, 1V	0.567	0.76	0.86	0.60	Orange
220	22	M	1KHz, 1V	0.905	0.60	0.68	0.46	Yellow
330	33	M	1KHz, 1V	1.486	0.44	0.48	0.40	Black
470	47	M	1KHz, 1V	1.814	0.40	0.44	0.26	Brown
680	68	M	1KHz, 1V	3.520	0.29	0.33	0.26	Orange
101	100	M	1KHz, 1V	3.840	0.24	0.28	0.24	Black

SCDA2D18 Type

Codes	L (uH)	Tolerance	Test Condition	DCR (Ω) Typ.	IDC (A) Typ.		I rms (A) Typ.	Color Code
					L drop 10%	L drop 35%		
1R0	1.0	N,M	1KHz, 1V	0.045	2.60	3.00	2.00	Black
1R8	1.8	N,M	1KHz, 1V	0.078	2.00	2.30	1.76	Brown
2R2	2.2	N,M	1KHz, 1V	0.090	1.80	2.14	1.44	Red
3R3	3.3	N,M	1KHz, 1V	0.103	1.50	1.80	1.10	Orange
3R9	3.9	N,M	1KHz, 1V	0.115	1.50	1.78	1.05	Yellow
4R7	4.7	N,M	1KHz, 1V	0.152	1.40	1.60	1.00	Black
6R8	6.8	N,M	1KHz, 1V	0.223	1.20	1.40	0.95	Brown
100	10	M	1KHz, 1V	0.360	0.92	1.02	0.78	Red
120	12	M	1KHz, 1V	0.410	0.84	0.98	0.68	Orange
150	15	M	1KHz, 1V	0.622	0.80	0.90	0.62	Yellow
220	22	M	1KHz, 1V	0.750	0.64	0.74	0.45	Black
330	33	M	1KHz, 1V	1.125	0.47	0.52	0.42	Brown

■Tape and Reel specifications



Type	Tape size		Parts Per Reel
	W	P	7"
SCDA2D10	12	8	1000
SCDA2D15	12	8	1000
SCDA2D18	12	8	1000
SCDA3D12	12	8	1000
SCDA3D15	12	8	1000
SCDA3D18	12	8	1000

■ SMT Power Inductor Environmental Specifications

General

Items	Specifications
Shelf Storage conditions	Temperature range: 25±3°C; Humidity: <80% relative humidity. Recommended product should be used within six months from the time of delivery.

Environmental test

Test Items	Specifications	Test Conditions / Test Methods
High temperature Storage test	No case deformation or change in appearance. $\Delta L/L \leq 10\%$	Temperature 85±2°C, Time: 48±2 hours, Tested after 1hour at room temperature.
Low temperature Storage test		Temperature -25±2°C, Time: 48±2 hours, Tested after 1hour at room temperature.
Humidity test		Temperature 40±2°C, 90~95% relative humidity Time: 96±2 hours Tested after 1hour at room temperature.
Thermal shock test		First -25°C 30minutes then 25°C 10 minutes last 85°C 30 minutes, as 1 cycle. Go through 5 cycles. Tested after 1 hour at room temperature.

Mechanical test

Test Items	Specifications	Test Conditions / Test Methods
Solderability test	Terminal area must have 90% minimum solder coverage.	Product with Lead-free terminal: Dip pads in flux then dip in solder pot at 245±5°C for 3 seconds.
Resistance to Soldering Heat	No case deformation or change in appearance.	Flux should cover the whole of the sample before heating, then be preheated for about 2 minutes over temperature of 130~150°C. Immersing to 260±5°C for 10 seconds.
Vibration test	No case deformation or change in appearance.	Apply frequency 10~55Hz. 1.5mm amplitude in each of perpendicular direction for 2 hours.
Shock resistance	$\Delta L/L \leq 10\%$	Drop down with 981m/s ² (100G) shock attitude upon a rubber block method shock testing machine, for 1 time. In each of three orientations.

The condition of reflow (recommendation):

