

Multilayer Power Inductor



◆ Features

- 1、 High DC bias current due to developed material.
- 2、 Low profile and thin thickness.
- 3、 Monolithic structure for high reliability.
- 4、 Excellent solderability and high heat resistance
- 5、 Low DC resistance.
- 6、 No cross coupling due to magnetic shield



◆ Applications

DC-DC converter circuits for mobile phones,
DSCs, DVCs, HDDs, PDAs, etc.

◆ Test Instruments

◎HP4291B

RF IMPEDANCE / MATERIAL ANALYZER

◎HP4338A/B MILLIOHMMETER

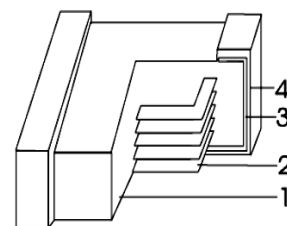
◆ Lead Free Part Numbering

SLM 2520 4R7 M I T
(1) (2) (3) (4) (5) (6)

- (1) Series Type
- (2) Dimension: Length x Width
- (3) Inductance: 4R7=4.7μH ;
- (4) Inductance Tolerance : M=±20%;N=±30%
- (5) Company Code
- (6) Packaging : P – Embossed paper tape, 7" reel
E – Embossed plastic tape, 7" reel
T – Tape & reel

◆ Materials

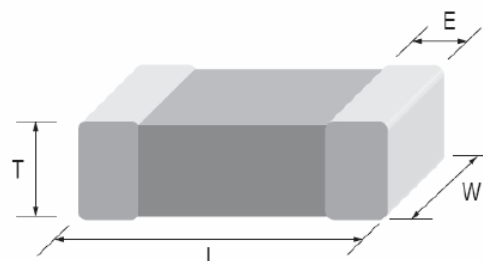
No.	Homogeneous Material Name	Element name composition
1	Ferrite	Ferrite Powder
2	Inner Coils(Ag)	Ag、 Pd
3	Terminal Electrode(Ag)	Ag
4	Electro-Plating (Ni/Sn)	Ni、 Sn



◆ Dimensions

Unit: mm [inch]

Size(EIA)	1608(0603)	2012 (0805)	2016 (0806)	2520 (1008)
L	1.60±0.150	2.00±0.20	2.00±0.20	2.50±0.20
W	0.80±0.150	1.25±0.20	1.60±0.20	2.00±0.20
T	0.80±0.150	0.90±0.10	0.90±0.10	0.90±0.10
E	0.30±0.20	0.50±0.30	0.50±0.30	0.50±0.30



◆ Package

Size EIA (EIA)	1608(0603)	2012(0805)	2016(0806)	2520(1008)
Standard Packing Quantity (pcs / reel)	4000	3000	3000	3000

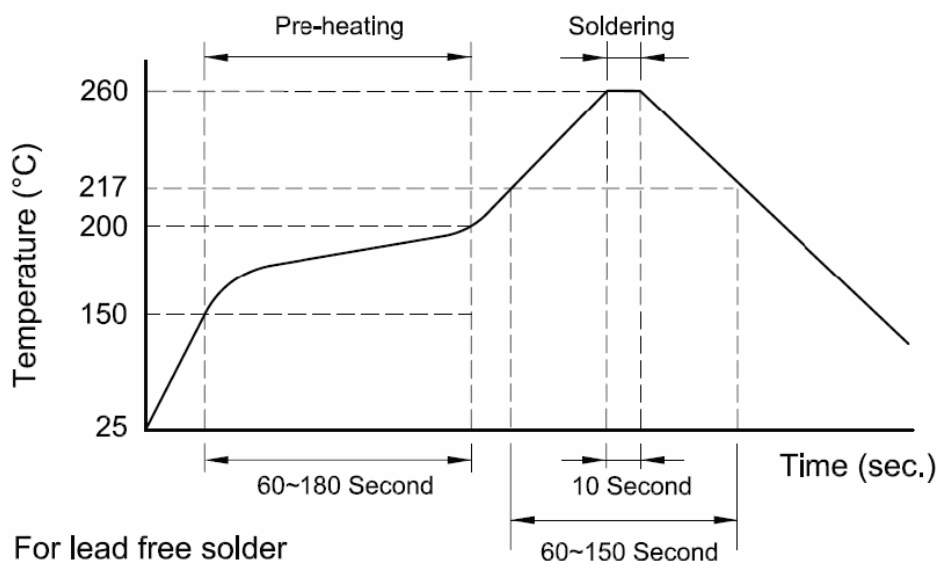
◆ Specification

Part Number	Inductance (μ H)	Test Freq (MHz)	S.R.F (MHz) Min.	DCR \pm 25% (Ω)	Rated current (mA)
SLM1608(EIA 0603)					
SLM16081R0MIT	1.0	1	60	0.22	280
SLM16082R2MIT	2.2	1	50	0.30	250
SLM16083R3MIT	3.3	1	40	0.49	230
SLM16084R7MIT	4.7	1	35	0.50	210
SLM1608100MIT	10	1	33	0.55	150
SLM 2012 (EIA 0805)					
SLM2012R47MIT	0.47	1	100	0.09	1400
SLM20121R0MIT	1.0	1	60	0.11	1300
SLM20122R2MIT	2.2	1	50	0.17	1300
SLM20124R7MIT	4.7	1	35	0.22	1100
SLM2012100MIT	10	1	30	0.55	360
SLM 2016 (EIA 0806)					
SLM2016R47MIT	0.47	1	100	0.06	1600
SLM20161R0MIT	1.0	1	70	0.10	1400
SLM20161R5MIT	1.5	1	60	0.11	1200
SLM20161R8MIT	1.8	1	55	0.11	1200
SLM20162R2MIT	2.2	1	50	0.11	1200
SLM20163R3MIT	3.3	1	40	0.12	1200
SLM20164R7MIT	4.7	1	30	0.14	1100
SLM 2520 (EIA 1008)					
SLM2520R47MIT	0.47	1	100	0.040	1800
SLM25201R0MIT	1.0	1	60	0.055	1600
SLM25201R5MIT	1.5	1	60	0.070	1500
SLM25202R2MIT	2.2	1	40	0.080	1200
SLM25203R3MIT	3.3	1	35	0.100	1100
SLM25204R7MIT	4.7	1	30	0.110	1000
SLM2520100MIT	10	1	20	0.210	550

◆ General Technical Data

Operating Temperature Range	-55 $^{\circ}$ C ~ +125 $^{\circ}$ C
Storage Temperature (on board)	-40 $^{\circ}$ C ~ +85 $^{\circ}$ C
Storage Condition	Less than 40 $^{\circ}$ C and 70% RH
Soldering Method	Reflow or Wave Soldering

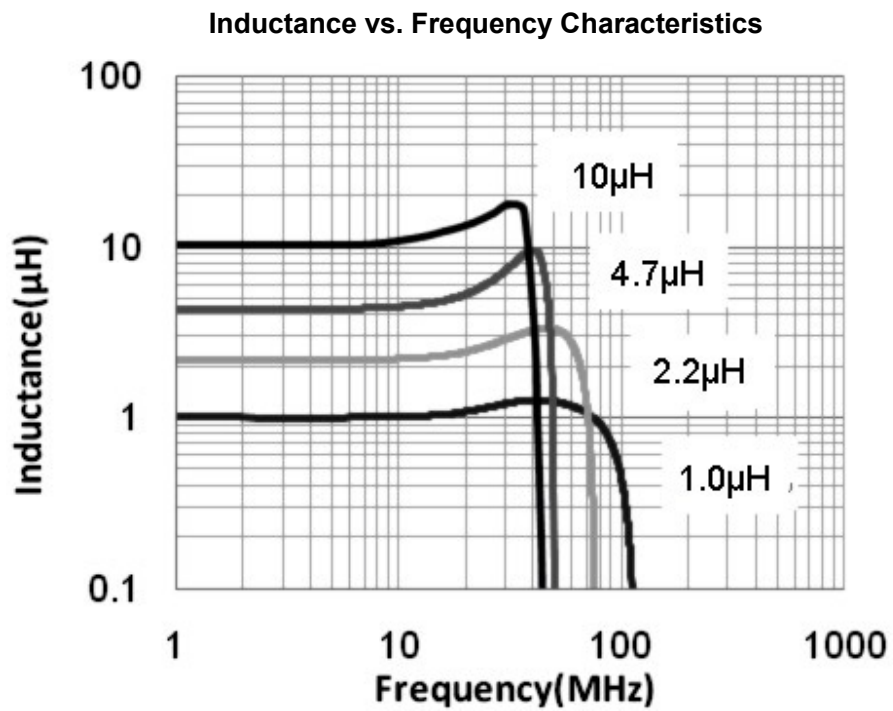
◆ Recommended Soldering conditions



◆ Reliability And Test Condition

Test item	Test condition	Criteria
Resistance to Solder Heat	<ol style="list-style-type: none"> Solder temperature : $260 \pm 5^{\circ}\text{C}$ Flux : Rosin DIT time : 10 ± 1 sec 	<ol style="list-style-type: none"> More than 95 % of terminal electrode should be covered with new solder No mechanical damage Inductance value should be within ± 20 % of the initial value
Adhesive Test	<ol style="list-style-type: none"> Reflow temperature : 245°C It shall be Soldered on the substrate applying direction parallel to the substrate Apply force(F) : 5 N Test time : 10 sec 	<ol style="list-style-type: none"> No mechanical damage Soldering the products on PCB after the pulling test force > 5 N
Steam Aging Test	<ol style="list-style-type: none"> Temperature : 93°C Test time : 8 hrs Solder temperature : $235 \pm 5^{\circ}\text{C}$ Flux : Rosin DIT time : 5 ± 1 sec 	<ol style="list-style-type: none"> More than 95 % of terminal electrode should be covered with new solder
Temperature Cycle	<ol style="list-style-type: none"> Temperature: $-40 \sim 85^{\circ}\text{C}$ For 30 minutes each Cycle: 100 cycles Measurement: At ambient temperature 24 hours after test completion 	<ol style="list-style-type: none"> No mechanical damage Inductance should be within $\pm 20\%$ of the initial value
Operational Life	<ol style="list-style-type: none"> Temperature: $85 \pm 5^{\circ}\text{C}$ Testing time: 1000 hrs Applied current: Full rated current Measurement: At ambient temperature 24 hours after test completion 	<ol style="list-style-type: none"> No mechanical damage Inductance should be within $\pm 20\%$ of the initial value
Biased Humidity	<ol style="list-style-type: none"> Temperature: $40^{\circ}\text{C} \pm 2^{\circ}\text{C}$ Humidity: 90-95 % RH Applied current: Full rated current Testing time: 1000 hrs Measurement: At ambient temperature 24 hours after test completion 	<ol style="list-style-type: none"> No mechanical damage Inductance should be within $\pm 20\%$ of the initial value
Rated Current	At ambient temperature & humidity Testing time: 5 minutes (under full rated current)	CMLM product surface temp: below room temperature plus 40°C

◆ Characteristics



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