



PRODUCT SPECIFICATION

1.0 SCOPE

This specification covers the SD MINI MEMORY CARD CONNECTOR series.

2.0 PRODUCT DESCRIPTION

2.1 PRODUCT NAME:

Mini SD memory card connector reversed type

2.2 SERIES NUMBER(S): 48050-****

2.3 DIMENSIONS, MATERIALS, PLATINGS AND MARKINGS

Refer to respective sales drawing: SD-48050-****

3.0 APPLICABLE DOCUMENTS AND SPECIFICATIONS

Refer to EIA 364 series

4.0 RATINGS

4.1 VOLTAGE

10 Volts AC

4.2 CURRENT

0.5 Amps

4.3 OPERATING TEMPERATURE:

- 25°C to + 90°C

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PS-48050-001	DIXON LI	GRATE MA	VINCENT YAP



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5.0 PERFORMANCE

5.1 ELECTRICAL REQUIREMENTS

ITEM	DESCRIPTION	TEST CONDITION	REQUIREMENT
1	Low Level Contact Resistance	Mate dummy card, measure by dry circuit, 20mV maximum, 10mA maximum. (EIA 364-23)	40 mΩ MAX.
2	Insulation Resistance	Apply a 500V DC between adjacent terminals and between terminals to ground. (EIA 364-21)	1000 mΩ MIN
3	Dielectric Withstanding Voltage	Apply a voltage 500V AC for 1 minute between adjacent terminals and between terminals to ground. (EIA 364-20)	No breakdown;
4	Card Detect	[OPEN MODE] Mate dummy card, measure of insulation resistance.	500MΩ MIN
		[CLOSE MODE] Unmate dummy card, measure of contact resistance.	40mΩ MAX.

5.2 MECHANICAL REQUIREMENTS

ITEM	DESCRIPTION	TEST CONDITION	REQUIREMENT
1	Insertion and Withdrawal Forces	Insert and withdraw memory card at a rate of 25 ± 3 mm ($1 \pm \frac{1}{4}$ inch) per minute. (EIA 364-13)	Lock force 5 ± 1.5 N (0.51 ± 0.15 kgf) Lock release force 5 ± 1.5 N (0.51 ± 0.15 kgf)
2	Durability	Insertion and extraction are repeated 10,000 cycles with the actually card at the speed rate of 400-600 cycles/hour. Exchange the actually card every 2000cycles. (EIA 364-09)	Appearance: No damage Contact Resistance: 80mΩ MAX.. Measuring by dummy card

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3	Normal Force	Push the contact point. Measure the normal force at the deformed direction	Circuit #1: 0.29±0.3N Circuit #3, #4 Short terminal: 0.35±0.2N Long terminal: 0.42±0.2N 2 contacts =0.77±0.4N Other circuits: 0.32±0.3N
4	Vibration	Mate dummy card and subject to the following vibration conditions, for a period of 2 hours in each of 3 mutually perpendicular axis, passing DC 1mA during the test. Amplitude: 1.5mm P-P or 49m/s ² Frequency: 10-55-10 Hz Shall be traversed in 20 minute. (EIA 364-28 Condition 1)	Appearance: No damage. Contact resistance: 80mΩ MAX. Discontinuity: 100 Nanosecond max.
5	Shock (Mechanical)	Mate a dummy card and subject to the following shock conditions. 3 shocks shall be applied along 3 mutually perpendicular axis, passing DC 1 mA current during the test. (Total of 18 shocks) Test pulse: Half Sine Peak value: 980 m/s ² {100G} Duration: 6 millisecond (EIA 364-27 Condition C)	Appearance: No damage. Contact resistance: 80mΩ MAX. Discontinuity: 0.1 microsecond MAX.
6	Terminal, Nail Retention force	Apply axial pull out force at the speed rate of 25±3 mm / minute.	0.98 N MIN. / PIN {0.1 kgf MIN. / PIN}
7	Card Retention Force	Insert and withdraw memory card at a rate of 25 ± 3 mm (1 ± ¼ inch) per minute. (EIA 364-13)	4.5 N MIN. {0.46 kgf MIN.}

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5.3 ENVIRONMENTAL REQUIREMENTS

ITEM	DESCRIPTION	TEST CONDITION	REQUIREMENT
1	Humidity (Steady State)	Mate a dummy card and expose to $60\pm 2^{\circ}\text{C}$ for 96 hours., Relative humidity 90. Upon completion of the exposure period, the test specimens shall be conditioned at ambient room conditions for 1 to 2 hours, after which the specified measurements shall be performed (EIA-364-31A)	No appearance damaged Contact Resistance: 80m Ω Max. Meet Dielectric Strength test. Insulation Resistance: 100 M Ω Min.
2	Temperature cycling	Mate, un-mate dummy card 200 cycles. Then. a) $-40\pm 3^{\circ}\text{C}$ for 30 min. b) $85\pm 2^{\circ}\text{C}$ for 30 min. Repeat a), b) 1 cycles Then put in ambient room 1~2 hr Transit time in 3 min. (EIA 364-32)	No appearance damaged Contact Resistance: 80 milliohms Max.
3	Heat Resistance	Mate a dummy card and expose to $70\pm 2^{\circ}\text{C}$ for 96 hours. Upon completion of the exposure period, the test specimens shall be conditioned at ambient room conditions for 1 to 2 hours, after which the specified measurements shall be performed. (MIL-STD-202 Method 108)	No appearance damaged Contact Resistance: 80 milliohms Max.
4	Cold Resistance	Mate a dummy card and expose to $-40\pm 3^{\circ}\text{C}$ for 96 hours.. Upon completion of the exposure period, the test specimens shall be conditioned at ambient room conditions for 1 to 2 hours, after which the specified measurements shall be performed. (MIL-STD-202)	No appearance damaged Contact Resistance: 80 milliohms Max.

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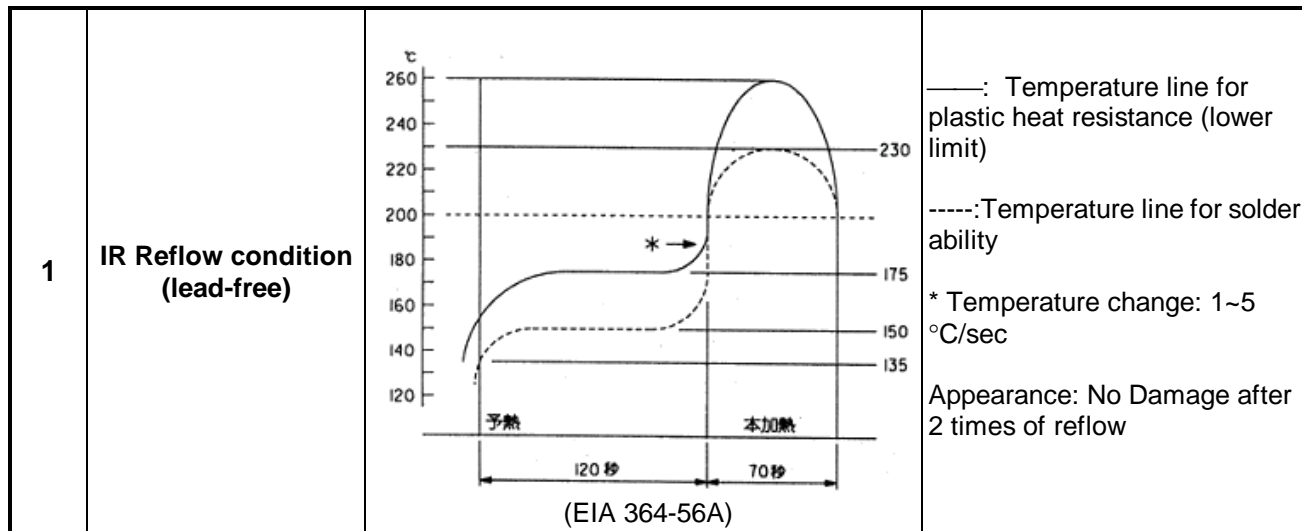
5	Temperature Rise	Carrying rated current load (UL 498)	15 °C MAX
6	Salt Spray	Mate dummy card and exposed to the following salt mist conditions. Upon completion of the exposure period, salt deposits shall be removed by a gentle wash or dip in running water, after which the specified measurements shall be performed. NaCl solution Ambient temperature 35±2°, Concentration 5±1%, Spray time: 48 hrs Gentle wash after test (EIA-364—26)	No appearance damaged Contact Resistance: 80 milliohms Max.
7	Solder ability	Dip solder tails into the molten solder (held at 230 +5°/-5°) up to 0.5mm from the tip of tail for 3±0.5sec. (EIA-364—52)	Solder coverage: 95% MINIMUM (per SMES-152)
8	Resistance to soldering heat	Touch the terminal with the soldering iron (held at 350±10°) for 3±1 seconds. However, without too much pressure to the terminal.	No appearance damaged

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5.4 INFRARED REFLOW CONDITIONS



6.0 APPLICATION NOTES

6.1 CARD OMISSION PREVENTION

The card is dropped while having engaged or the impact is added and the card comes off to this item through a simple lock for the a card omission prevention is installed in the slider cam. Therefore, please set up the lid for omission etc. in there enclosure. In that case, please adjust the spaces such as cards and lids in the state of the card lock to 0.3mm or less.

6.2 WASHING AFTER SOLDERING

Please wash only the soldering part partially when washing after this item is soldered when a whole soaking etc. is washed, the insertion and extraction of the card might become difficult.

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7.0 TEST SEQUENCE DIAGRAM BY VERITCAL

Test Description	Test Group					
	1	2	3	4	5	6
Sample Size	5	5	5	5	5	5
Contact Resistance	1,3,5	2,5,7,9		1,3	2,4	2,4
Insulation Resistance			2,5			
Withstanding Voltage			1,6			
Insertion /Retention Forces		1,4			1,5	1,5
Durability		3				
Vibration	4					
Shock	2					
Humidity Resistance		8	4			
Thermal Shock		6	3			
Heat Resistance					3	
Salt Spray				2		
Cold Resistance						3

Test Description	Supplemental Test (Sample Size)
Terminal Normal Force	5 pcs, 9 contacts
Temperature Rise	5 pcs mating pairs
Resistance to Soldering Heat	5 pcs
Solderability	5 pcs, 9 contacts

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1	PROPOSAL	2003/ 12/ 8	N/A	VINCENT PENG	
2	REVISED	2004/4/23	N/A	VINCENT PENG	
A	RELEASED	2004/9/9	SH2005-0079	DIXON LI	GRATE MA

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