

RFCA1206A5T

MULTILAYER CERAMIC ANTENNA

FEATURES:

- LTCC process
- High Stability in Temperature/Humidity Change
- Surface mounted devices with a small dimension meet future miniaturization trend

ELECTRICAL CHARACTERISTICS

PARAMETER		VALUE	UNITS
F _c		2.9	GHz
Gain		2 (Typ.)	dBi
VSWR		2 (Max.)	-
Working Frequency Range		2450 ±50	MHz
Power Capacity		3 (Max.)	W
Maximum Input Power		5 (for 5 min.)	W
Operating Temperature Range		-40 to +85	°C
Polarization		Linear	
Azimuth Beamwidth		Omni-directional	
Matching Component Value	Series 1	6.8	nH
	Series 2	-	-

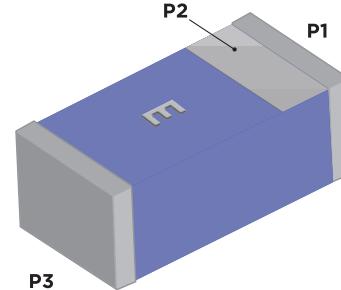
* This frequency must be adjusted to 2.45GHz with matching circuit.

ENVIRONMENTAL INFORMATION

RoHS Status	10 of 10 Compliant
REACH Status	Compliant
Halogen Status	Halogen Free
Conflict Mineral Status	Conflict Mineral Free
Moisture Sensitivity Level (MSL)	1

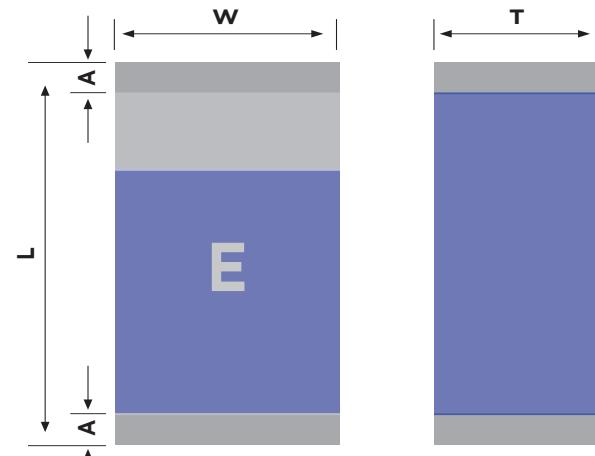


CONSTRUCTION



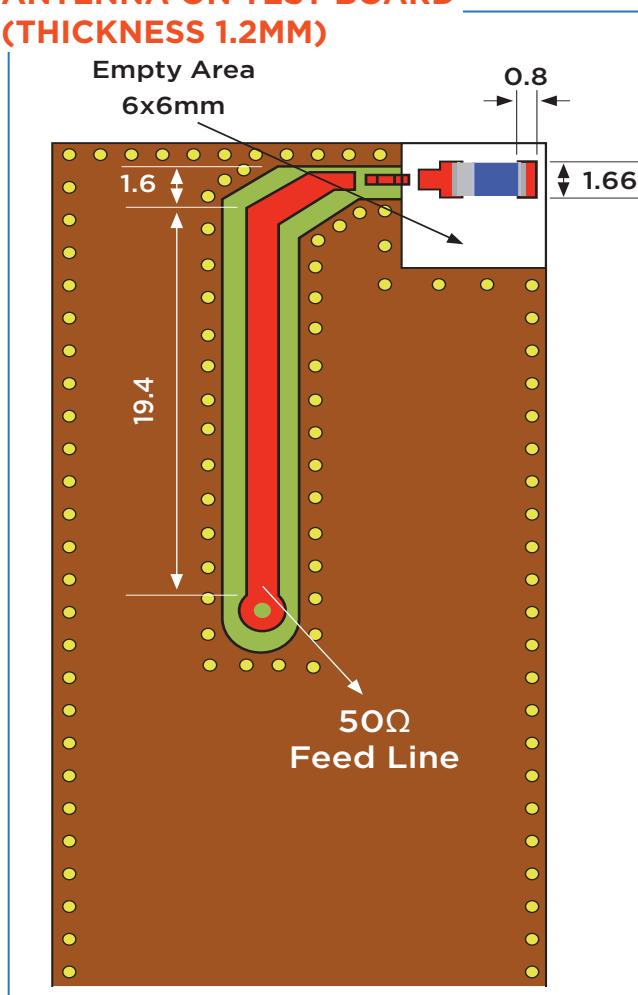
PIN	Connection
1	Feeding
2	Identification Mark
3	Soldering terminal

DIMENSIONS

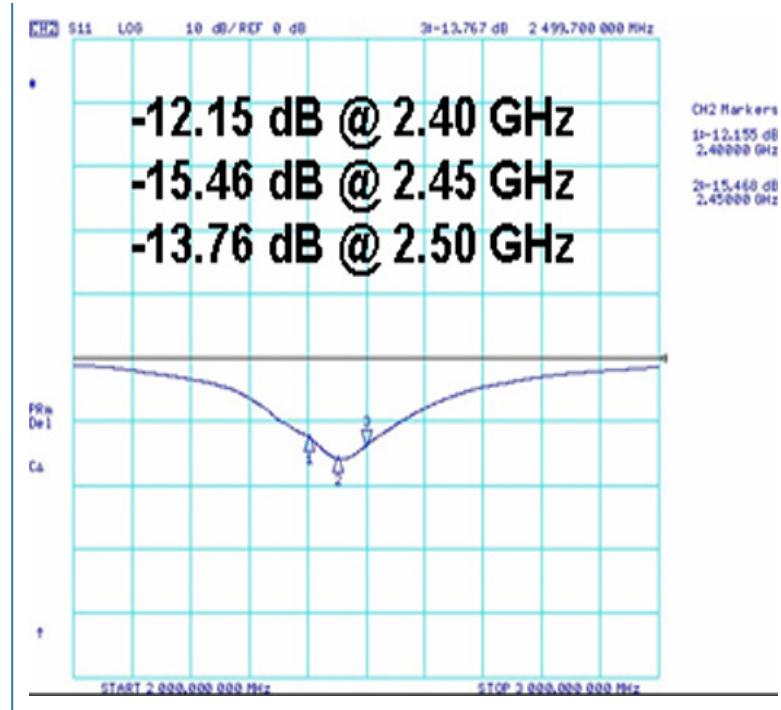


Symbol	Dimension inches(mm)
L	0.126 ± 0.008(3.20 ± 0.20)
W	0.063 ± 0.004(1.60 ± 0.10)
T	0.047 ± 0.004(1.20 ± 0.10)
A	0.010 ± 0.006(0.25 ± 0.15)

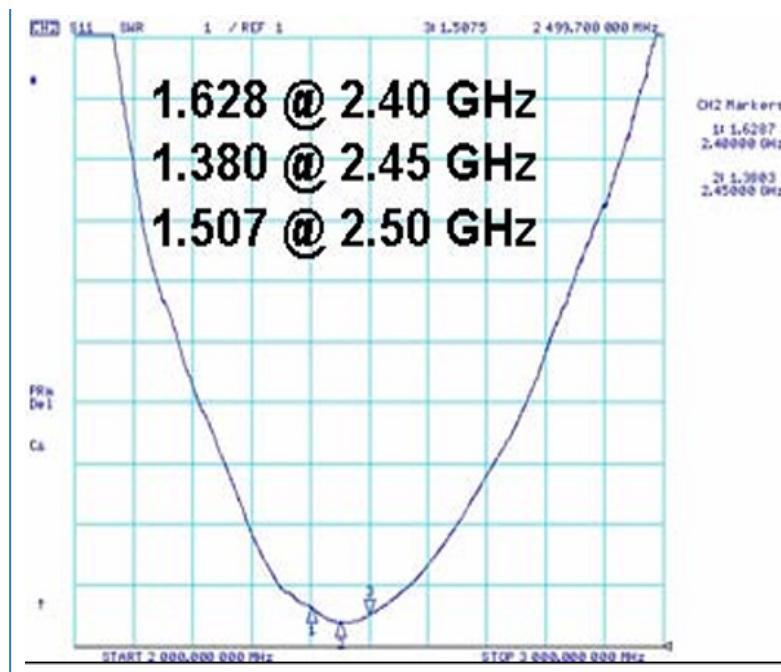
ANTENNA ON TEST BOARD (THICKNESS 1.2MM)



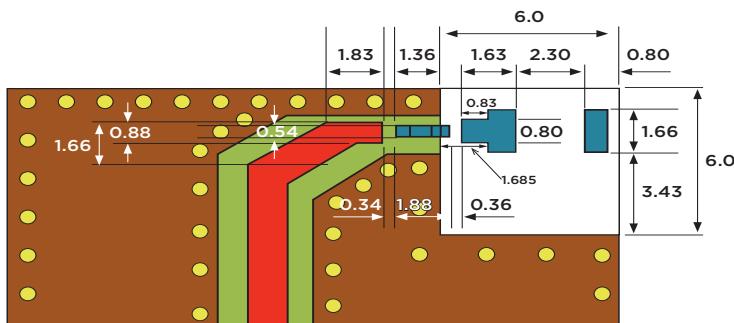
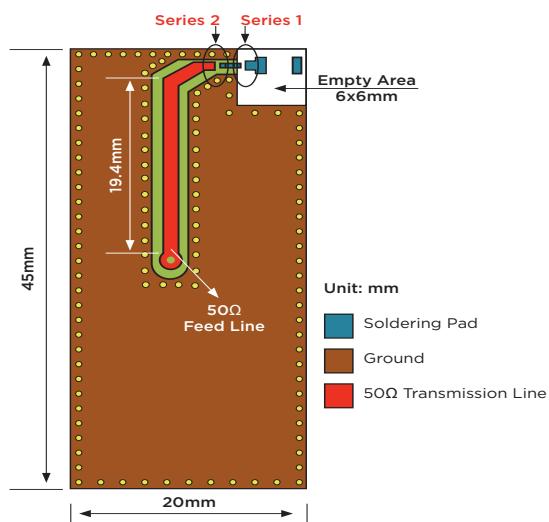
ANTENNA S11 ON TEST BOARD



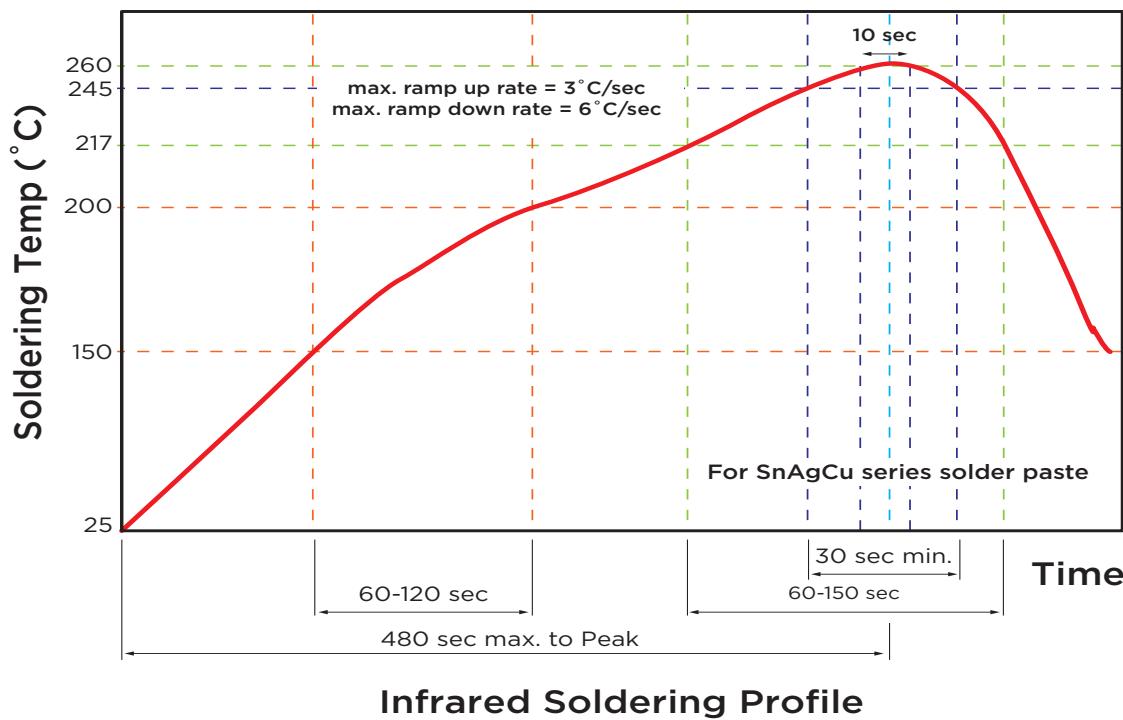
ANTENNA VSWR ON TEST BOARD



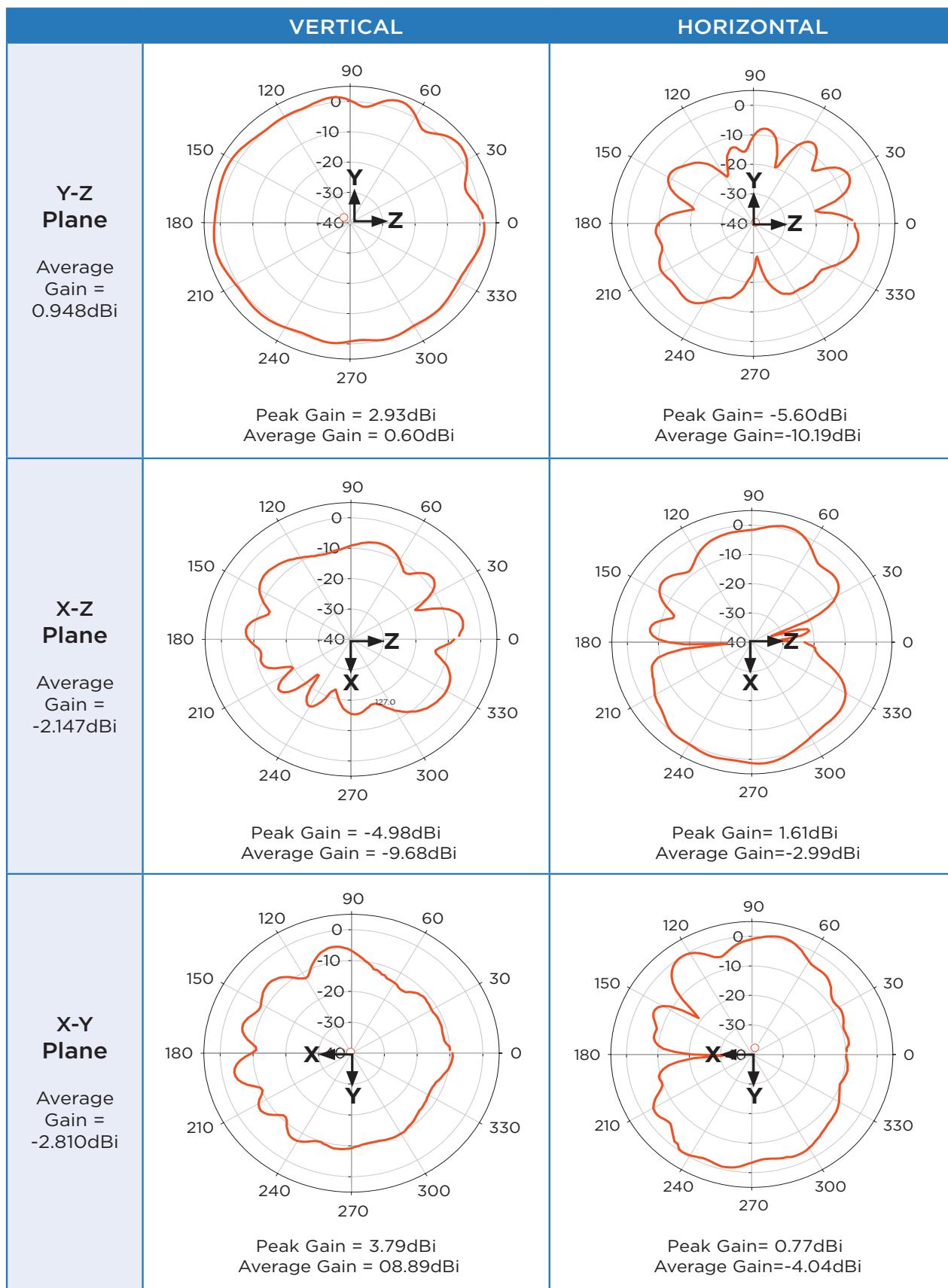
SOLDER LAND PATTERN DESIGN



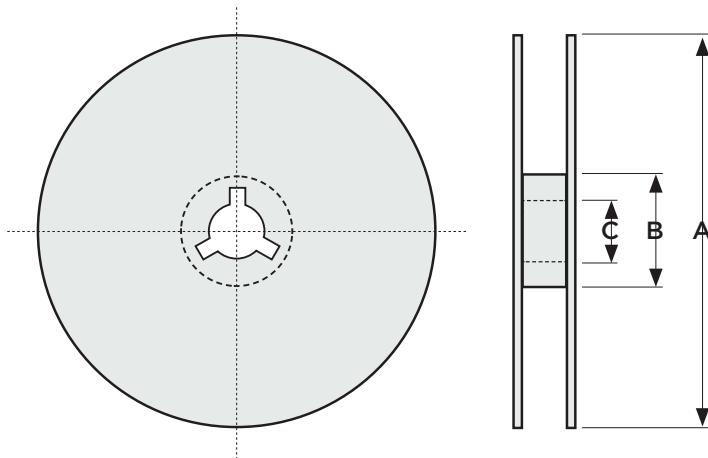
SOLDERING CONDITION



RADIATION PATTERN

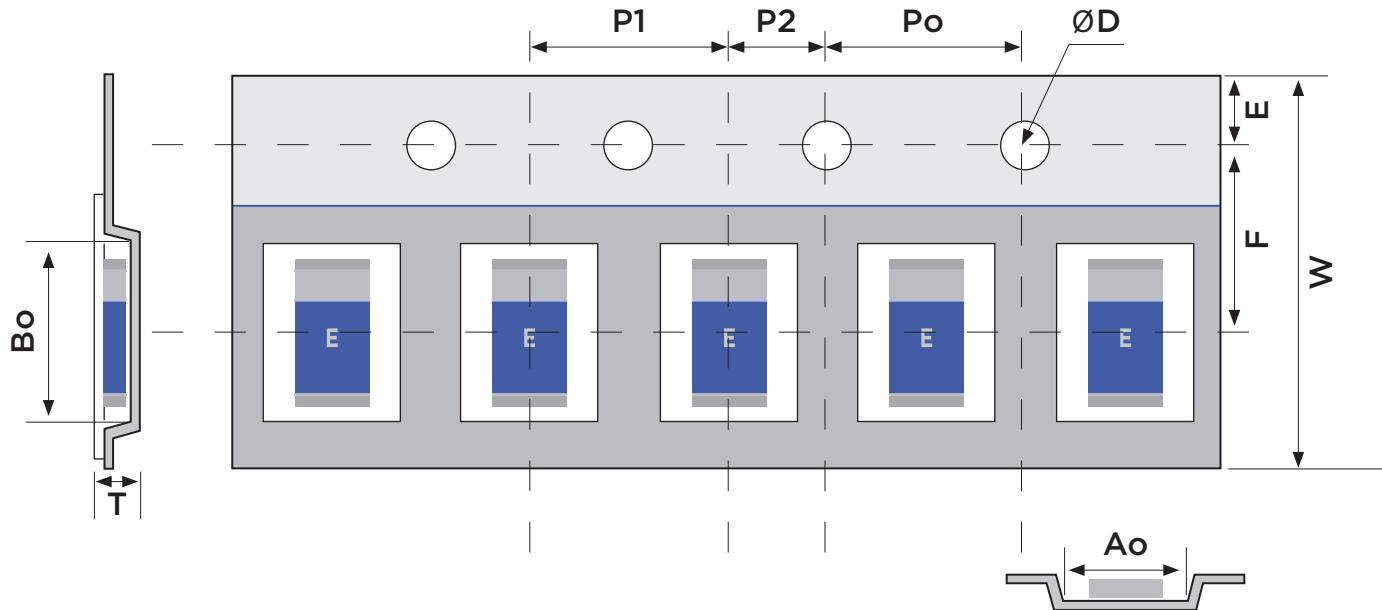


TAPE AND REEL SPECIFICATION



Index	A	B	C
Dimension inches(mm)	$\emptyset 7.01$ ($\emptyset 178$)	$\emptyset 2.36$ ($\emptyset 60$)	$\emptyset 0.531$ ($\emptyset 13.5$)

Taping Quantity: 2000 pieces per 7" reel



Plastic Tape specifications (unit: inches(mm))

Index	Ao	Bo	$\emptyset D$	T	W
Dimension (mm)	0.071 ± 0.004 (1.81 ± 0.10)	0.135 ± 0.004 (3.42 ± 0.10)	0.061 ± 0.002 (1.55 ± 0.05)	0.050 ± 0.004 (1.26 ± 0.10)	$0.323+0.004/-0.012$ ($8.20+0.1/-0.3$)
Index	E	F	Po	P1	P2
Dimension (mm)	0.069 ± 0.004 (1.75 ± 0.10)	0.138 ± 0.002 (3.50 ± 0.05)	0.157 ± 0.004 (4.00 ± 0.10)	0.157 ± 0.004 (4.00 ± 0.10)	0.079 ± 0.004 (2.00 ± 0.10)

ENVIRONMENTAL CHARACTERISTICS

TEST	TEST CONDITION/TEST METHOD	SPECIFICATION
Solderability JIS C 0050-4.6 JESD22-B102D	*Solder bath temperature: 235±5°C *Immersion time: 2±0.5s Solder: Sn3Ag0.5Cu for lead-free	At least 95% of a surface of each terminal electrode must be covered by fresh solder.
Leaching (Resistance to dissolution of metallization) IEC 60068-2-58	*Solder bath temperature: 260±5°C *Leaching immersion time: 30±0.5s Solder: SN63A	Loss of metallization on the edges of each electrode shall not exceed 25%
Resistance to soldering heat JIS C 0050-5.4	*Preheating temperature: 120-150°C, 1 minute. *Solder temperature: 270±5°C *Immersion time: 10±1s Solder: Sn3Ag0.5Cu for lead-free Measurement to be made after keeping at room temperature for 24±2hrs	No mechanical damage. Electrical specification shall satisfy the descriptions in electrical characteristics under the operational temperature range within -40-85°C. Loss of metallization on the edges of each electrode shall not exceed 25%
Drop Test JIS C 0044 Customer's specification.	*Height: 75cm *Test Surface: Rigid surface of concrete or steel. *Times: 6 surfaces for each units; 2 times for each side	No mechanical damage. Electrical specification shall satisfy the descriptions in electrical characteristics under the operational temperature range within -40-85°C.
Vibration JIS C 0040	*Frequency: 10Hz-55Hz-10Hz(1min) *Total amplitude: 1.5mm *Test times: 6hrs. (Two hrs each in three mutually perpendicular directions)	No mechanical damage. Electrical specification shall satisfy the descriptions in electrical characteristics under the operational temperature range within -40-85°C.
Adhesive Strength of Termination JIS C 0051-7.4.3	*Pressurizing force: 5N(≤0603); 10N(>0603) *Test time: 10±1s	No remarkable damage or removal of the termination.
Bending test JIS C 0051-7.4.1	The middle part of substrate shall be pressurized by means of the pressurizing rod at a rate of about 1mm/s per second until the deflection becomes 1mm/s and then pressure shall be maintained for 5±1s. Measurement to be made after keeping at room temperature for 24±2hrs	No mechanical damage. Electrical specification shall satisfy the descriptions in electrical characteristics under the operational temperature range within -40-85°C.
Temperature cycle JIS C 0025	1. 30±3 minutes at -40°C±3°C 2. 10-15 minutes at room temperature 3. 30±3 minutes at +85°C±3°C 4. 10-15 minutes at room temperature Total 100 continuous cycles Measurement to be made after keeping at room temperature for 24±2hrs	No mechanical damage. Electrical specification shall satisfy the descriptions in electrical characteristics under the operational temperature range within -40-85°C.
High temperature JIS C 0021	*Temperature: 85°C±2°C *Test duration: 1000+24/-0hrs Measurement to be made after keeping at room temperature for 24±2hrs	No mechanical damage. Electrical specification shall satisfy the descriptions in electrical characteristics under the operational temperature range within -40-85°C.
Humidity (steady conditions) JIS C 0022	*Humidity: 90% to 95% R.H. *Temperature: 40±2°C *Time: 1000+24/-0 hrs Measurement to be made after keeping at room temperature for 24±2hrs *500hrs measuring the first data then 1000hrs data	No mechanical damage. Electrical specification shall satisfy the descriptions in electrical characteristics under the operational temperature range within -40-85°C.
Low Temperature JIS C 0020	*Temperature: 40±2°C *Test duration: 1000+24/-0 hrs Measurement to be made after keeping at room temperature for 24±2hrs	No mechanical damage. Electrical specification shall satisfy the descriptions in electrical characteristics under the operational temperature range within -40-85°C.