


FEATURES	APPLICATIONS	
<ul style="list-style-type: none"> - GSM/3G - Chip Type - Stable And Reliable Performance - 824-960MHz & 1710-2170MHz - SMT Process Compatible 	<ul style="list-style-type: none"> - GSM/3G Position Routers & Tracking Systems - Femto Base Stations - Machine To Machine Communication - Smart Outdoor Devices - Mobile Systems 	

PART NUMBERING GUIDE

SUNTSU → **S** **AT** **CA** - **40I10II** - **CE** **B4** ←

ANTENNA → **AT**

CHIP ANTENNA → **CA**

FREQUENCY BAND (MHz)

B4: 824-960MHz
1710-2170MHz

APPLICATION

CE: Cellular

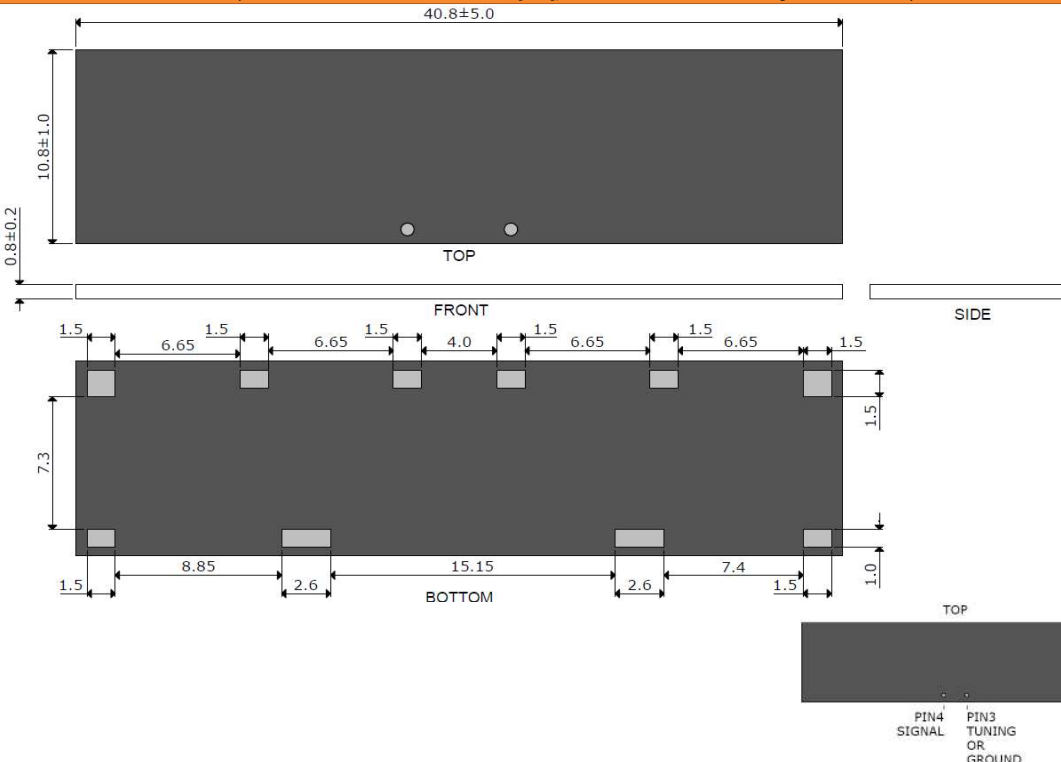
*** PACKAGE SIZE**

40I10II: 40.8m x 10.8mm x 0.8mm

* Where letters denote decimal location A=.0, B=.1, C=.2, etc. Ex: B5=0.15, 3A5=3.05, 9A=9.0
To customize your parameters, contact a Suntsu representative.

ELECTRICAL PARAMETERS (At 25°C)	UNITS	MIN.	TYP.	MAX	REMARKS
Frequency Band	MHz	824		960	
Impedance	Ω		50		
Polarization			Linear		
Peak Gain	dBi		1.5		At 895MHz
Efficiency	%		74		At 895MHz
VSWR				3	At Center Frequency
Operating Temperature	°C	-40		85	
Frequency Band	MHz	1710		2170	
Impedance	Ω		50		
Polarization			Linear		
Peak Gain	dBi		2.5		At 1950MHz
Efficiency	%		55		At 1950MHz
VSWR				3	At Center Frequency
Operating Temperature	°C	-40		85	

OUTLINE DRAWING (NOTE: All dimensions are in millimeters [mm], unless otherwise noted. Drawings are not to scale.)



TOP VIEW: Overall dimensions 40.8±5.0 mm (width) x 10.8±1.0 mm (height). Thickness is 0.8±0.2 mm.

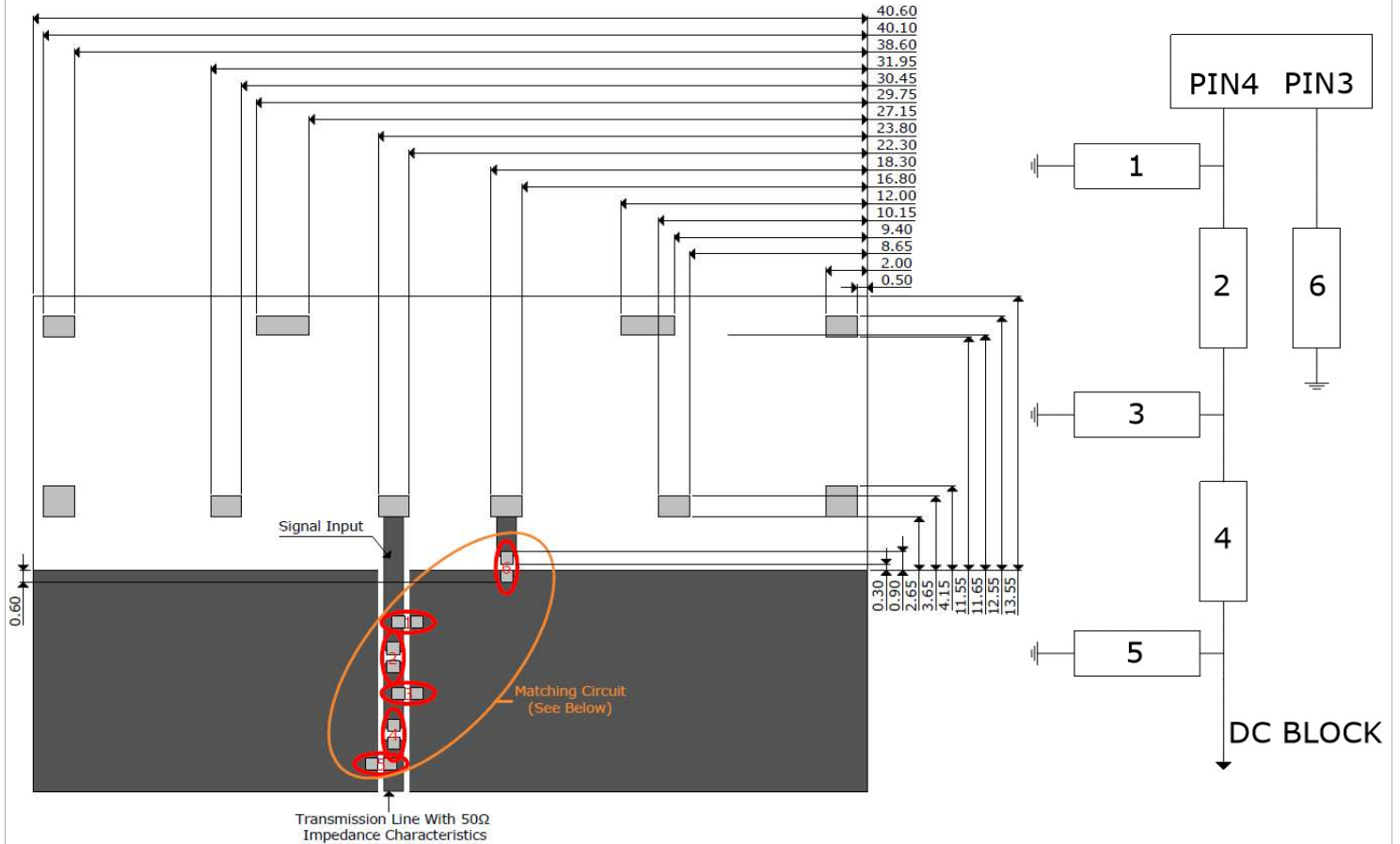
FRONT VIEW: Shows the antenna structure with dimensions: 1.5, 6.65, 1.5, 6.65, 1.5, 4.0, 1.5, 6.65, 1.5, 6.65, 1.5.

BOTTOM VIEW: Shows the pin locations with dimensions: 1.5, 8.85, 2.6, 15.15, 2.6, 7.4, 1.5, 1.0.

PIN ORIENTATION:

PIN10 N/C	PIN9 N/C	BOTTOM	PIN8 N/C	PIN7 N/C
PIN1 N/C	PIN2 N/C	PIN3 TUNING OR GROUND	PIN4 SIGNAL	PIN5 N/C
PIN6 N/C				

RECOMMENDED LAND PATTERN & FREQUENCY TUNING SCENARIO CIRCUIT (NOTE: All dimensions are in mm, unless otherwise noted. Drawings are not to scale.)



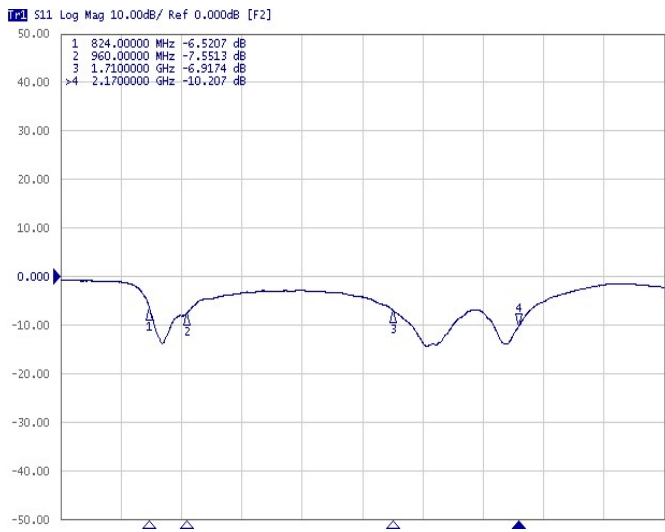
System Matching Circuit Components			
Location	Description	Vendor	Tolerance
1	N/A	-	-
2	6.8pF, (0402)	MURATA	±0.05pF
3	15nH, (0402)	DARFON	±2%
4	0Ω (0402)	-	-
5	N/A	-	-
6	0Ω (0402)	-	-

For these suggested values for the matching and tuning of components, the average frequency will be 824-960MHz & 1710-2170MHz on a standard 112.2 x 41.5mm² Evaluation board.

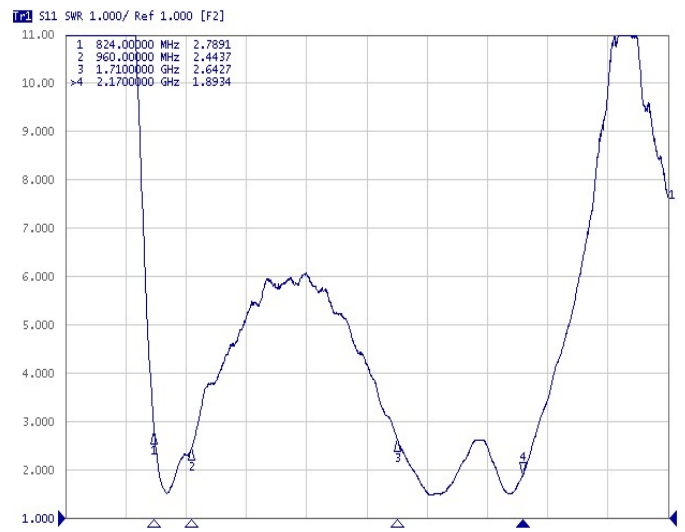
Please note, these are average reference values which may need to be changed when different circuit boards or manufactures are used.

ELECTRICAL TEST

Return Loss

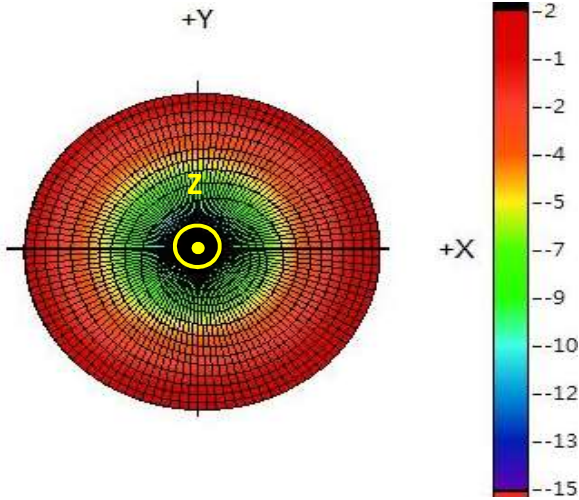


VSWR

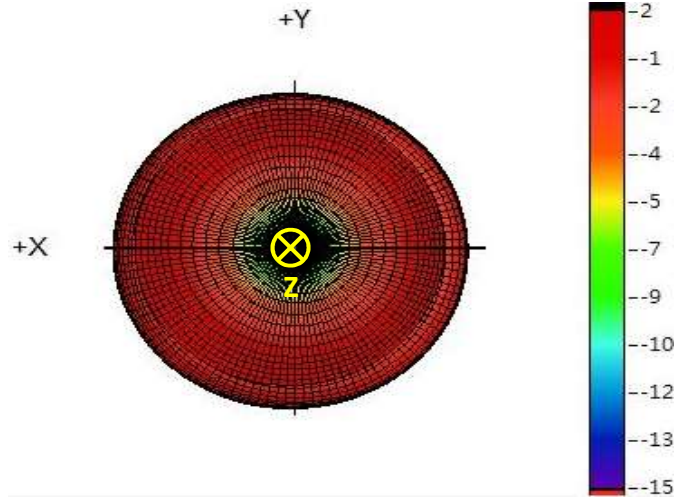


3D RADIATION PATTERN (UNIT: dBi) AND EFFICIENCY vs FREQUENCY

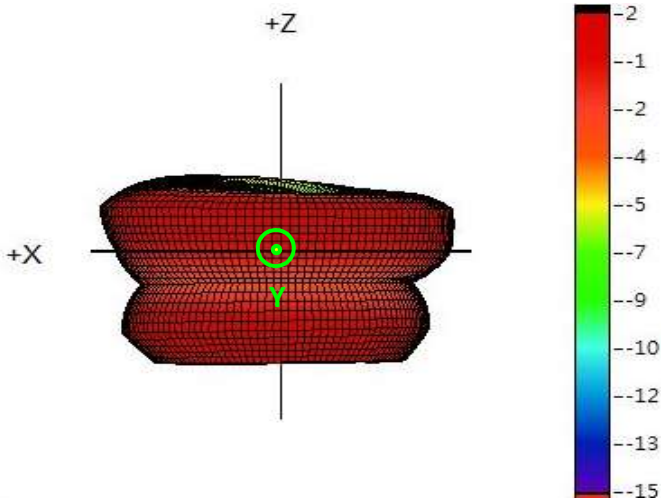
895MHz



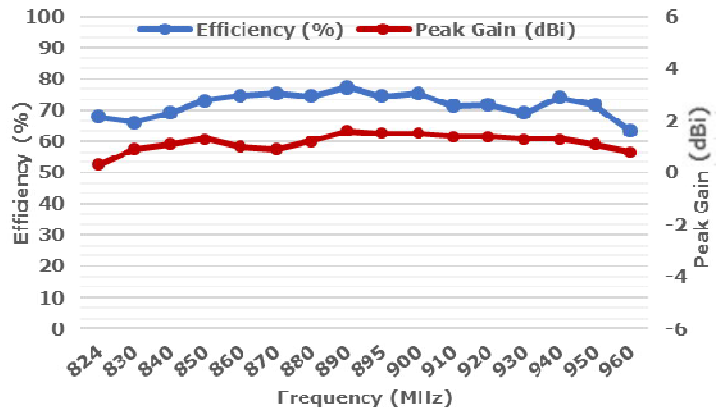
895MHz



895MHz

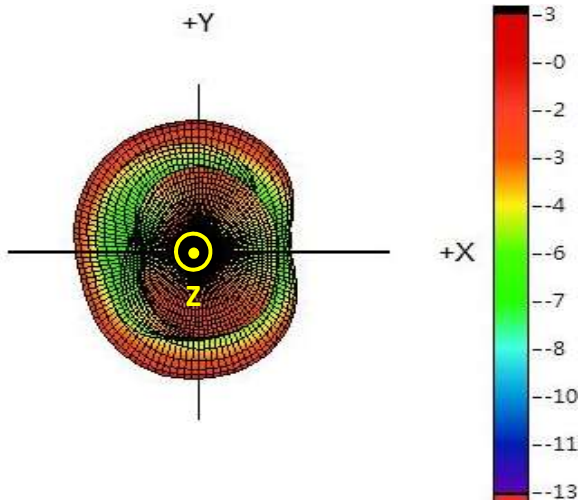


895MHz

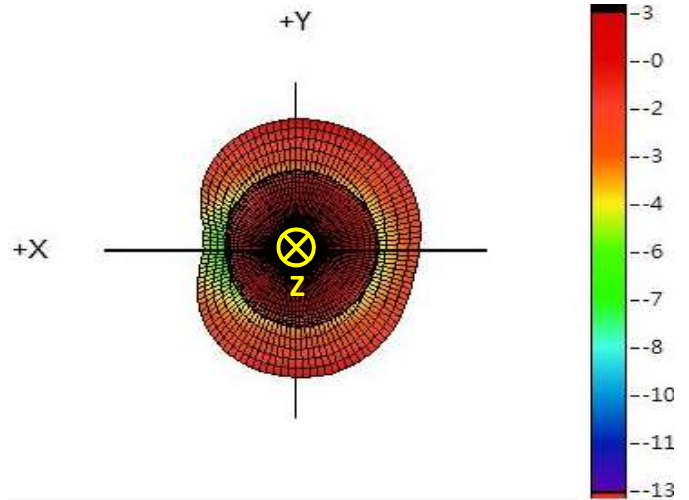


Freq.	824	830	840	850	860	870	880	890	895	900	910	920	930	940	950	960
Eff. (%)	67.9	66.2	69.1	73.1	74.6	75.5	74.50	77.40	74.5	75.5	71.4	71.8	69	74.1	71.8	63.4
P.G.	0.3	0.9	1.1	1.3	1	0.9	1.2	1.6	1.5	1.5	1.4	1.4	1.3	1.3	1.1	0.8

1950MHz

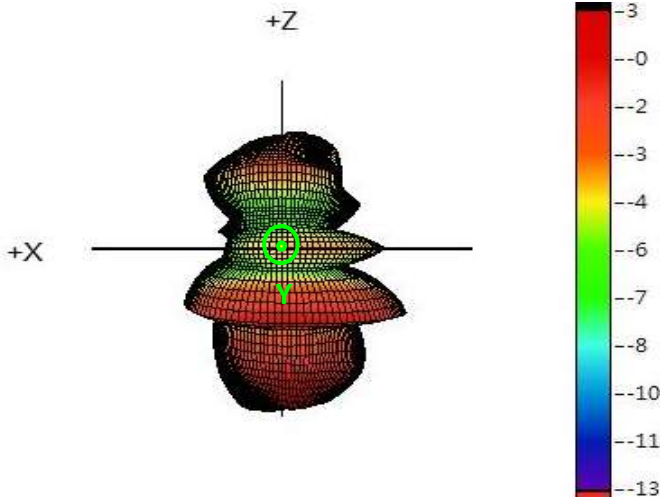


1950MHz

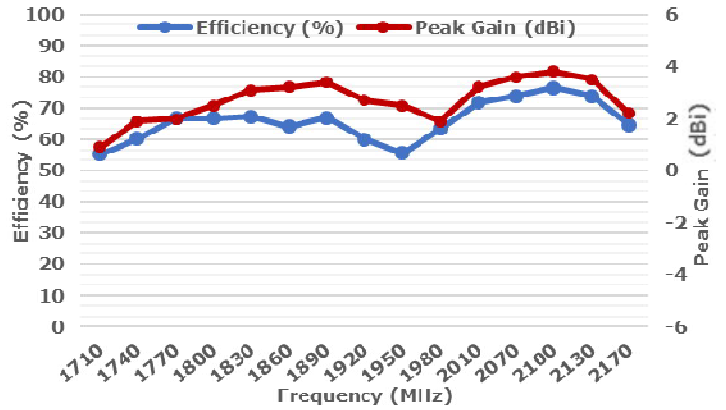


3D RADIATION PATTERN (UNIT: dBi) AND EFFICIENCY vs FREQUENCY (CONT.)

1950MHz



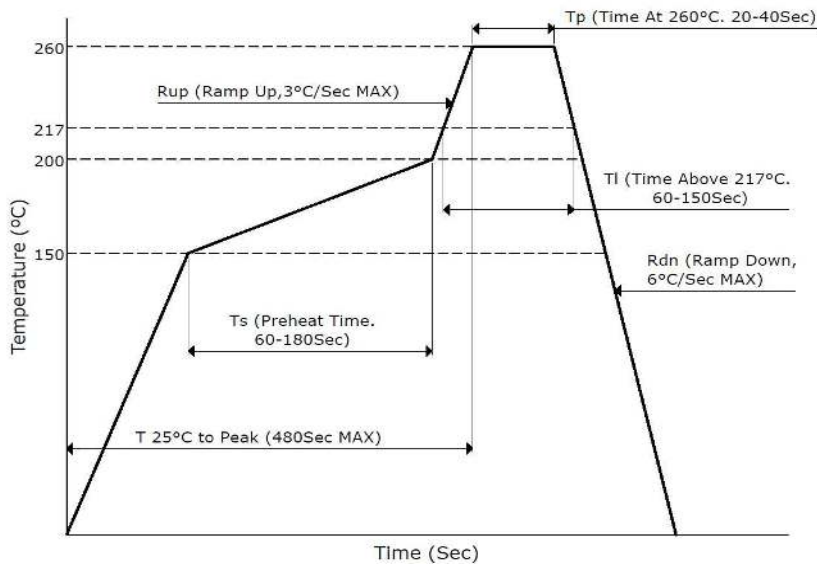
1950MHz



Freq.	1710	1740	1770	1800	1830	1860	1890	1920	1950	1980	2010	2070	2100	2130	2170
Eff. (%)	55.2	60.2	66.8	66.7	67.3	64	67.00	60.00	55.7	63.3	71.8	73.8	76.5	73.8	64.6
P.G.	0.9	1.9	2	2.5	3.1	3.2	3.4	2.7	2.5	1.9	3.2	3.6	3.8	3.5	2.2

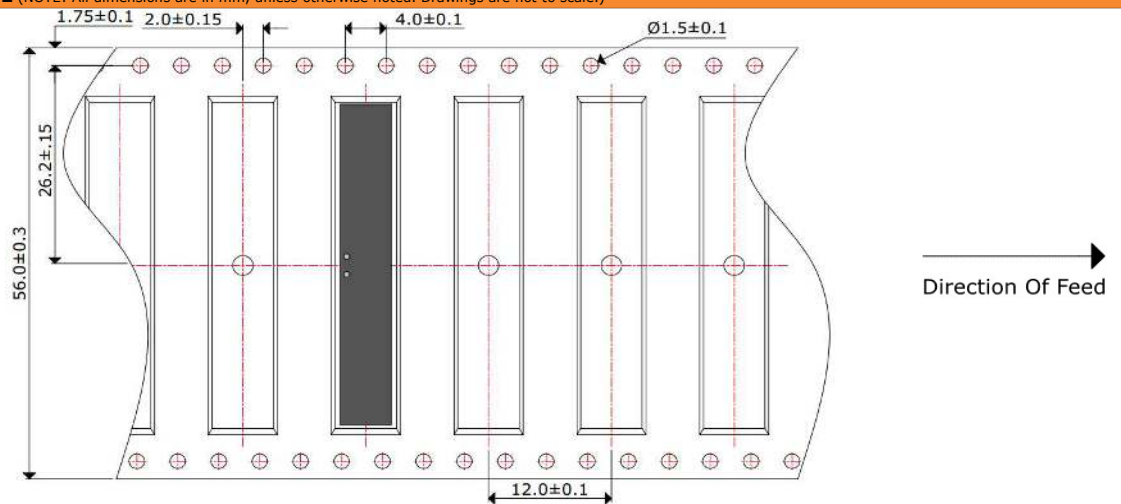
SOLDERING CONDITIONS

Typical Soldering Profile For Lead-Free Process



PACKAGING - TAPE AND REEL (NOTE: All dimensions are in mm, unless otherwise noted. Drawings are not to scale.)

1,000pcs Per Reel



ENVIRONMENTAL & MECHANICAL SPECIFICATIONS

High Temperature Test	85°C for 500 hours, and then to normal temperature/humidity for 24hours.
Low Temperature Test	-30°C for 500 hours, and then to normal temperature/humidity for 24hours.
Humidity Test	85°C / 90-95% for 96 hours, and then to normal temperature/humidity for 24hours.
Thermal Shock Test	-30°C for 30 min and +85°C for 30 min. 5 cycles, then expose to normal temperature/humidity for 24 hours or more.
Vibration Test	5 to 200 to 5Hz, swept in 10min, 4.5G at max(2mm amplitude), in X and Y directions for 2 hours each and in Z direction for 4 hours.