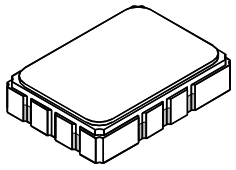
RFMi
A BRAND OF AKOUSTIS

RoHS compliant

SF1142B

315.00 MHz SAW Filter

- ***Designed for SDARS IF Receiver***
- ***Low Insertion Loss***
- ***5.0 X 7.0 mm Surface-Mount Case***
- ***Differential Input and Output***
- ***Complies with Directive 2002/95/EC (RoHS)***
- ***Moisture Sensitivity Level: 1***
- ***AEC-Q200 Qualified***



SMP-03

Absolute Maximum Ratings

Rating	Value	Units
Maximum Incident Power in Passband	+10	dBm
Max. DC voltage between any 2 terminals	30	VDC
Storage Temperature Range	-40 to +85	°C
Max Soldering Profile	265°C for 10 s	

Electrical Characteristics

Characteristic	Sym	Notes	Min	Typ	Max	Units
Nominal Center Frequency	f_C			315.000		MHz
Passband Insertion Loss at fc	IL			13.0	14.0	dB
1dB Passband	BW_1		±2.1	±2.25		MHz
Fast Amplitude Ripple over fc ±2.1 MHz					1.0	dB_{P-P}
Group Delay Variation over fc ±2.1 MHz	GDV			75	200	ns_{P-P}
Rejection 100 to fc-4.6 and fc+4.85 to fc+100 MHz			40	47		dB
Operating Temperature Range	T_A		-40		+85	°C
Differential Input and Output Impedance	250 ohms					
Case Style			SMP-03 7 x 5 mm Nominal Footprint			
Lid Symbolization (YY=year, WW=week, S=shift, ## = Sequence Code)			RFM, SF1142B, YYWWS##			

Electrical Connections

Connection	Terminals
Port 1 Hot	10
Port 1 Ground Return	1
Port 2 Hot	5
Port 2 Ground Return	6
Case Ground	All Others

CAUTION: Electrostatic Sensitive Device. Observe precautions for handling.

NOTES:

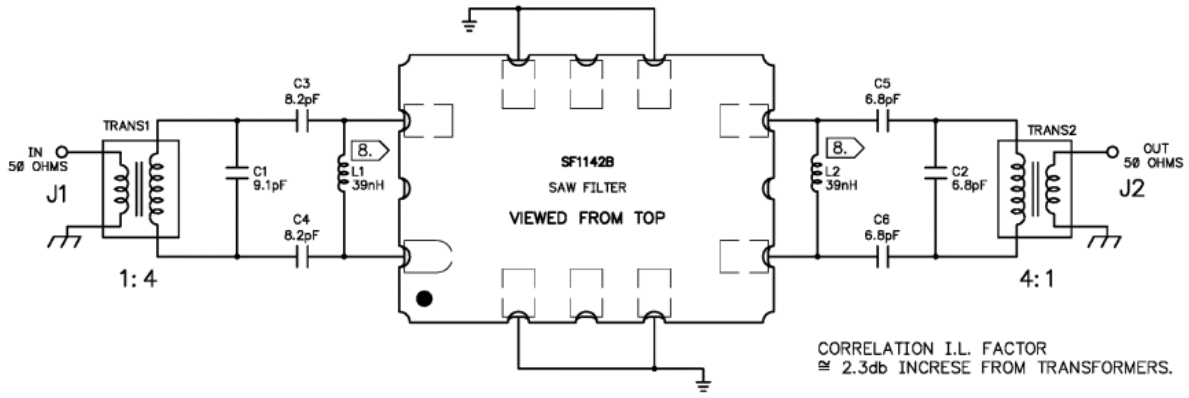
1. The design, manufacturing process, and specifications of this device are subject to change.
2. US or International patents may apply.
3. RoHS compliant from the first date of manufacture.

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NOTES:

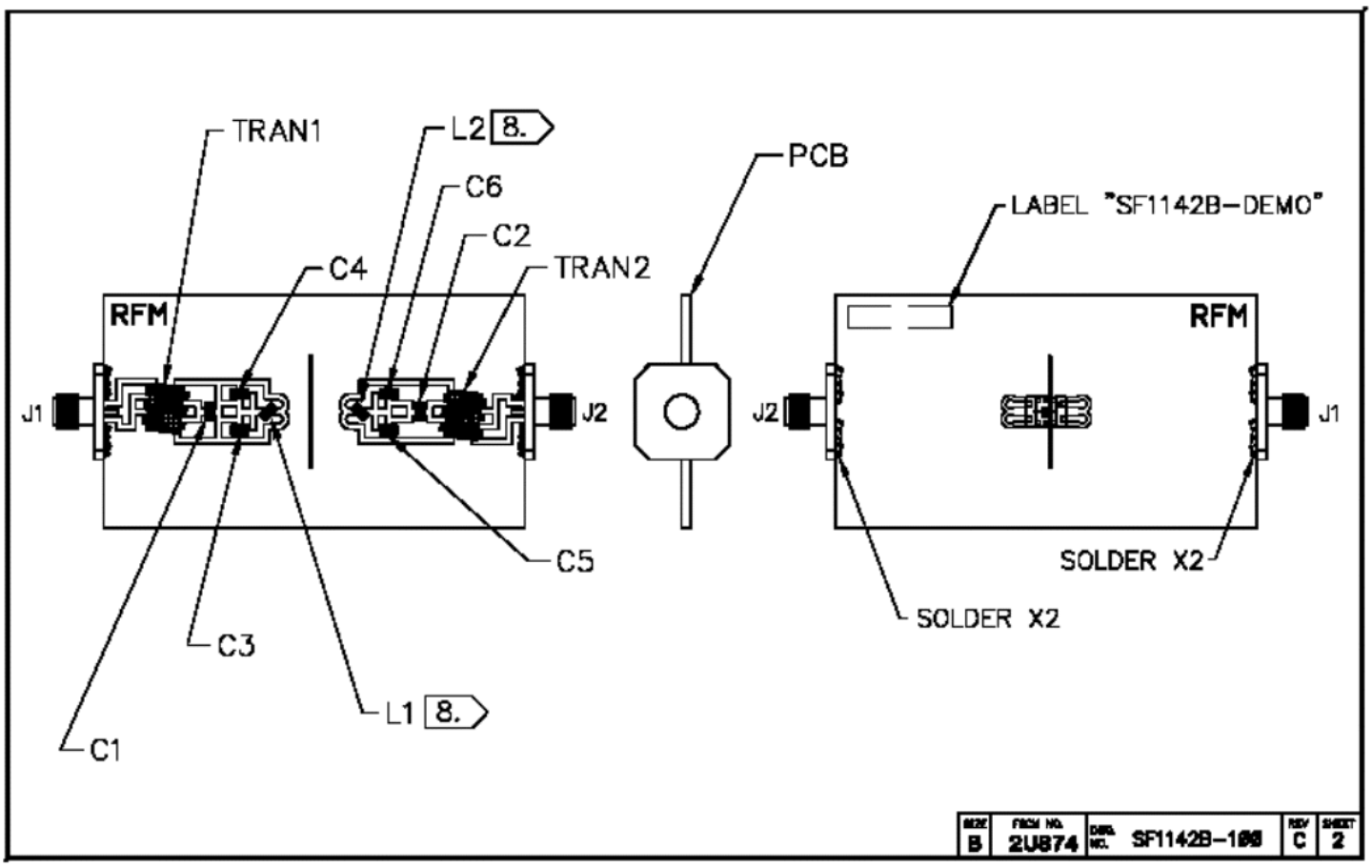
1. ~~SOLDER "TAPE" 4 PLACES ONTO COMPONENT SIDE OF PCB AS SHOWN.~~
2. USE A WRIST STRAP WHEN SOLDERING TRANS 1, AND TRANS 2 TO PCB. (CUT LEADS .Ø7 IN.)
3. MOUNT AND SOLDER ALL COMPONENTS ON PCB.
4. CUT CENTER CONDUCTORS FROM J1 AND J2 TO .1Ø IN.
5. MOUNT J1 AND J2 AS SHOWN (SOLDER BACKSIDE ALSO).
6. LABEL DEMO BOARD ACCORDINGLY.
7. MOUNT "FILTER" ON TOPSIDE OF PCB AS SHOWN.
8. MOUNT L1 AND L2 9Ø° TO EACH OTHER.
9. ~~CUT SHIELD IN TWO PIECES., "SHIELD A" AND "SHIELD B", SOLDER TO PCB AS SHOWN.~~

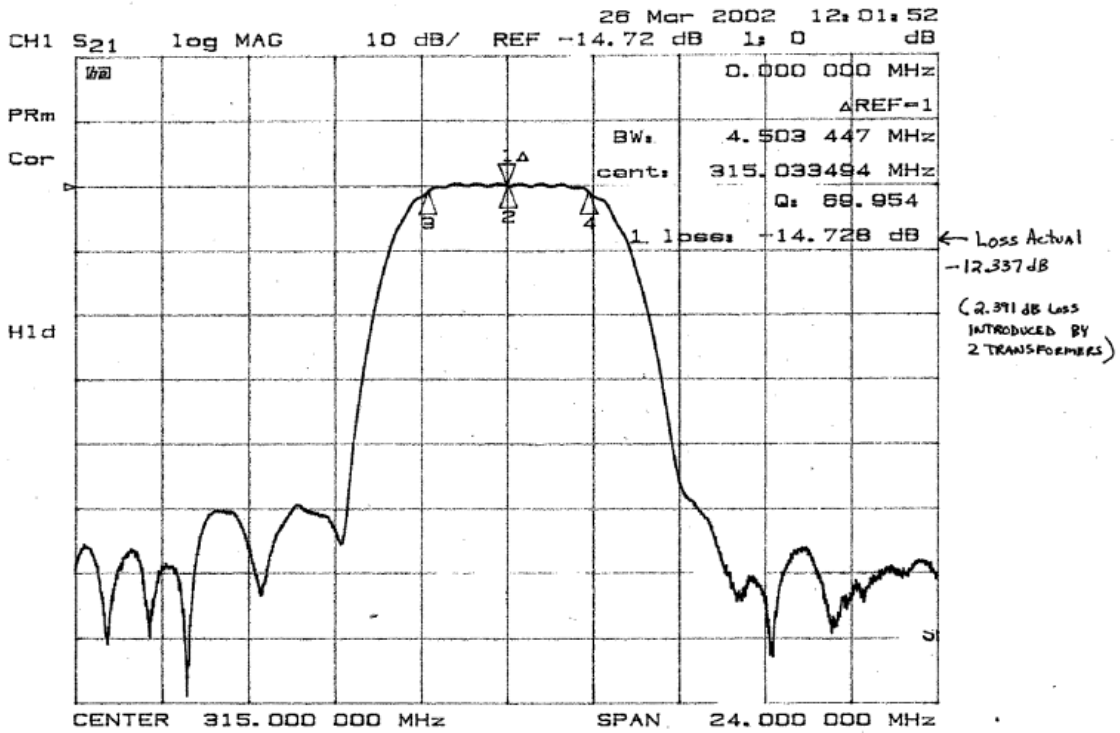
REV	ECN	DESCRIPTION	DATE
A	9121	INITIAL RELEASE	26oct00
B	10655	REVISED	30apr02
C	11077	REVISED	20nov02



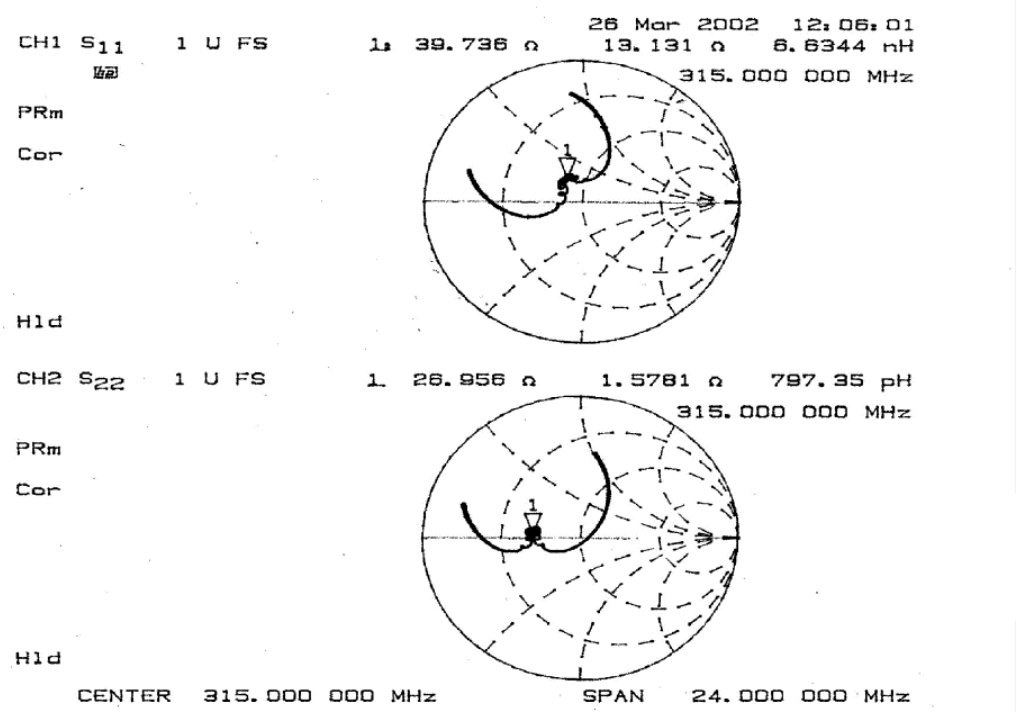
CORRELATION I.L. FACTOR
≅ 2.3db INCRESE FROM TRANSFORMERS.

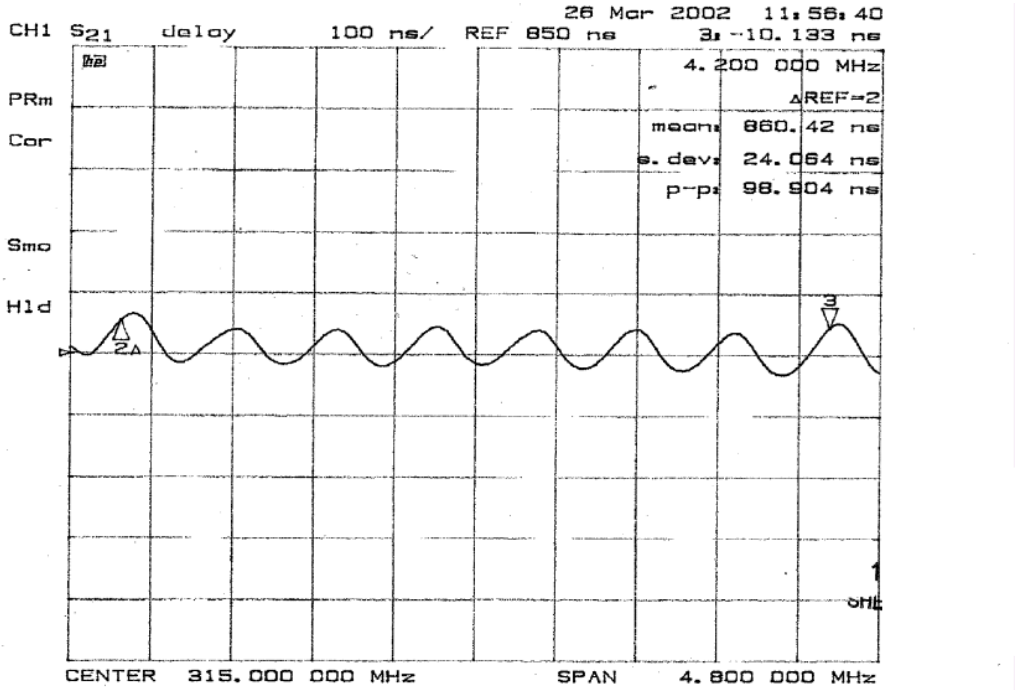
TITLE					
ASSY DIAGRAM, SF1142B-DEMO, S, TD					
SIZE	FSCM NO.	DWG. NO.		REV	SHEET
B	2U874	SF1142B-100		C	1/2





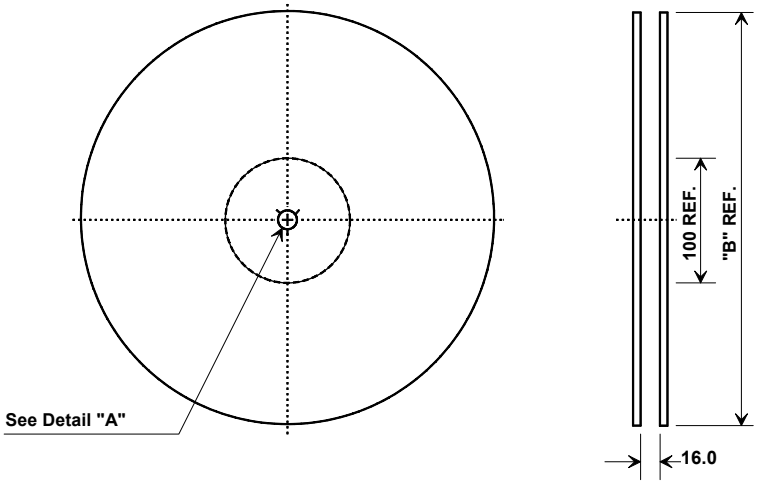
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26 Mar 2002 12:06:01
CH1 S11 1 U FS 1: 39.736 Ω 13.131 Ω 6.6344 nH
315.000 000 MHz
PRm
Cor
Hld
CH2 S22 1 U FS 1 26.956 Ω 1.5781 Ω 797.35 pH
315.000 000 MHz
PRm
Cor
Hld
CENTER 315.000 000 MHz
SPAN 24.000 000 MHz

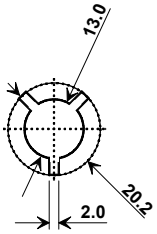

26 Mar 2002 11:56:40
CH1 S21 delay 100 ns/ REF 850 ns 3: -10.133 ns
4.200 000 MHz
ΔREF=2
mean: 860.42 ns
s.dev: 24.064 ns
p-p: 98.904 ns
PRm
Cor
Smo
Hld
CENTER 315.000 000 MHz
SPAN 4.800 000 MHz

Tape and Reel Specifications

Tape and Reel Standard per ANSI/EIA-481

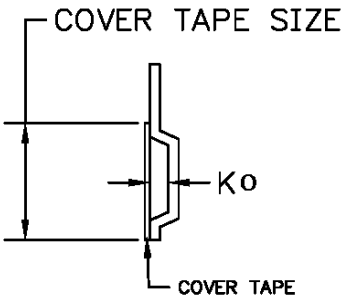


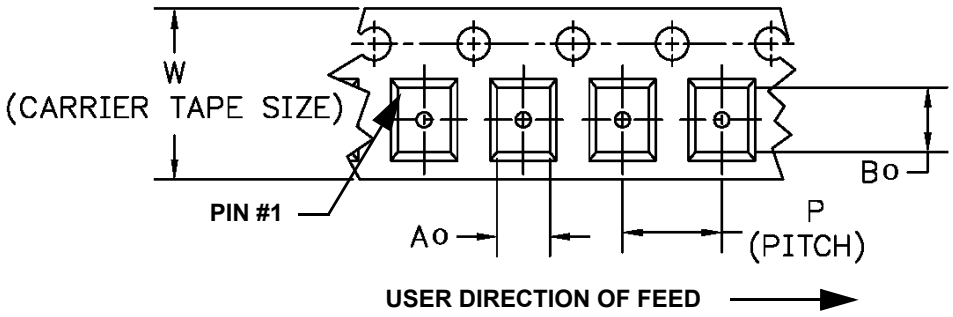
"B " Nominal Size		Quantity Per Reel
Inches	millimeters	
7	178	500
13	330	2000



COMPONENT ORIENTATION and DIMENSIONS

Carrier Tape Dimensions		Tolerance
Ao	5.5 mm	± 0.1mm
Bo	7.5 mm	± 0.1mm
Ko	2.0 mm	± 0.1mm
Pitch	8.0 mm	± 0.1mm
W	16.0 mm	± 0.2mm



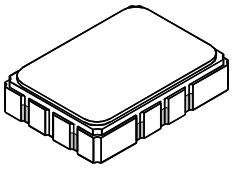


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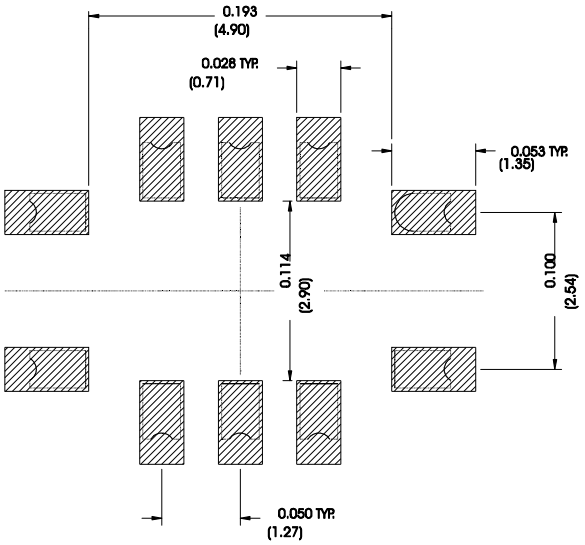
SMP-03 Case

10-Terminal Ceramic Surface-Mount Case

7 x 5 mm Nominal Footprint



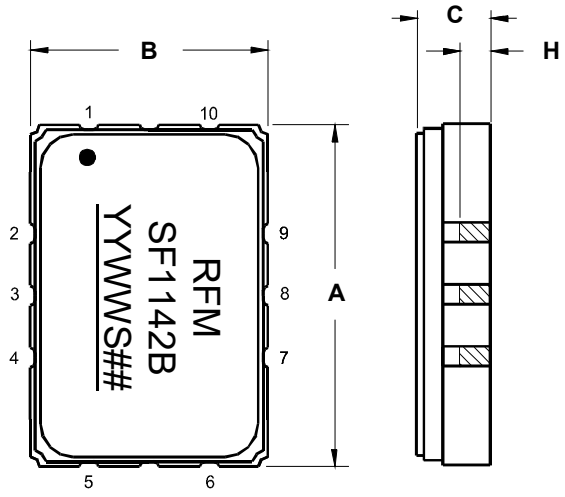
Recommended PCB Footprint



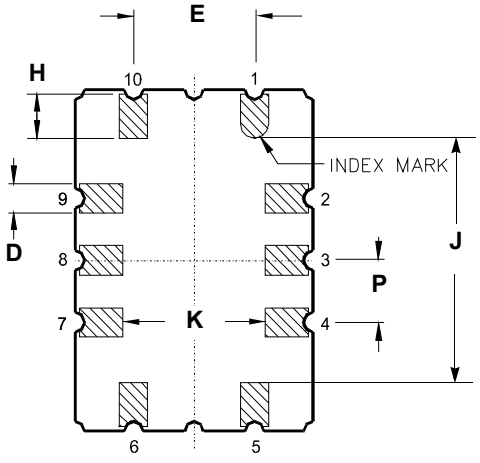
Case Dimensions						
Dimension	mm			Inches		
	Min	Nom	Max	Min	Nom	Max
A	6.80	7.00	7.20	0.268	0.276	0.283
B	4.80	5.00	5.20	0.189	0.197	0.205
C		1.65	2.00		0.065	0.079
D	.47	0.60	.73	0.019	0.024	0.029
E	2.41	2.54	2.67	0.095	0.100	0.105
H	0.87	1.0	1.13	0.034	0.039	0.044
J	4.87	5.00	5.13	0.192	0.197	0.202
K	2.87	3.00	3.13	0.113	0.118	0.123
P	1.14	1.27	1.40	0.045	0.050	0.055

Materials	
Solder Pad Termination	Au plating 30 - 60 uInches (76.2-152 uM) over 80-200 uInches (203-508 uM) Ni.
Lid	Fe-Ni-Co Alloy Electroless Nickel Plate (8-11% Phosphorus) 100-200 uInches Thick
Body	Al_2O_3 Ceramic

Electrical Connections		
Connection		Terminals
Port 1	Input or Return	10
	Return or Input	1
Port 2	Output or Return	5
	Return or Output	6
Ground		All others
Single Ended Operation		**Return is ground**
Differential Operation		**Return is hot**



TOP VIEW

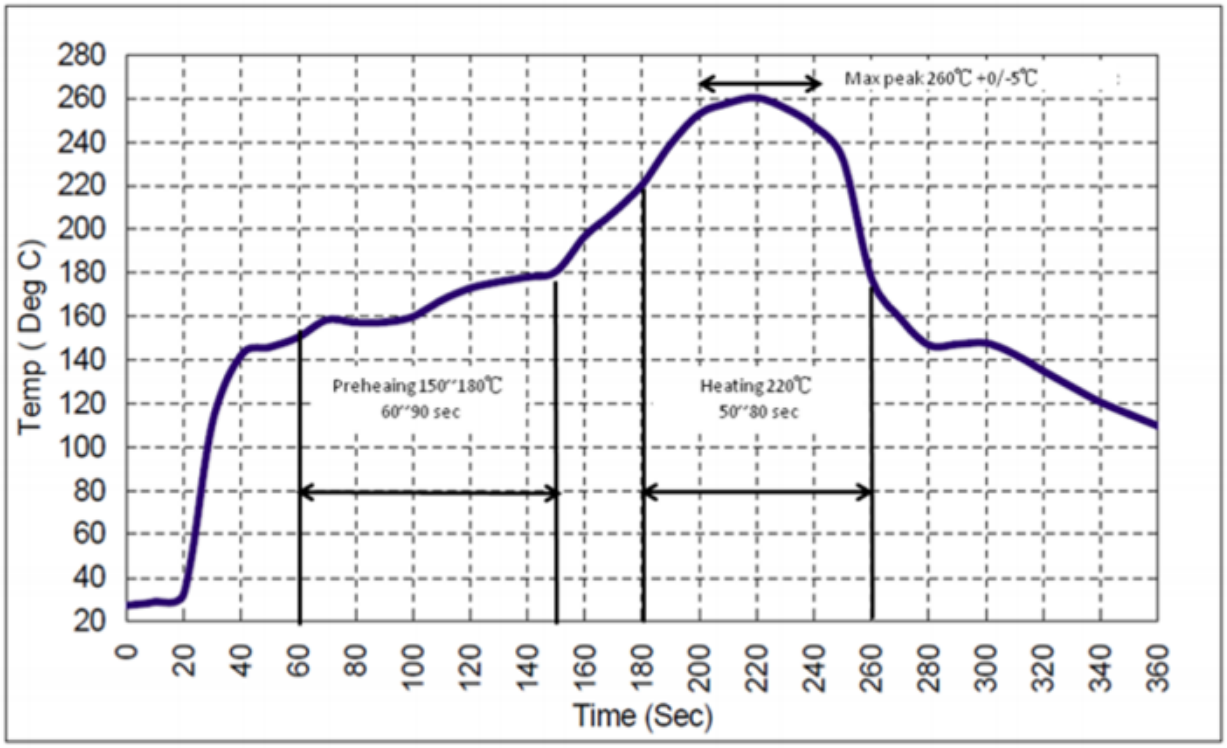


BOTTOM VIEW

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Recommended Reflow Profile

1. Preheating shall be fixed at 150~180°C for 60~90 seconds.
2. Ascending time to preheating temperature 150°C shall be 30 seconds min.
3. Heating shall be fixed at 220°C for 50~80 seconds and at 260°C+0/-5°C peak (10 seconds).
4. Time: 5 times maximum.



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