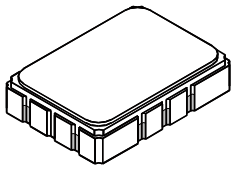
RFMi
A BRAND OF AKOUSTIS

RoHS compliant

SF2138B-1

144.132 MHz
SAW Filter

- ***Designed for SDARS IF Receiver***
- ***Low Insertion Loss***
- ***5.0 x 7.0 mm Surface-mount Case***
- ***Differential or Single-ended Input and Output***
- ***Complies with Directive 2002/95/EC (RoHS)***
- ***Moisture Sensitivity Level: 1***



SMP-03

Absolute Maximum Ratings

Rating	Value	Units
Maximum Incident Power in Passband	+10	dBm
Maximum DC Voltage Between any Two Terminals	30	VDC
Storage Temperature Range	-40 to +85	°C
Operable Temperature Range	-45 to +125	°C
Max Soldering Profile	265 °C for 10 s	

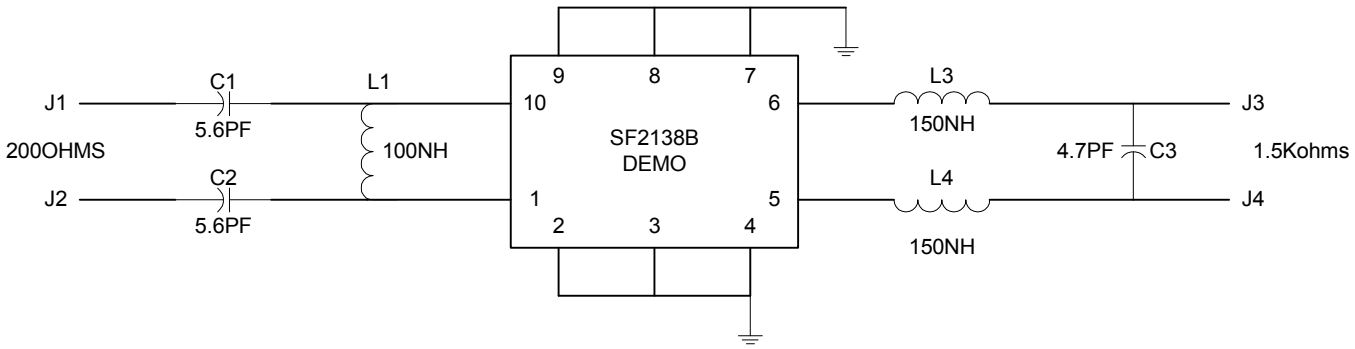
Characteristic	Sym	Notes	Min	Typ	Max	Units
Nominal Center Frequency	f_C			144.132		MHz
Passband Width @ +25 °C			137.882		150.382	dB
B 1dB	BW_1		12.5	13.3		MHz
B 15dB	BW_{15}			15.9	16.2	MHz
B 30dB	BW_{30}			16.9	18.2	MHz
Minimum Insertion Loss, including the Matching Network	IL_{MIN}			13.7	16.5	dB
Terminating source impedance			ZS = 200 ohms (differential)			
Terminating load impedance			ZL = 1.5K ohms (differential)			
Amplitude Ripple						
TDM1 (137.882 - 142.382 MHz)				1	1.7	dB_{P-P}
COFDM (141.882 - 146.182 MHz)				0.5	1.5	
TDM2 (145.882 - 150.382 MHz)				1	1.7	
Attenuation Relative to the Insertion Loss at Center Frequency:						dBc
122.882 ..... 127.882 MHz			45	50		
127.882 ..... 132.882 MHz			43	47		
154.137 ..... 159.137 MHz			38	42		
159.137 ..... 162.882 MHz			43	47		
162.882 ..... 177.882 MHz			48	53		
Group Delay Ripple:						ns_{P-P}
TDM1 (137.882 - 142.382 MHz)				30	150	
COFDM (141.882 - 146.182 MHz)				28	100	
TDM2 (145.882 - 150.382 MHz)				30	150	
Specification Temperature Range	T_A		-40		+105	°C
Case Style			SMP-03 7 x 5 mm Nominal Footprint			
Lid Symbolization, YY=year, WW=week, S=shift, ## = Sequence Code			RFM, SF2138B-1, YYWWS##			

CAUTION: Electrostatic Sensitive Device. Observe precautions for handling.

NOTES:

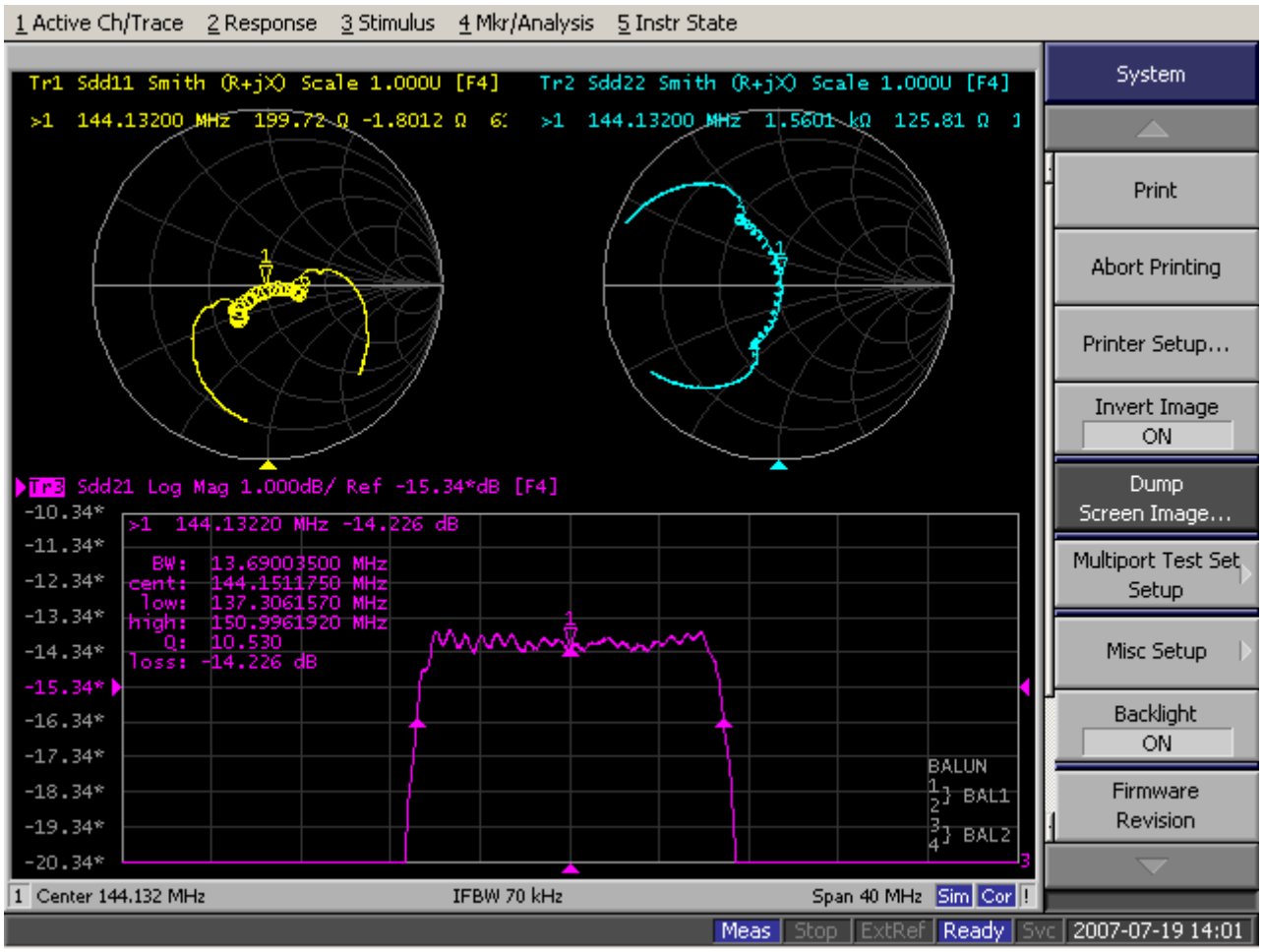
1. The design, manufacturing process, and specifications of this device are subject to change.
2. US or International patents may apply.
3. RoHS compliant from the first date of manufacture.

© 2012 by RFM Integrated Device, Inc.

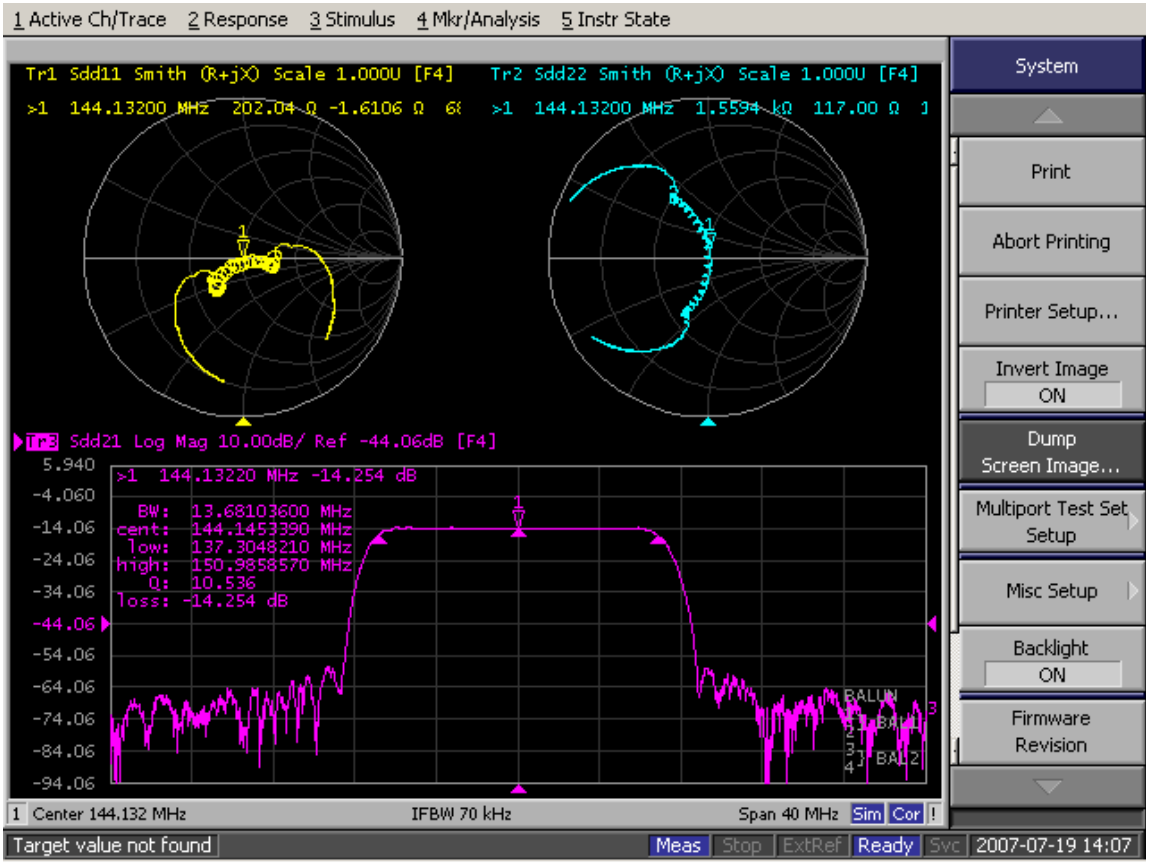


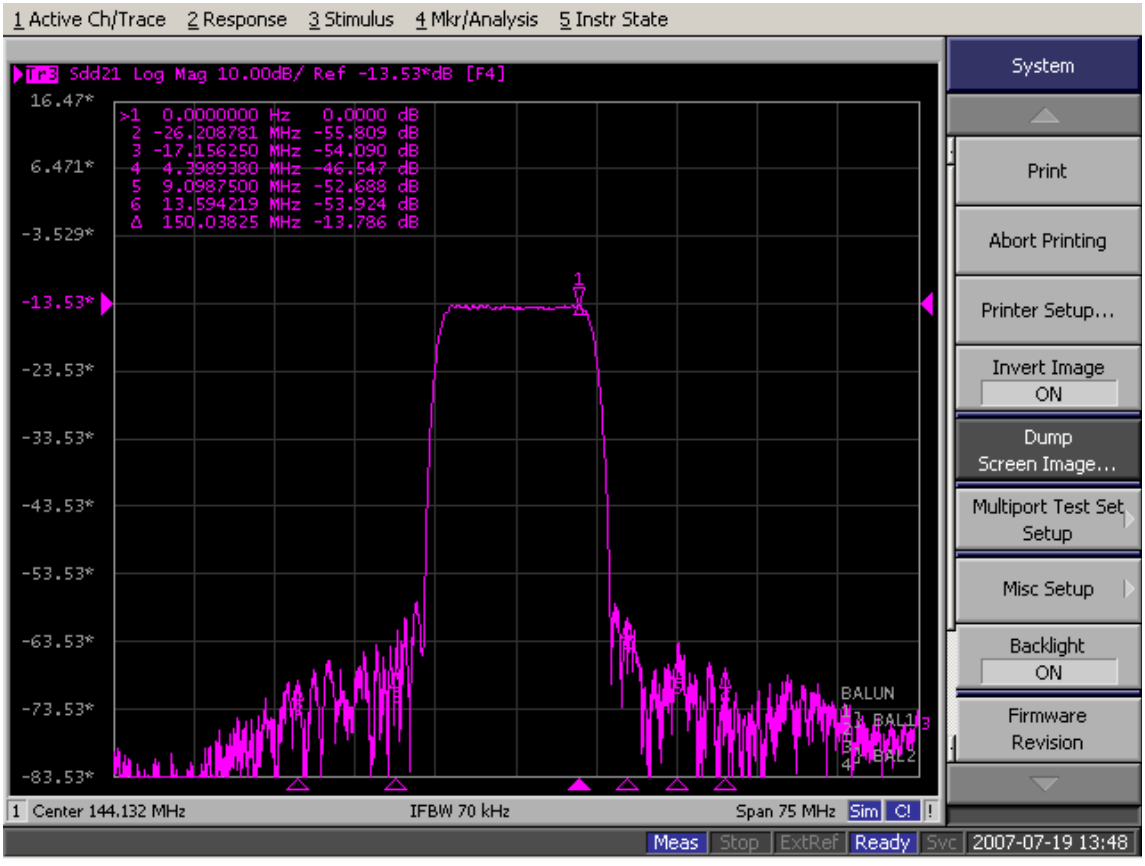
400-1749-001

501-0782-101	0805 COIL CRAFT, 100NH	L1
501-0782-151	0805 COIL CRAFT, 150NH	L2, L3
501-1275-056	0805, 5.6PF	C1, C2
501-1275-047	0805, 4.7PF	C3



© 2012 by RFM Integrated Device, Inc.



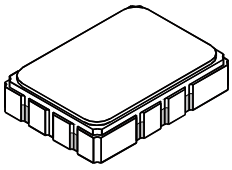


© 2012 by RFM Integrated Device, Inc.

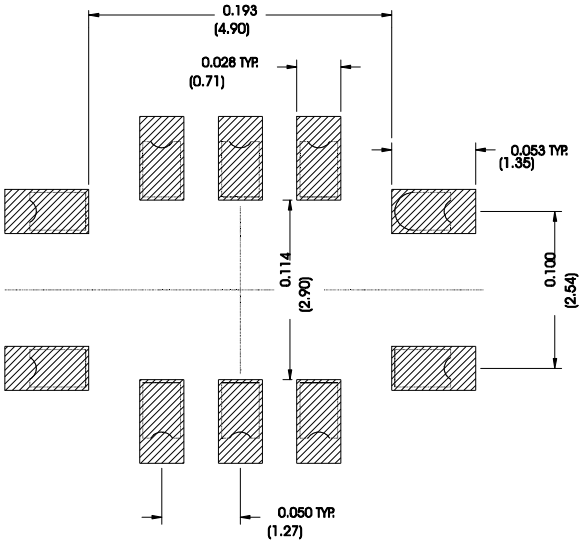
SMP-03 Case

10-Terminal Ceramic Surface-Mount Case

7 x 5 mm Nominal Footprint



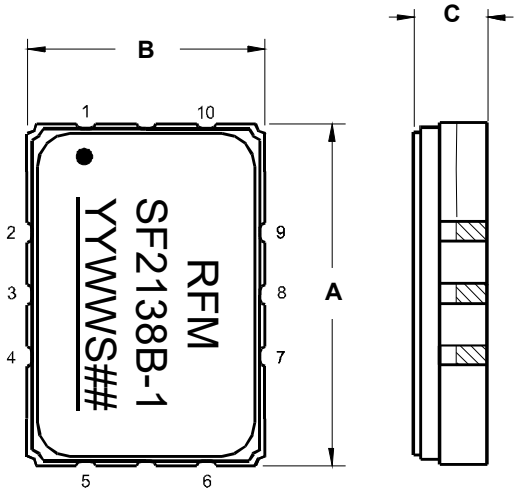
Recommended PCB Footprint



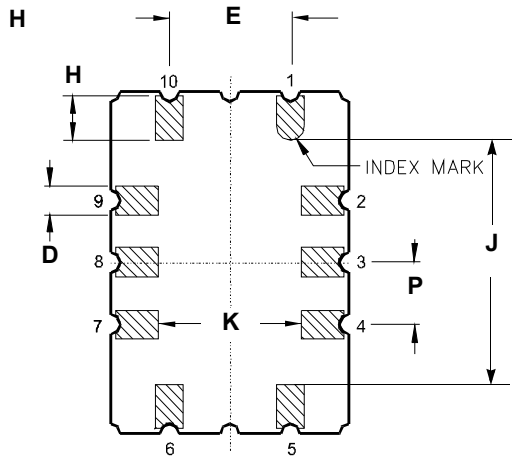
Case Dimensions						
Dimension	mm			Inches		
	Min	Nom	Max	Min	Nom	Max
A	6.80	7.00	7.20	0.268	0.276	0.283
B	4.80	5.00	5.20	0.189	0.197	0.205
C		1.65	2.00		0.065	0.079
D	.47	0.60	.73	0.019	0.024	0.029
E	2.41	2.54	2.67	0.095	0.100	0.105
H	0.87	1.0	1.13	0.034	0.039	0.044
J	4.87	5.00	5.13	0.192	0.197	0.202
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

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

Materials	
Solder Pad Plating	0.3 to 1.0 µm Gold over 1.27 to 8.89 µm Nickel
Lid Plating	2.0 to 3.0 µm Nickel
Body	Al_2O_3 Ceramic



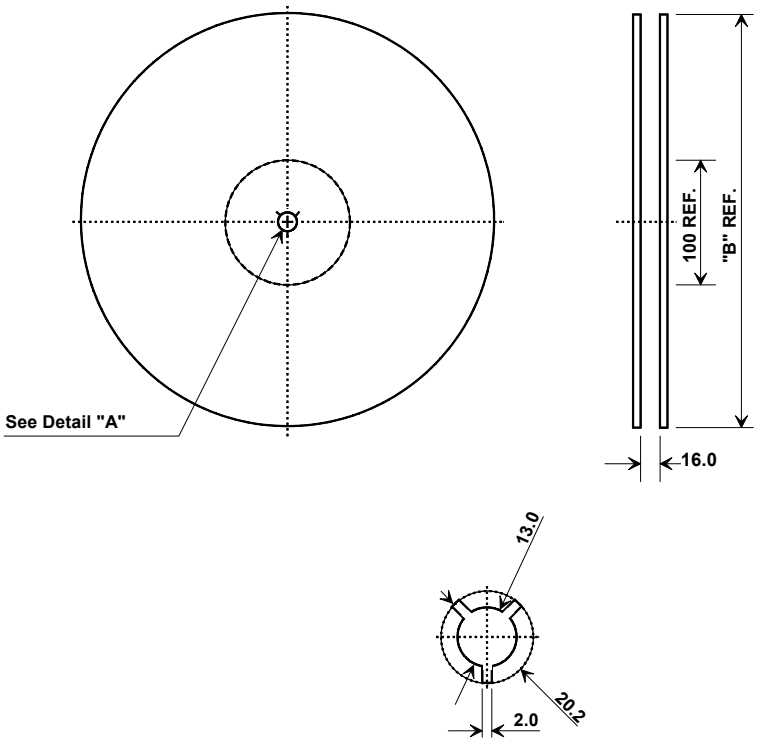
TOP VIEW



BOTTOM VIEW

© 2012 by RFM Integrated Device, Inc.

Tape and Reel Specifications

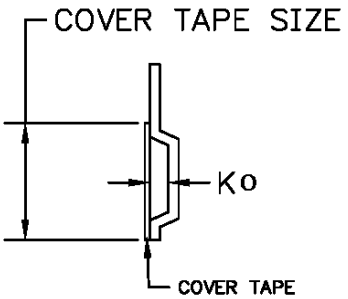


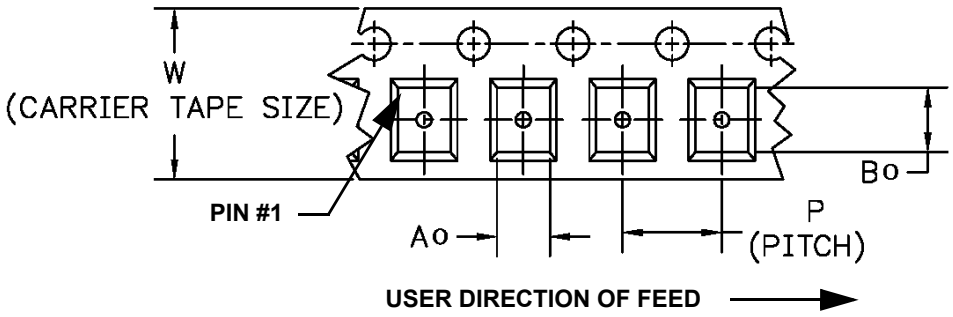
Tape and Reel Standard per ANSI/EIA-481

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

COMPONENT ORIENTATION and DIMENSIONS

Carrier Tape Dimensions	
Ao	5.5 mm
Bo	7.5 mm
Ko	2.0 mm
Pitch	8.0 mm
W	16.0 mm

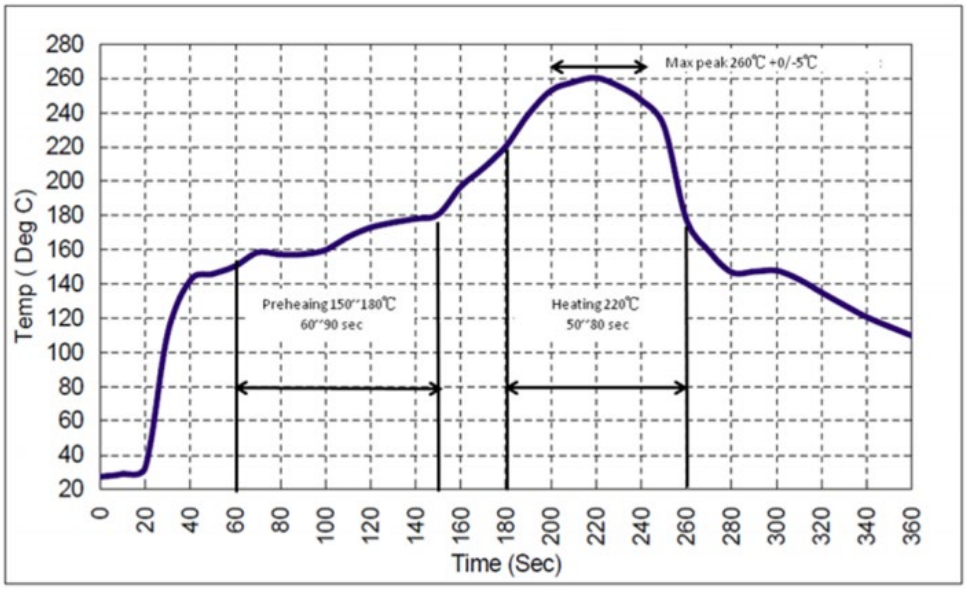




© 2012 by RFM Integrated Device, Inc.

Recommended Reflow Profile

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



© 2012 by RFM Integrated Device, Inc.