

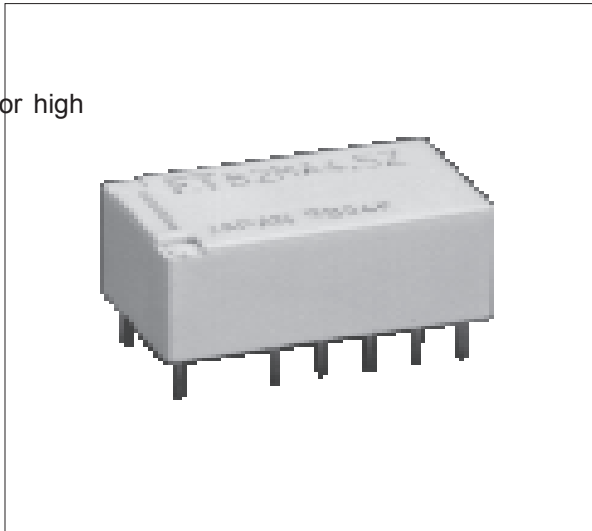
4 Pole (2 FORM C+ 2 FORM A) Signal Relay for Central Switching/ Data Transmission

FTR-B2 SERIES

RoHS compliant

■ FEATURES

- 4 POLE MINIATURE RELAY
Mounting space of 175mm² with 4 pole relay, suitable for high density mounting.
- SAFETY STANDARD
 - UL/CSA recognized
 - Conforms to Bellcore specification & FCC part 68
 - Conforms to IEC 60950 / IEC 1950 / EN60950 spacing and high breakdown voltage
 - Clearance: 1.0mm
 - Creepage: 1.6mm
- HIGH RELIABILITY
Bifurcated gold overlay silver alloy
- HIGH HEAT RESISTANCE, FLAMMABILITY
Flammability grade of 94V-0 material employed
- AIR TIGHT CONSTRUCTION
Airtight construction allows high resistance to various environments and to clean the relay
- SMT VERSION
Surface mount type available on request
- RoHS compliant since date code: 0430B8
Please see page 7 for more information



■ ORDERING INFORMATION

[Example] $\frac{\text{FTR-B2}}{\text{(a)}} \frac{\text{M A}}{\text{(b)(c)}} \frac{\text{012}}{\text{(d)}} \frac{\text{Z}}{\text{(e)}} \frac{\text{-**}}{\text{(f)}}$

(a)	Series Name	FTR-B2
(b)	Contact Arrangement	M : 2 Form C + 2 Form A - through hole N : 2 Form C + 2 Form A - SMT
(c)	Coil Type	A : Standard (400mW)
(d)	Coil Nominal Voltage	4.5: 4.5VDC 012: 12VDC
(e)	Contact Material	Z : Gold overlay silver alloy
(f)	Custom Designation	Special Number for Customized Products

Remarks: Actual marking on relay would not carry code FTR and be as below:

Ordering code Actual marking
FTR-B2MA012Z → B2MA012Z

(2008)

■ **SAFETY STANDARD AND FILE NUMBERS**

UL508, 1950 (File No. E63615)

C22.2 No. 14, No. 950 (File No. LR40304)

Please request when the approval markings are required on the cover.

Nominal voltage	Contact rating							
4.2V to 12VDC	<table border="0"> <tr> <td>0.2 A</td> <td>125 VAC</td> <td rowspan="3">resistive</td> </tr> <tr> <td>1 A</td> <td>30 VDC</td> </tr> <tr> <td>0.3 A</td> <td>110 VDC</td> </tr> </table>	0.2 A	125 VAC	resistive	1 A	30 VDC	0.3 A	110 VDC
0.2 A	125 VAC	resistive						
1 A	30 VDC							
0.3 A	110 VDC							

Clearance	Creepage	Remarks
1.0mm coil a- contacts	1.6mm coil - contacts	- working voltage: 150V - relay inside and outside - pollution degree "2"

■ **COIL DATA CHART**

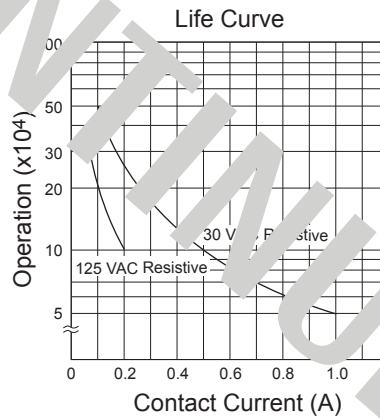
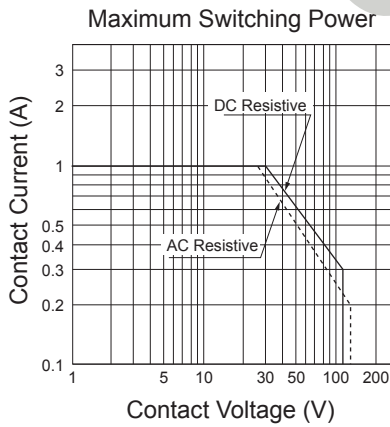
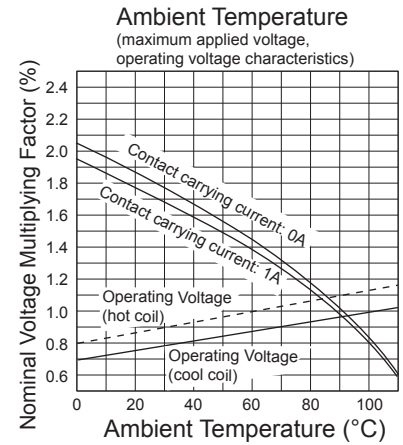
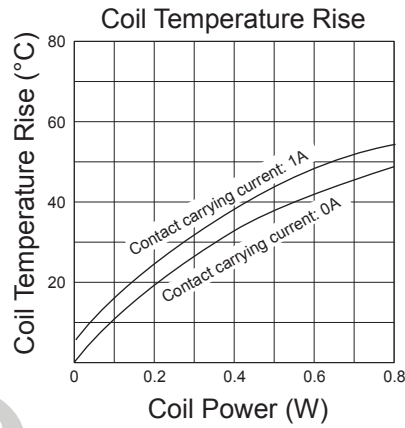
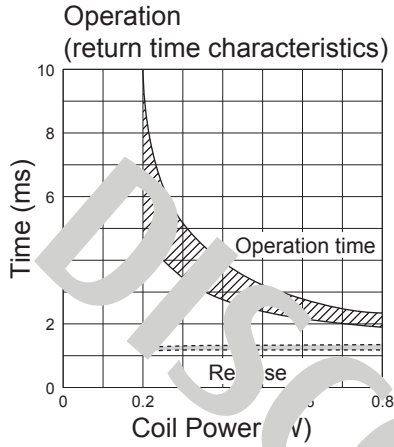
MODEL		Nominal Voltage	Coil Resistance (± 10%)	Must Operate Voltage	Must Release Voltage
FTR-F2 Series	FTR-H2 Series				
FTR-F2AK005T	FTR-H2AK005T	5VDC	70 Ω	3.5VDC	0.25VDC
FTR-F2AK006T	FTR-H2AK006T	6VDC	80 Ω	4.2VDC	0.3VDC
FTR-F2AK009T	FTR-H2AK009T	9VDC	105 Ω	6.3VDC	0.45VDC
FTR-F2AK012T	FTR-H2AK012T	12VDC	120 Ω	8.4VDC	0.6VDC
FTR-F2AK024T	FTR-H2AK024T	24VDC	1,200 Ω	16.8VDC	1.2VDC
FTR-F2AK048T	FTR-H2AK048T	48VDC	4,400 Ω	33.6VDC	2.4VDC

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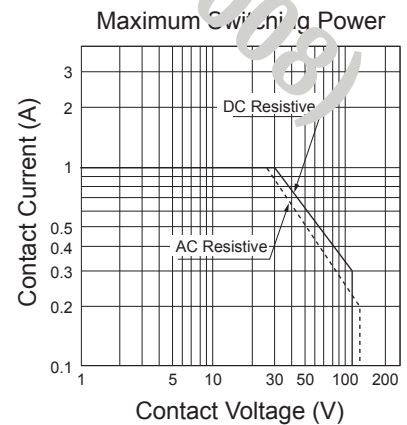
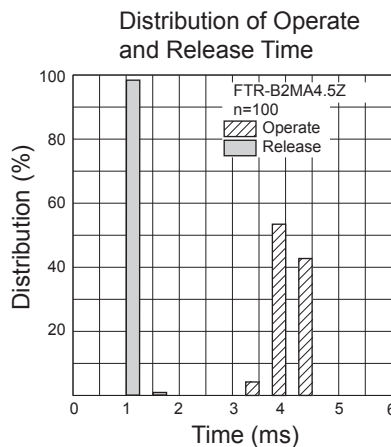
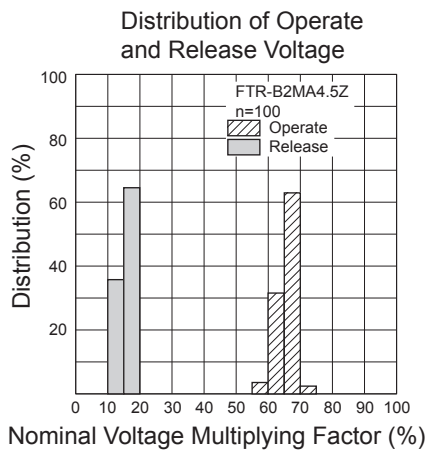
■ SPECIFICATIONS

Item		FTR-B2 Series
Contact	Arrangement	2 Form C + 2 Form A
	Material	Gold overlay Silver alloy
	Resistance (initial)	Maximum 75mΩ (at 1A 6VDC)
	Rating (resistive)	30VDC 1A / 125VAC 0.2A
	Maximum Switching Power	30W / 25VA
	Maximum Switching Voltage	110VDC / 125VAC
	Maximum Switching Current	1A
	Maximum Carrying Current	1.25A
Time Value	Operate Time (at nominal voltage)	Maximum 10ms
	Release Time (at nominal voltage)	Maximum 5ms
Coil	Operating Temperature	-20° C to +85° C (no frost)
Insulation	Resistance (at 500VDC)	Minimum 1,000 MΩ
	Dielectric Strength	750 VAC / 1 Min. (open contacts) 500 VAC / 1 Min. (adjacent contacts) 1,500 VAC / 1 Min. (coil-contacts)
Life	Mechanical	10 x 10 ⁶ operations minimum
	Electrical	50 x 10 ³ operations minimum at 30VDC 1A 100 x 10 ³ operations minimum at 125VDC 0.2A
Vibration	Misoperation	10-55 Hz (double amplitude of 1.5mm)
	Endurance	10-55 Hz (double amplitude of 1.5mm)
Shock	Misoperation	100m/s ² (11±1ms)
	Endurance	500m/s ² (6±1ms)
Weight		Approximately 3.9g

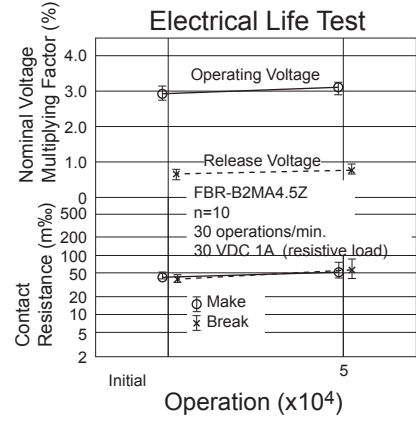
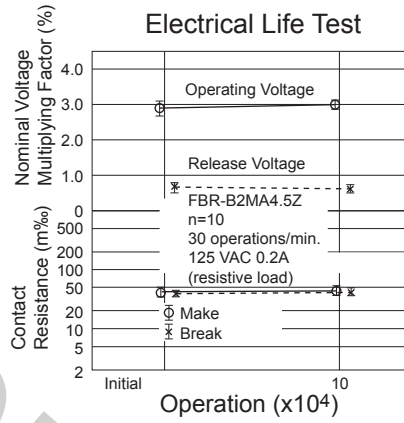
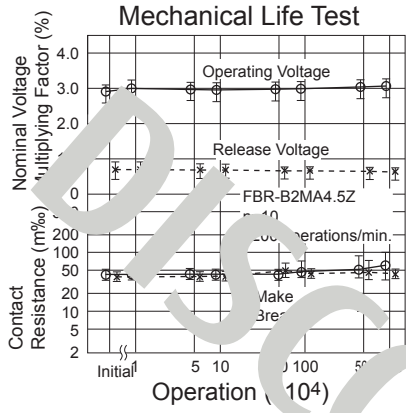
CHARACTERISTIC DATA



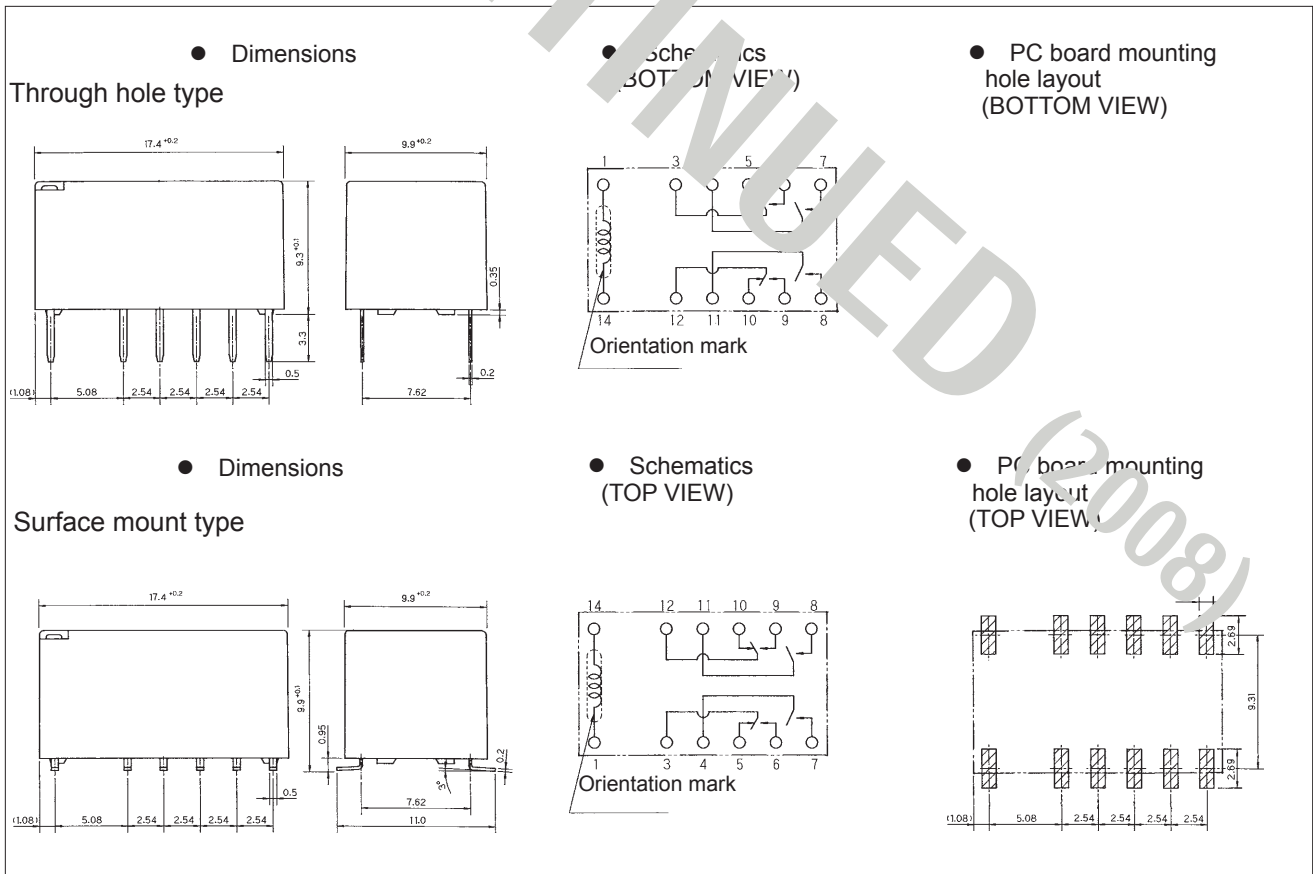
REFERENCE DATA



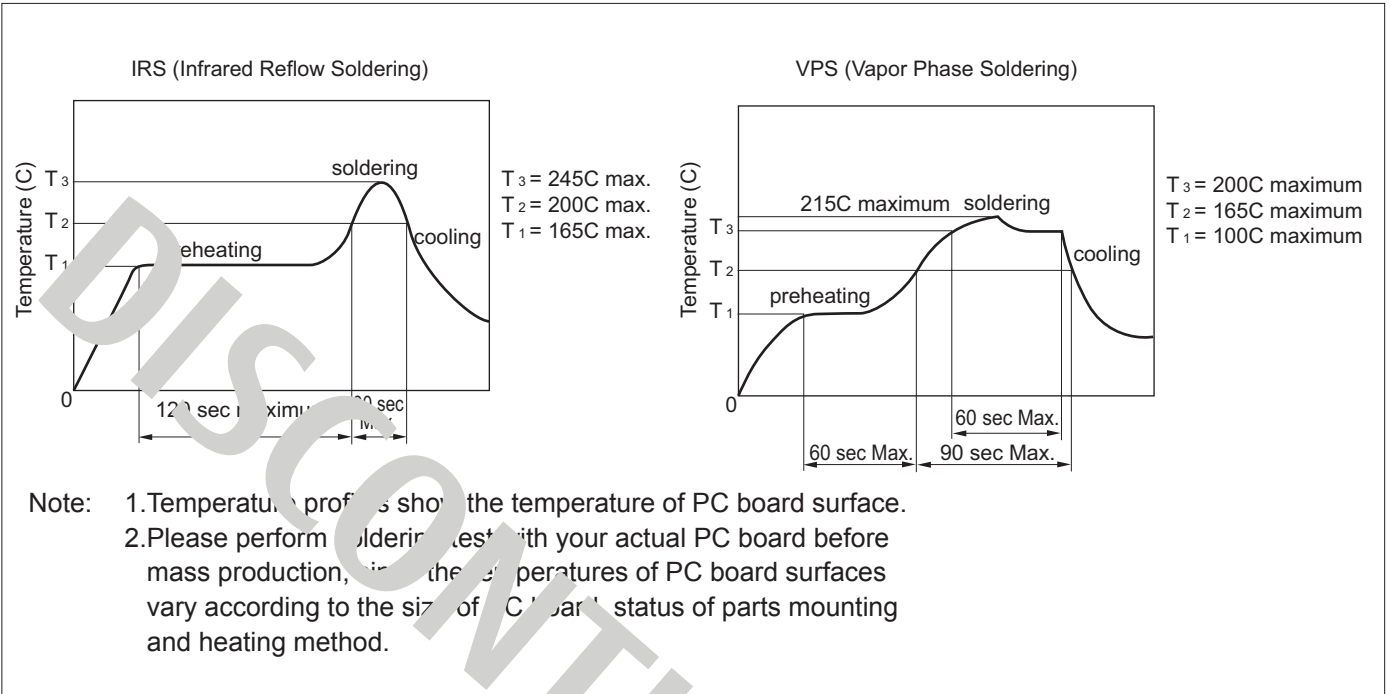
■ REFERENCE DATA



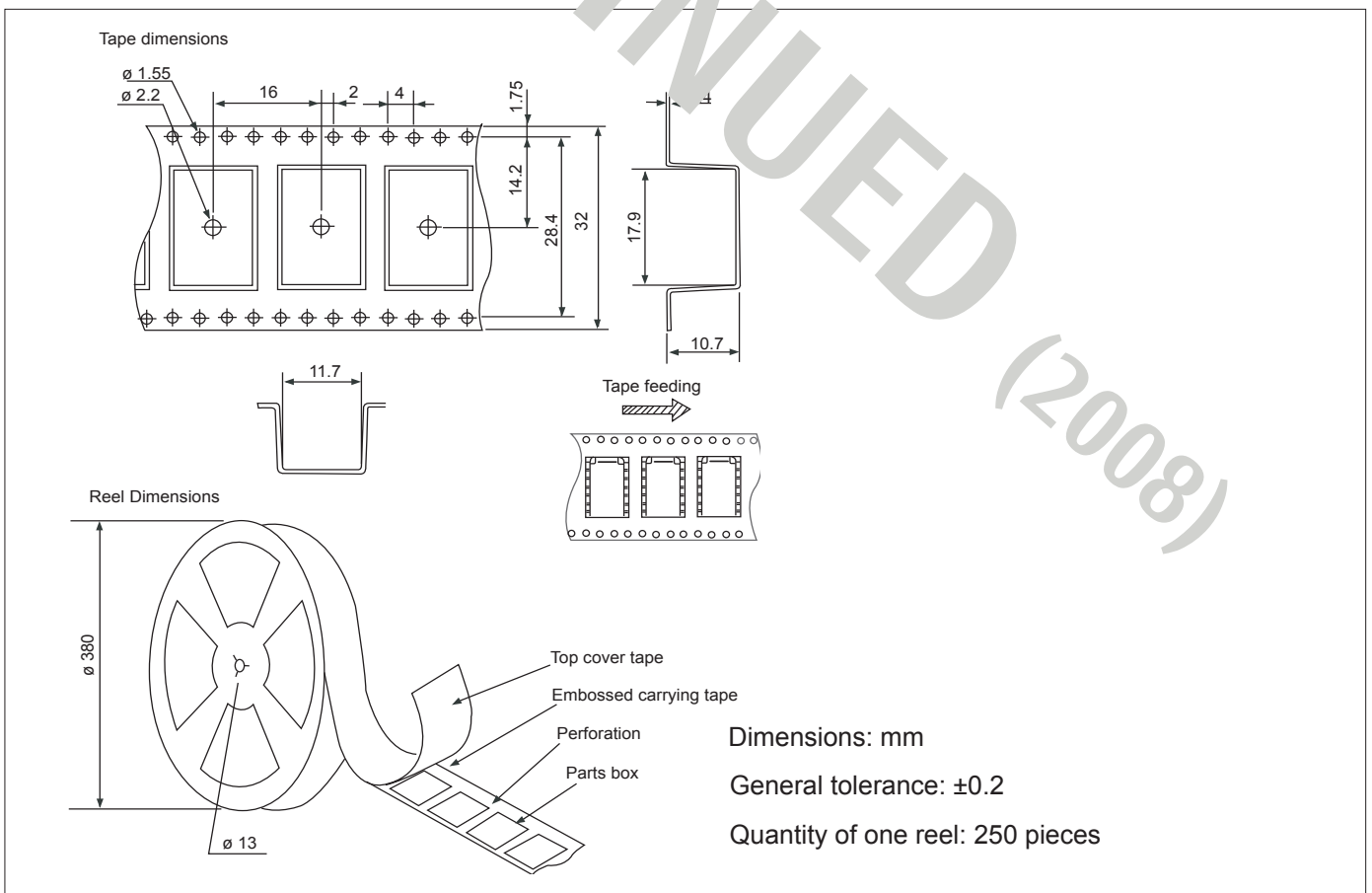
■ DIMENSIONS



■ RECOMMENDED CONDITION (Temperature Profile)



■ PACKAGING



RoHS Compliance and Lead Free Relay Information

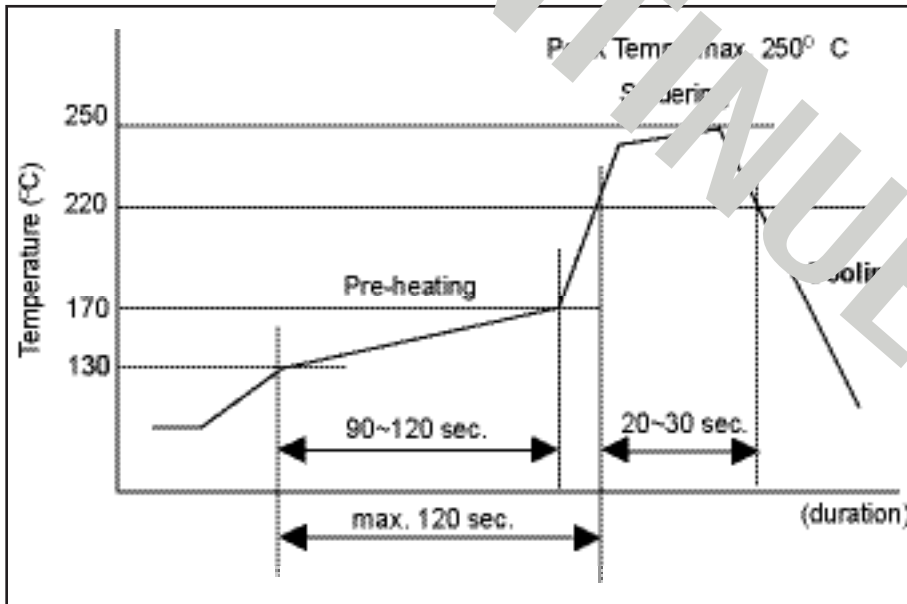
1. General Information

- Relays produced after the specific date code that is indicated on each data sheet are lead-free now. Most of our signal and power relays are lead-free. Please refer to Lead-Free Status Info. (<http://www.fc.ai.fujitsu.com/pdf/LeadFreeLetter.pdf>)
- Lead free solder paste currently used in relays is Sn-3.0Ag-0.5Cu. From February 2005 forward Sn-3.0Cu-Ni will be used for FTRB3 and FTR-B4 series relays.
- Most signal and some power relays also comply with RoHS. Please refer to individual data sheets. Relays that are RoHS compliant do not contain the 6 hazardous materials that are restricted by RoHS directive (lead, mercury, cadmium, chromium IV, PBB, PBDE).
- It has been verified that using lead-free relays in leaded assembly process will not cause any problems (compatibility).
- "LF" is marked on each outer and inner carton. (No marking on individual relays).
- To avoid leaded relays (for lead-free sample, etc.) please consult with area sales office. We will ship leaded relays as long as the leaded relay inventory exists.

2. Recommended Lead Free Solder Profile

- Recommended solder paste is Sn-3.0Ag-0.5Cu and Sn-3.0 Cu-Ni (only FTR-B3 and FTR-B4 from February 2005)

Reflow Solder condition



Flow Solder condition:	
Pre-heating:	maximum 120°C
Soldering:	dip within 5 sec. at 260°C solder bath

Solder by Soldering Iron:	
Soldering Iron	
Temperature:	maximum 360°C
Duration:	maximum 3 sec.

We highly recommend that you confirm your actual solder conditions

3. Moisture Sensitivity

- Moisture Sensitivity Level standard is not applicable to electromechanical relays.

4. Tin Whisker

- SnAgCu solder is known as low risk of tin whisker. No considerable length whisker was found by our in-house test.

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