

Moisture / Reflow Sensitivity Classification

Moisture/Reflow Sensitivity Classification (MSL), as defined in IPC/JEDEC Standard J-STD-020, is not offered as part of Bourns® Multifuse® Polymer PTC standard product ratings or packaging labels as the J-STD-020 standard applies to non-hermetic solid state surface mount devices and does not include passive resistive components. However, as a courtesy to address frequent customer requests, Bourns recommends that Multifuse® Polymer PTC passive components be handled according to the Floor Life and MSL Classification tables below.

Bourns has determined that if IPC/JEDEC Standard J-STD-020 were to be applied to Bourns® Multifuse® Polymer PTC products:

1. The Bourns® Multifuse® model series with an MSL Classification level 1 would have a moisture sensitivity rating equivalent to IPC/JEDEC Standard J-STD-020 MSL 1, specifying an unlimited floor life under the conditions 30 °C / 85 % RH; and
2. The Bourns® Multifuse® model series with an MSL Classification level 2a would have a moisture sensitivity rating equivalent to IPC/JEDEC Standard J-STD-020 MSL 2a.

An IPC/JEDEC Standard J-STD-020 MSL 2a rating means:

1. These components are sensitive to moisture.
2. Once these components are removed from the moisture barrier bag packaging at factory ambient temperature of ≤ 30 °C/60 % RH, they must be assembled within 4 weeks from the date the bag was opened.
3. If the above conditions are exceeded, a rebake may be necessary prior to assembly to ensure component compliance with stated performance specifications. Recommended re-bake condition: 40 °C / 5 % RH for 29 days; or contact Bourns.

Floor Life		
MSL Classification	Time	Condition
1	Unlimited	≤ 30 °C / 85 % RH
2	1 year	≤ 30 °C / 60 % RH
2a	4 weeks	
3	168 hours	
4	72 hours	
5	48 hours	
5a	24 hours	
6	Time on Label (TOL)	

The Process Sensitivity Level (PSL) classification of Bourns® Multifuse® Polymer PTCs as defined in IPC/JEDEC J-STD-075 is R5G; a component that has a maximum processing temperature recommendation of 255 °C with a maximum upper variation of 5 °C.

MSL Classification										
Structure	Model Series	1	2	2a	3	4	5	5a	6	
Surface Mount	MF-ASML			•						
	MF-ASML/X			•						
	MF-FSMF	•								
	MF-FSML			•						
	MF-FSML/X			•						
	MF-FSHT	•								
	MF-PSMF	•								
	MF-PSML			•						
	MF-PSML/X			•						
	MF-PSHT	•								
	MF-NSMF	•								
	MF-NSML			•						
	MF-NSML/X			•						
	MF-NSHT	•								
	MF-USMF	•								
	MF-USML			•						
	MF-USML/X			•						
	MF-USHT	•								
	MF-MSMF	•								
	MF-SMDF	•								
	MF-LSMF	•								
	MF-GSMF	•								
	MF-SM	•								
	MF-SMHT	•								
	MF-SM/250	•								
	MF-SM/250V	•								
	MF-SD/250	•								

MSL Classification										
Structure	Model Series	1	2	2a	3	4	5	5a	6	
Radial Leaded Through-Hole	MF-R	•								
	MF-R/90	•								
	MF-R/600	•								
	MF-RG	•								
	MF-RHT	•								
	MF-RM	•								
	MF-RX	•								
	MF-RX/72	•								
	MF-RX/250	•								
Battery Strap	MF-LR	•								
	MF-LS	•								
	MF-S	•								
	MF-VS	•								
	MF-VS Narrow Body	•								
Bare Disc/Chip	MF-D	•								

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