

*Per EU as of 6/9/23. No 2024 updates released.*

All Spectrum Control Inc. commercial products are available with EU RoHS compliant material as of January 1st of 2006. All components have been redesigned to meet the stricter requirements of the European Community Directive 2002/95/EC calling for a “restriction of the use of certain hazardous substances in electrical and electronic equipment.” The six substances specifically addressed are lead (Pb), mercury (Hg), cadmium (Cd), hexavalent chromium Cr (VI), polybrominated biphenyls (PBB) and polybrominated diphenyl ethers (PBDE).

Spectrum Control will comply with the China RoHS marking requirements as of March 1, 2007, for all product shipped to China.

Product	Housing Plating	Internal Comp.	Internal reflow	Polymers	Term plating	Dip (y/n)	Notes	China RoHS Product Label
Discrete-Surface Mount	Silver	Pb-free	230C	N/A	Ag	n	1, 2, 3, 5	Logo 2
Discrete-Hermetic Solder-in	Gold	Exempt	260C	250C	Au	n	1, 2, 3, 6, 7	Logo 2
Discrete-Bolt-in	Silver	Pb-free	250C	250C	Ag	y	1, 2, 3, 4, 7	Logo 2
Discrete-Bolt-in Disc	Silver	Pb-free	250C	250C	Ag	y	1, 2, 3, 4, 7	Logo 2
Discrete-Eyelet	Silver	Exempt	250C	250C	Ag	y	1, 2, 3, 4, 7	Logo 2
Filter Plate	Silver	Pb-free	250C	250C	Au or Ag	n	1, 2, 3, 8	Logo 2
Filter Terminal Block	Silver	Pb-free	250C	250C	Sn	n	1, 2, 3	Logo 2
Filter Connector	Nickel	Pb-free	250C	250C	Au or Sn	n	1, 2, 3, 9	Logo 2
Chip Connector	Nickel	Pb-free	250C	250C	Au or Sn	n	1, 2, 3, 9	Logo 2
Filter Box/Microwave	Sn-Zn	Pb-free	217C	250C	Sn	n	1, 2, 3	Logo 2
Antenna	Silver	Pb-free	250C	N/A	Ag	n	1, 2, 3	Logo 2
BPS Microwave	Silver	Pb-free	250C	N/A	Ag or Au	n	1, 2, 3	Logo 2
Capacitor Arrays	Silver	Exempt	250C	N/A	Ag	y	1, 2, 3, 4, 10	Logo 2
Capacitors	Silver	Exempt	250C	N/A	Ag	n	1, 2, 3	Logo 2

### Notes

- 1) Pb-Free must be noted on purchase order to ensure supply of lead-free part.
- 2) Some part numbers may change to indicate that the parts meet EU RoHS requirements. See 2<sup>nd</sup> page of this guide for specific part number changes.
- 3) All parts manufactured by Spectrum Control comply with the EU directive as well as one or all of the applicable exempt applications paragraphs (6a, 6b, 6c, 7a, 7b, and 8b).
- 4) Dip coating is hot fused tin.
- 5) Surface mount components tested for damp heat withstand and pass.
- 6) Discrete hermetic units are the 9900 series style.
- 7) Discrete filters tested for solderability testing per Mil-STD-202 and pass with Hot tin fused coating.
- 8) Filter Array Profile withstand testing performed with .057+.01/-0.003 thick X 5 sq. in. Aluminum Test Coupon.
- 9) D-Sub Connectors tested for plastic deformation conformance and pass dimensional stability at 250oC
- 10) Capacitor arrays have high temp solder attaching the lead frames, since greater than 85% PB, they are exempt.
- 11) Mil QPL parts are exempt from this directive.

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### Part Number Changes

Spectrum Control has created part numbering revisions to simplify the identification and- selection of EU RoHS compliant materials. All EU RoHS compliant parts will be identifiable and traceable by the date code and marking on the part.

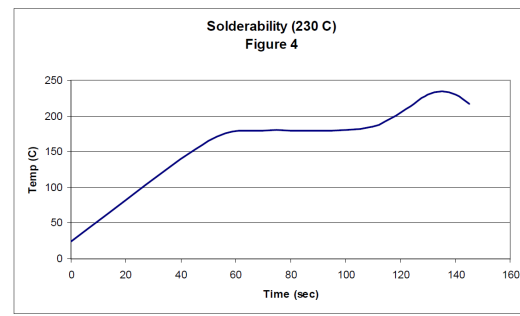
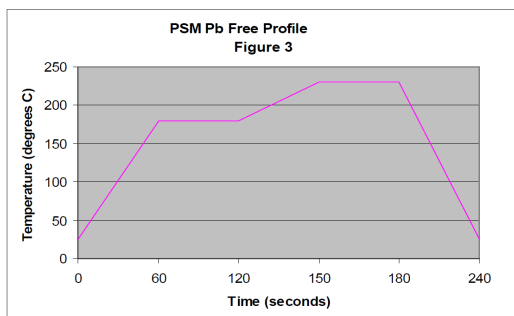
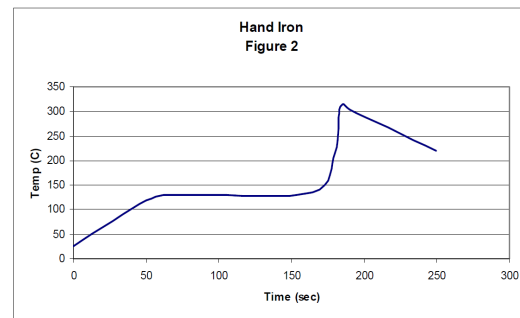
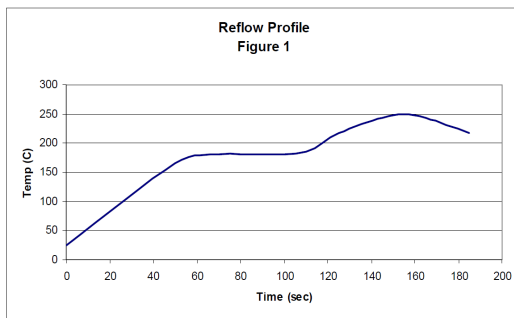
Product	Part Number Change
Discrete Surface Mount (PSM)	Add an "F" after the 1st 4 digits (ex. SSM1F)*
Discrete Hermetic Solder-in	Add an "F" before the first dash (ex 51F-, 54F-, SCIF-)
Discrete-Bolt-in	Add an "F" before the first dash (ex 51F-, 54F-, SCIF-)
Discrete-Bolt-in Disc	Add an "F" before the first dash (ex 51F-, 54F-, SCIF-)
Discrete-Eyelet	Add an "F" before the first dash (ex 51F-, 54F-, SCIF-)
Filter Plate	Replace dash after 1st two digits with "F" (ex 52F)
Filter Terminal Block	Replace dash after 1st two digits with "F" (ex 52F)
Filter Connector (except combo)	Replace dash after 1st two digits with "F" (ex 56F)
Filter Combo-D Connector	Insert "F" after "56"; GBL6 and GBL9 shortened to GL6 and GL9
Filter Box/Microwave	New part number
Power Entry Modules	No change, identified by date code
Single Line Feed-Thru Power Filter	Replace dash after first two digits with "F"
Capacitor Arrays	New part number

### Recommended Installation Guidelines

Spectrum Control has established guidelines for the general processes used to install various components into a higher-level system. The three general installation processes are convection reflow oven and wave solder/solder dip (see figure 1) and hand soldering with a soldering iron (see figure 2). Refer to profile graphs for recommended solder profiles.

\*PSM standard parts are RoHS compliant. New P/Ns are required for lead free product. (See figure 3 for the recommended profile)

Figure 4 is the profile for solderability testing.



### China RoHS Material Disclosure Table

Product	Toxic or Hazardous Substance and Elements					
	Lead (Pb)	Mercury (Hg)	Cadmium (Cd)	Hexavalent Chromium (Cr (VI))	Polybrominated biphenyls (PBB)	Polybrominated diphenyl ethers (PBDE)
Discrete-Surface Mount	X	O	O	O	O	O
Discrete-Hermetic Solder-in	X	O	X	O	O	O
Discrete-Bolt-in	X	O	O	O	O	O
Discrete-Bolt-in Disc	X	O	X	O	O	O
Discrete-Eyelet	X	O	O	O	O	O
Filter Plate	X	O	O	O	O	O
Filter Terminal Block	X	O	O	O	O	O
Filter Connector	X	O	O	O	O	O
Chip Connector	X	O	O	O	O	O
Filter Box/Microwave	X	O	O	O	O	O
Antenna	X	O	O	O	O	O
BPS Microwave	X	O	O	O	O	O
Capacitor Arrays	X	O	X	O	O	O
Capacitors	X	O	X	O	O	O

O: Indicates that this toxic or hazardous substance contained in all of the homogeneous materials for this part is below the limit requirement in SJ/T11363-2006.

X: Indicates that this toxic or hazardous substance contained in at least one of the homogeneous materials used for this part is above the limit requirement in SJ/T11363-2006.

Substances	Maximum Limit (ppm) <sup>(1)</sup>
Cadmium (Cd)	100
Lead (Pb)	1000
Mercury (Hg)	1000
Hexavalent chromium (Cr6+)	1000
Polybrominated biphenyls (PBB)	1000
Polybrominated diphenyl ethers (PBDE)	1000
Bis(2-ethylhexyl) phthalate (DEHP)	1000
Butyl benzyl phthalate (BBP)	1000
Dibutyl phthalate (DBP)	1000
Diisobutyl phthalate (DIBP)	1000

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