RoHS Status of Frequency Control Products

Soldering Guidelines

In July 2006 the European Union (EU) directive “Restriction of Hazardous Substances” (RoHS) was implemented which defined specific substances that must be eliminated from electronic components. The six hazardous substances are: lead, cadmium, mercury, hexavalent chromium, polybrominated biphenyl (PBB) and polybrominated diphenyl ether (PBDE) flame retardents. The main issue affecting manufacture of electronic components and associated assemblies is the restriction of lead in solder.

Reflow Soldering

The solder industry has worked on the composition and development of RoHS compliant solders based on for example alloys of Sn/Ag/ Cu and various types are available with different melting points and characteristics. In general RoHS compliant solders require a higher maximum reflow temperature compared with traditional lead based solders. As such the market place has moved towards a common maximum soldering temperature for RoHS compliant components of up to 260°C, even though in many instances this temperature may never be reached and better results may be obtained by using lower temperatures of for example 245°C maximum. Due to the varied nature and product mix of PCB assemblies and the component types used, we recommend that customers experiment with device samples from IQD and develop their own soldering profiles to suit their specific product needs. The JEDEC standard J-STD-020 has suggestions on reflow profiles for both solders with lead and for RoHS compliant solders. Almost all the frequency product types supplied by IQD are RoHS compliant as standard and as such the majority of SMD devices can be reflow soldered at up to 260°C maximum. For individual device details concerning soldering temperature levels, please see below Note: - current IQD part numbers have the prefix “LF” to denote RoHS compliance. Part numbers that are supplied as non RoHS compliant will be prefixed with “F1”.

Product Range	RoHS Status	Part No. Status	Termination when compliant	Maximum reflow temperature and time
AXTAL(Q)				
12SMX AUTO	Compliant	LF prefix	NiAu	260°C max for 10secs max
HC49/4HSMX AUTO	Compliant	LF prefix	SnAgCu	260degC 10s
IQXC-104 AUTO	Compliant	LF prefix	NiAu	260°C max for 10secs max
IQXC-180 AUTO	Compliant	LF prefix	NiAu	260°C max for 10secs max
IQXC-228 AUTO	Compliant	LF prefix	NiAu	260degC 10s
MEMS				
IQMS-133	Compliant	LF prefix	NiPdAu	260°C max for 40secs max
IQMS-134	Compliant	LF prefix	NiPdAu	260°C max for 40secs max
IQMS-135	Compliant	LF prefix	NiPdAu	260°C max for 40secs max
IQMS-136	Compliant	LF prefix	NiPdAu	260°C max for 40secs max
IQMS-137	Compliant	LF prefix	NiPdAu	260°C max for 40secs max
IQMS-138	Compliant	LF prefix	NiPdAu	260°C max for 40secs max
IQMS-144	Compliant	LF prefix	NiPdAu	260°C max
IQMS-145	Compliant	LF prefix	NiPdAu	260°C max
IQMS-146	Compliant	LF prefix	NiPdAu	260°C max
IQMS-147	Compliant	LF prefix	NiPdAu	260°C max
OCXO				

Note: Temperatures and times given are for guidance. Due to the many variations in solder processing, assessment within the customer's application will be required to establish the correct process parameters.

Product Range	RoHS Status	Part No. Status	Termination when compliant	Maximum reflow temperature and time
IQOV-71	Compliant	LF prefix	Au over Ni	250°C max for 30secs max
PPXO				
CFPP-131	Compliant	LF prefix	Matte Sn	260degC 10s
CFPP-149	Compliant	LF prefix	Matte Sn	260degC 10s
CFPP-23	Compliant	LF prefix	Matte Sn	260degC 10s
CFPP-303	Compliant	LF prefix	Matte Sn	260degC 10s
CFPP-307	Compliant	LF prefix	Matte Sn	260degC 10s
CFPP-39	Compliant	LF prefix	NiAu	260degC 10s
CFPP-40	Compliant	LF prefix	NiAu	260degC 10s
CFPP-41	Compliant	LF prefix	NiAu	260degC 10s
CFPP-57	Compliant	LF prefix	Matte Sn	260degC 10s
PTXO				
CFPT-9001	Compliant	LF prefix	NiCoAu	260degC 30s
CFPT-9003	Compliant	LF prefix	NiCoAu	260degC 30s
CFPT-9005	Compliant	LF prefix	NiCoAu	260degC 30s
CFPT-9006	Compliant	LF prefix	NiCoAu	260degC 30s
CFPT-9007	Compliant	LF prefix	NiCoAu	260degC 30s
CFPT-9008	Compliant	LF prefix	NiCoAu	260degC 30s
E2747	Compliant	LF prefix	NiCoAu	260degC 30s
E2791	Compliant	LF prefix	NiCoAu	260degC 30s
E2799	Compliant	LF prefix	NiCoAu	260degC 30s
E3179LF	Compliant	LF prefix	NiCoAu	260degC 30s
E3198	Compliant	LF prefix	NiCoAu	260degC 30s
E3199LF	Compliant	LF prefix	NiCoAu	260degC 30s
RBXO				
IQRB-1	Compliant	LF prefix	Pin material is Kovar with Au plating.	
SPXO				
CFPS-107	Compliant	LF prefix	NiAu	260degC 10s
CFPS-108	Compliant	LF prefix	NiAu	260degC 10s
CFPS-109	Compliant	LF prefix	NiAu	260degC 10s
CFPS-12	Compliant	LF prefix	NiAu	260degC 10s
CFPS-302	Compliant	LF prefix	SnAgCu or SnCu	240degC 10s
CFPS-303	Compliant	LF prefix	SnAgCu or SnCu	240degC 10s
CFPS-31	Compliant	LF prefix	NiAu	260degC 10s
CFPS-32	Compliant	LF prefix	NiAu	260degC 10s
CFPS-34	Compliant	LF prefix	NiAu	260degC 10s
CFPS-36	Compliant	LF prefix	NiAu	260degC 10s

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Product Range	RoHS Status	Part No. Status	Termination when compliant	Maximum reflow temperature and time
CFPS-37	Compliant	LF prefix	NiAu	260degC 10s
CFPS-39	Compliant	LF prefix	NiAu	260degC 10s
CFPS-55	Compliant	LF prefix	NiAu	260degC 10s
CFPS-60	Compliant	LF prefix	NiAu	260degC 10s
CFPS-63	Compliant	LF prefix	NiAu	260degC 10s
CFPS-64	Compliant	LF prefix	NiAu	260degC 10s
CFPS-67	Compliant	LF prefix	NiAu	260degC 10s
CFPS-68	Compliant	LF prefix	NiAu	260degC 10s
CFPS-69	Compliant	LF prefix	NiAu	260degC 10s
CFPS-72	Compliant	LF prefix	NiAu	260degC 10s
CFPS-73	Compliant	LF prefix	NiAu	260degC 10s
CFPS-74	Compliant	LF prefix	Au over Ni on W base	260°C max for 10secs max
CFPS-9	Compliant	LF prefix	NiAu	260degC 10s
IQXO-149	Compliant	LF prefix	SnAgCu or SnCu	240degC 10s
IQXO-22	Compliant	LF prefix	SnAgCu or SnCu	240degC 10s
IQXO-23	Compliant	LF prefix	SnAgCu or SnCu	240degC 10s
IQXO-336	Compliant	LF prefix	SnCu	240degC 10s
IQXO-35	Compliant	LF prefix	SnCu	240degC 10s
IQXO-350	Compliant	LF prefix	SnAgCu or SnCu	235degC 10s
IQXO-36	Compliant	LF prefix	SnCu	240degC 10s
IQXO-365	Compliant	LF prefix	SnCu	240degC 10s
IQXO-430	Compliant	LF prefix	Au over Ni, W base	260°C max for 10secs max
IQXO-431	Compliant	LF prefix	Au over Ni, W base	260°C max for 10secs max
IQXO-432	Compliant	LF prefix	Au over Ni, W base	260°C max for 10secs max
IQXO-445	Compliant	LF prefix	Au over Ni, W base	260°C max for 10secs max
IQXO-446	Compliant	LF prefix	Au over Ni, W base	260°C max for 10secs max
IQXO-447	Compliant	LF prefix	Au over Ni, W base	260°C max for 10secs max
IQXO-628	Compliant	LF prefix	NiAu	240degC 10s
IQXO-70	Compliant	LF prefix	NiAu	260degC 10s
IQXO-71	Compliant	LF prefix	NiAu	260degC 10s
SSXO				
CFSS-2	Compliant	LF prefix	NiAu	260degC 10s
CFSS-3	Compliant	LF prefix	NiAu	260degC 10s
TCXO				
CFPT-127	Compliant	LF prefix	NiCoAu	260degC 10s
CFPT-37	Compliant	LF prefix	NiCoAu	260degC 10s
TVXO				

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Product Range	RoHS Status	Part No. Status	Termination when compliant	Maximum reflow temperature and time
CFPT-123	Compliant	LF prefix	NiAu	260degC 10s
CFPT-125	Compliant	LF prefix	NiCoAu	260degC 30s
CFPT-126	Compliant	LF prefix	NiCoAu	260degC 10s
CFPT-141	Compliant	LF prefix	NiAu	260degC 10s
VCXO				
CFPV-115	Compliant	LF prefix	NiAu	260degC 10s
CFPV-32	Compliant	LF prefix	NiAu	260degC 10s
CFPV-41	Compliant	LF prefix	NiAu	260degC 10s
CFPV-42	Compliant	LF prefix	NiAu	260degC 10s
CFPV-43	Compliant	LF prefix	NiAu	260degC 10s
CFPV-44	Compliant	LF prefix	NiAu	260degC 10s
CFPV-45	Compliant	LF prefix	NiAu	260degC 10s
CFPV-46	Compliant	LF prefix	NiAu	260degC 10s
CFPV-55	Compliant	LF prefix	NiAu	260degC 10s
IQVCXO-161	Compliant	LF prefix	SnCuNi	260degC 10s
XTAL(Q)				
12SMX	Compliant	LF prefix	NiAu	260degC 10s
14SMX	Compliant	LF prefix	NiAu	260degC 10s
3SMX	Compliant	LF prefix	NiAu	260degC 10s
4SMX	Compliant	LF prefix	NiAu	260degC 10s
6SMX	Compliant	LF prefix	NiAu	260degC 10s
86SMX	Compliant	LF prefix	SnCu	260degC 10s
87SMX	Compliant	LF prefix	SnAgCu	260degC 10s
CFPX-180	Compliant	LF prefix	NiAu	260degC 10s
CFPX-181	Compliant	LF prefix	NiAu	260degC 10s
CFPX-201	Compliant	LF prefix	NiAu	260degC 10s
CFPX-218	Compliant	LF prefix	NiAu	260°C max for 10secs max
CFPX-225	Compliant	LF prefix	NiAu	260degC 10s
CFPX-228	Compliant	LF prefix	NiAu	260degC 10s
CFPX-98	Compliant	LF prefix	CuSnNiP or Sn	260degC 10s
HC49	Compliant	LF prefix	SnAgCu or Sn	260degC 10s
HC49/4H	Compliant	LF prefix	SnAgCu or Sn	260degC 10s
HC49/4HSMX	Compliant	LF prefix	SnAgCu or Sn	260degC 10s
IQXC-42	Compliant	LF prefix	NiAu	260degC 10s
XTAL(W)				
85SMX	Compliant	LF prefix	Matte Sn	260degC 10s
90SMX	Compliant	LF prefix	Matte Sn	260degC 10s

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Product Range	RoHS Status	Part No. Status	Termination when compliant	Maximum reflow temperature and time
91SMX	Compliant	LF prefix	Matte Sn	260degC 10s
CFPX-155	Compliant	LF prefix	Matte Sn	260degC 10s
CFPX-217	Compliant	LF prefix	SnAu	260degC 10s
CFPX-56	Compliant	LF prefix	SnAgCu	230degC 10s

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