

# RoHS/ELV Compliant and Lead-free products from KDS.

KDS is fully committed to environmental protection and has been proactively working to comply with the major environmental regulations such as RoHS Directive (Directive of the Restriction of the use of the Hazardous Substances) , ELV Directive (End of Life Vehicles Directive) and Halogen-free activities etc. The below spreadsheet provide the current status of the product compliance in each environmental regulations. Please visit our website for the latest information.([http://www.kds.info/index\\_en.htm](http://www.kds.info/index_en.htm))

As of Sept. 30, 2009

	Type	RoHS/ELV Compliant	Halogen Free	Pb Free	Materials of pin	Note
Crystal Resonators /MHz Band Crystal Resonators	DSX1612A	○	○	○	Ni/Au	
	DSX211A, DSX211AL	○	○	○	Ni/Au	
	DSX221S	○	○	○	Ni/Au	
	DSX321SL	○	○	○	Ni/Au	
	DSX531S	○	○	○	Ni/Au	
	DSX221G	○	○	Pb in sealing-glass	Ni/Au	Pb in sealing-glass is exempted from RoHS/ELV Directive. <sup>(*)</sup>
	DSX320G	○	○	Pb in sealing-glass	Ni/Au	Pb in sealing-glass is exempted from RoHS/ELV Directive. <sup>(*)</sup>
	DSX321G, DSX321GK	○	○	Pb in sealing-glass	Ni/Au	Pb in sealing-glass is exempted from RoHS/ELV Directive. <sup>(*)</sup>
	DSX530GA, DSX530GK	○	○	Pb in sealing-glass	Ni/Au	Pb in sealing-glass is exempted from RoHS/ELV Directive. <sup>(*)</sup>
	DSX630G	○	○	Pb in sealing-glass	Ni/Au	Pb in sealing-glass is exempted from RoHS/ELV Directive. <sup>(*)</sup>
	DSX840GA	○	○	Pb in sealing-glass	Ni/Au	Pb in sealing-glass is exempted from RoHS/ELV Directive. <sup>(*)</sup>
	DSX840GT, DSX840GK	○	○	Pb in sealing-glass	Ni/Au	Pb in sealing-glass is exempted from RoHS/ELV Directive. <sup>(*)</sup>
	DSX151GL, DSX151GAL	○	○	Pb in sealing-glass	Ni/Au	Pb in sealing-glass is exempted from RoHS/ELV Directive. <sup>(*)</sup>
	AT-49	○	○	○	Sn-Cu	
	HC-49/U	○	○	○	Sn-Cu	
	SMD-49	○	○	○	Sn-Cu	
	AT-38	○	○	○	Sn	
DMX-38	○	○	High temperature solder	Sn	High temperature solder used inside the product is exempted from RoHS/ELV Directive. <sup>(*)</sup>	
UM SERIES	○	○	○	Ni/Au		
Tuning Fork Crystal Resonators /kHz Band Crystal Resonators	DT-26, DT-261	○	○	○	Sn	
	DT-38, DT-381	○	○	○	Sn	
	DMX-26, DMX-26S	○	○	High temperature solder	Sn	High temperature solder used inside the product is exempted from RoHS/ELV Directive. <sup>(*)</sup>
	DMX-38	○	○	High temperature solder	Sn	
	DST310S, DST410S	○	○	○	Ni/Au	
	DST621, DST520	○	○	High temperature solder	Ni/Au	High temperature solder used inside the product is exempted from RoHS/ELV Directive. <sup>(*)</sup>
	SM-14J	High temperature solder	○	High temperature solder	Sn-Pb	High temperature solder used inside the product and pin plating are exempted from RoHS/ELV Directive. <sup>(*)</sup>
SM-26F	High temperature solder	○	High temperature solder	Sn-Pb	However, the high temperature solder on the terminals of the SM-26F/14J might melt and diffuse when they are mounted to the PCB.	
Temperature Compensated Crystal Oscillators [TCXO]	DSA/DSB222 SERIES	○	○	○	Ni/Au	
	DSA/DSB211 SERIES	○	○	○	Ni/Au	
	DSA/DSB221 SERIES	○	○	○	Ni/Au	
	DSA/DSB321 SERIES	○	○	○	Ni/Au	
	DSA/DSB535 SERIES	○	○	○	Ni/Au	
Simple Packaged Crystal Oscillators [SPXO]	DSO211AR	○	○	○	Ni/Au	
	DSO221S SERIES	○	○	○	Ni/Au	
	DSO321S SERIES	○	○	○	Ni/Au	
	DSO531S SERIES	○	○	○	Ni/Au	
	DSO533 SERIES	○	○	○	Ni/Au	
	DSO751S SERIES	○	○	○	Ni/Au	
	DSO753H SERIES	○	○	Pb in chip resistor	Ni/Au	Pb in chip resistor is exempted from RoHS/ELV Directive. <sup>(*)</sup>
	DSO753S SERIES	○	○	○	Ni/Au	
DSS753SV	○	○	○	Ni/Au		
Voltage Controlled Crystal Oscillators [VCXO]	DSV211A SERIES	○	○	○	Ni/Au	
	DSV221S SERIES	○	○	○	Ni/Au	
	DSV321S SERIES	○	○	○	Ni/Au	
	DSV531S/DSV532S SERIES	○	○	○	Ni/Au	
	DSV753S SERIES	○	○	○	Ni/Au	
DSV753H SERIES	○	○	Pb in chip resistor	Ni/Au	Pb in chip resistor is exempted from RoHS/ELV Directive. <sup>(*)</sup>	
Monolithic Crystal Filters	DSF223 SERIES	○	○	○	Ni/Au	
	DSF334 SERIES	○	○	○	Ni/Au	
	DSF444 SERIES	○	○	○	Ni/Au	
	DSF753 SERIES	○	○	○	Ni/Au	
	UM-5J	○	○	○	Ni/Au	
	HC-49/T, HC-49/TS	○	○	○	Sn-Cu	
UM SERIES	○	○	○	Ni/Au		

\*RoHS Directive (Directive of the Restriction of the use of the Hazardous Substances) and ELV Directive (End of Life Vehicles Directive) exemptions are granted for high temperature solder and Lead content in low-melting glass of DSX-G Series. Alternate options are being studied and evaluated to replace high temperature melting solder which is going to be regulated in 2011. Low melting glass (which contain lead) will continuously be used in the products.