

Lead-free Electronic Components Plans for adopting lead-free soldering for device electrodes, etc.

Category	Product	Product Number	Plating Materials for Electrodes, etc.	Sample Support	Starting Time of Mass Production	Product Number Change	Division in charge of manufacturing
Electrolytic Capacitors	Aluminum Electrolytic Capacitors (Radial lead type)	ECA***	Sn	-	On Mass Production	No change	LCR Device Company Capacitor Business Unit
	Aluminum Electrolytic Capacitors (Snap-in type)	ECES***	Sn	-	On Mass Production	No change	
	Aluminum Electrolytic Capacitors (Surface mount type)	EEE***	Sn/Sn-Bi	-	On Mass Production	New Number	
	Tantalum Solid Electrolytic Capacitors (Surface mount type)	ECST***	Sn	-	On Mass Production	No change	
	Electric Double Layer Capacitors	EEC***	Sn	-	On Mass Production	No change	
	Specialty Polymer Aluminum Electrolytic Capacitors	EEF***	Sn	-	On Mass Production	No change	
Ceramic Products	Multilayer Ceramic Chip Capacitors	ECJ***	Sn	-	On Mass Production	No change	LCR Device Company Ceramic Business Unit
	Multilayer Chip NTC Thermistors	ERTJ***	Sn	-	On Mass Production	No change	
	Multilayer Chip Varistors	EZJ***	Sn	-	On Mass Production	No change	
	Ceramic Resonators	EFJC/N, EFOS/SM/J/JM/P/PM/L	Sn, Au	-	On Mass Production	No change	
	"ZNR" Transient / Surge Absorbers (Discrete)	ERZ***	Sn	-	On Mass Production	No change	
	SAW Filters	EFCH***	Au	-	On Mass Production	No change	
	Ceramic Disc Capacitors (Discrete)	ECK/ECC***	Sn-Cu	-	On Mass Production	No change	
	SAW Duplexers	EFS***	Au	-	On Mass Production	No change	
	Disc Type NTC Thermistors (Discrete)	ERTD***	Sn	Now on sale	Januar-02	No change	
	Glass-sealed NTC Thermistors (Axial)	ERTG***	Sn-Ag-Cu	Now on sale	Januar-02	No change	
	SMD High-voltage Ceramic Capacitors	ECK/ECCT3F***	Sn-Ag	Now on sale	Januar-02	No change	
	Adjustable (pre-set) Ceramic Capacitors (Series J and L)	ECRLA***12, ECVIZW**53T	Sn-Cu	Now on sale	März-02	No change	
	Resistors	Fixed Resistors (Thick Film Chip)	ERJ1G~1W	Sn	Now on sale	On Mass Production	
Fixed Resistors (Carbon: Discrete) S2		ERDS1/2/25	Sn	Now on sale	Januar-02	No change	
Fixed Resistors (Metal Oxide Film: Discrete)		ERG(X)S/F	Sn	Now on sale	Februar-02	No change	
Fixed Resistors (Array: SMD)		EXB1~3/V/S	Sn	Now on sale	On Mass Production	No change	
Fixed Resistors (Metal Film Chip: SMD)		ERA3/6Y	Sn	Now on sale	On Mass Production	No change	
Trimmer Potentiometer (Open Chip)		EVM2/3/1D	Sn	Now on sale	On Mass Production	No change	
Transformers Inductors	Chip Inductors (Wire Wound Type)	ELJ***	Sn-Cu	Conditionally available	April-02	No change	LCR Device Company Inductive Products Strategic Business Unit
	Chip Inductors (Non Winding Type)	ELJ***	Sn	Now on sale	Februar-02	No change	
	Coil Type EMI Filters (D Type: SMD)	ELKD***	Sn	-	On Mass Production	No change	
	Voltage Step-up Coils (Model Type: SMD)	ELT***	Sn-Cu	-	On Mass Production	No change	
	Inverter Transformers (Model Type: SMD)	ETJ***	Sn-Cu	-	On Mass Production	New Number	
	Power Choke Coils (SMD)	ETQP***	Sn, Sn-Cu	Conditionally available	Februar-02	No change	
	Line Filters (Discrete)	ELF***	Sn-Cu	Conditionally available	März-02	No change	
	Power Transformers (Discrete)	ETP***	Sn-Cu	Conditionally available	März-02	No change	
Switching Transformers (Discrete)	ETS***	Sn-Cu	Conditionally available	März-03	No change		
High Frequency & Hybrid ICs	Electronic Tuner (ER03R)	Individual Corresponding	Sn-Cu, Plated 3-layer metal	Now on sale	Contact us	Change	Network Device Company High Frequency Products Business Unit
	VCO (Model)	Individual Corresponding	Au	Now on sale	Contact us	Change	
	RF Devices	EHF***	Sn	Now on sale	Contact us	Contact us	
	Hybrid IC	EHD***	Sn, Sn/Sn-Bi	Conditionally available	Conditionally available	Contact us	
Electromechanical Components	Electronic Control Unit	Individual Corresponding	Sn-Ag-Cu	Conditionally available	April-02	No change	Custom Components Company Electromechanical Components Business Unit
	Remote Control Units	Individual Corresponding		Conditionally available	Conditionally available	Contact us	
	Function Switches	ESE***, ESD***, ESB***	Sn- Cu, Ag, Sn- Zn- Ni	Conditionally available	Conditionally available	No change	
	Light Touch Switches	EVQ***	Plated 3-layer metal, Au	Now on sale	Februar-02	No change	
	Volumes	EVU***, EVJ***, EWA***	Sn-Cu, Plated 3-layer metal	Januar-02	April-02	No change	
	Encoders	EVQ***, EVE***		Januar-02	April-02	No change	
Power Supplies	Power-Supply Units		Sn-Ag-Cu	Now on sale	Contact us	No change	Network Device Company Power Supply Strategic Business Unit
Loudspeakers	Loudspeakers		Sn-Ag-Cu	Now on sale	Conditionally available	No change	Custom Components Company Acoustic Products Business Unit
Printed Circuit Boards	PWB(Printed Wiring Board) with HAL(Hot Air Leveler)		Sn-Ag-Cu	Conditionally available	Conditionally available	Contact us	Network Device Company Printed Circuit Board Business Unit
	PWB(Printed Wiring Board) for Lead-free Soldering		K coating	Conditionally available	Conditionally available	Contact us	

* For remote controls and speakers, only soldering materials are described (external terminal plating materials not included).
 * Frame material for electronic tuners is Plated 3-layer metal, and terminal plating material is Sn-Cu.
 * Internal soldering material for VCOs, high-frequency devices and hybrid ICs is Sn-Ag-Cu.
 * Plating materials for custom components of hybrid ICs, etc. are individually chosen from Sn, Sn-Cu, Sn/Sn-Bi, Au and others.
 * K coating for Printed Circuit Boards is a metal-reactive, heat resistant finishing (new development).
 * "Plated 3-layer metal" means Sn-Zn-Ni.