

# Compliance / Obsolescence Matrix



Component				Compliance			Terminations			Processing [Note 1]					Ordering & Identification				Obsolescence	
Product Series	Part Number Type	Resistor Technology	Package Style	Pb-free Manufacture Date [Note 3]	Are any REACH SVHCs contained? [Note 7]	Is Pb-free Part RoHS Compliant? [Note 5]	Pb-free Termination Finish	Is an SnPb finish still available? [Note 9]	Tin Whisker Mitigation on Pb-free finish	Reflow Peak Temp (°C)	Reflow Peak Duration (s)	Wave Solder Temp (°C)	Wave Solder Contact Time (s)	Change to J-STD 020 MSL for Pb-free?	Marked Pb-free on Comp?	Marked Pb-free on Pack?	How to Specify Pb-free finish	How to Specify SnPb finish [Note 8]	Lifecycle Status	Alternative Part [Note 6]
1600/1900	x1600	Wirewound	Tubular	Dec-04	No	Yes	e1:SnCuAg	No	Alloy	N/A	N/A	N/A	N/A	N/A	No	Yes	Standard	N/A	Mature	
	x1601	Wirewound	Tubular	Dec-04	No	Yes	e1:SnCuAg	No	Alloy	N/A	N/A	N/A	N/A	N/A	No	Yes	Standard	N/A	Mature	
	x1602	Wirewound	Tubular	Dec-04	No	Yes	e1:SnCuAg	No	Alloy	N/A	N/A	N/A	N/A	N/A	No	Yes	Standard	N/A	Mature	
	x1603	Wirewound	Tubular	Dec-04	No	Yes	e1:SnCuAg	No	Alloy	N/A	N/A	N/A	N/A	N/A	No	Yes	Standard	N/A	Mature	
	x1604	Wirewound	Tubular	Dec-04	No	Yes	e1:SnCuAg	No	Alloy	N/A	N/A	N/A	N/A	N/A	No	Yes	Standard	N/A	Mature	
	x1605	Wirewound	Tubular	Dec-04	No	Yes	e1:SnCuAg	No	Alloy	N/A	N/A	N/A	N/A	N/A	No	Yes	Standard	N/A	Mature	
	x1606	Wirewound	Tubular	Dec-04	No	Yes	e1:SnCuAg	No	Alloy	N/A	N/A	N/A	N/A	N/A	No	Yes	Standard	N/A	Mature	
	x1607	Wirewound	Tubular	Dec-04	No	Yes	e1:SnCuAg	No	Alloy	N/A	N/A	N/A	N/A	N/A	No	Yes	Standard	N/A	Mature	
	x1608	Wirewound	Tubular	Dec-04	No	Yes	e1:SnCuAg	No	Alloy	N/A	N/A	N/A	N/A	N/A	No	Yes	Standard	N/A	Mature	
	x1609	Wirewound	Tubular	Dec-04	No	Yes	e1:SnCuAg	No	Alloy	N/A	N/A	N/A	N/A	N/A	No	Yes	Standard	N/A	Mature	
x1905	Wirewound	Tubular	Dec-04	No	Yes	e1:SnCuAg	No	Alloy	N/A	N/A	N/A	N/A	N/A	No	Yes	Standard	N/A	Mature		
x1906	Wirewound	Tubular	Dec-04	No	Yes	e1:SnCuAg	No	Alloy	N/A	N/A	N/A	N/A	N/A	No	Yes	Standard	N/A	Mature		
x1908	Wirewound	Tubular	Dec-04	No	Yes	e1:SnCuAg	No	Alloy	N/A	N/A	N/A	N/A	N/A	No	Yes	Standard	N/A	Mature		
2500	2504	Film	Axial	Apr-04	N/A	Yes	e3:Sn	N/A	Hot tin dip	N/A	N/A	260	5	N/A	No	Yes	N/A	N/A	Obsolete	WP3S
3810	3810	Film	Axial	Dec-04	No	Yes	e1:SnCuAg	No	Alloy	N/A	N/A	260	5	N/A	No	Yes	Standard	N/A	Mature	
	3811	Film	Axial	Dec-04	No	Yes	e1:SnCuAg	No	Alloy	N/A	N/A	260	5	N/A	No	Yes	Standard	N/A	Mature	
	3812	Film	Axial	Dec-04	No	Yes	e1:SnCuAg	No	Alloy	N/A	N/A	260	5	N/A	No	Yes	Standard	N/A	Mature	
	45011x	Film	Planar	Dec-04	No	Yes [Note 4]	e1:SnCuAg	No	Alloy	N/A	N/A	260	5	N/A	No	Yes	Standard	N/A	Mature	
45012x	Film	Planar	Dec-04	No	Yes [Note 4]	e3:Sn	Yes:95.5	Hot tin dip	N/A	N/A	260	5	N/A	No	Yes	Standard	PB Suffix	Mature		
45021x	Film	Planar	Dec-04	No	Yes [Note 4]	e1:SnCuAg	No	Alloy	N/A	N/A	260	5	N/A	No	Yes	Standard	N/A	Mature		
45022x	Film	Planar	Dec-04	No	Yes [Note 4]	e3:Sn	Yes:95.5	Hot tin dip	N/A	N/A	260	5	N/A	No	Yes	Standard	PB Suffix	Mature		
45031x	Film	Planar	Dec-04	No	Yes [Note 4]	e1:SnCuAg	No	Alloy	N/A	N/A	260	5	N/A	No	Yes	Standard	N/A	Mature		
45032x	Film	Planar	Dec-04	No	Yes [Note 4]	e3:Sn	Yes:95.5	Hot tin dip	N/A	N/A	260	5	N/A	No	Yes	Standard	PB Suffix	Mature		
45041x	Film	Planar	Dec-04	No	Yes [Note 4]	e1:SnCuAg	No	Alloy	N/A	N/A	260	5	N/A	No	Yes	Standard	N/A	Mature		
45042x	Film	Planar	Dec-04	No	Yes [Note 4]	e3:Sn	Yes:95.5	Hot tin dip	N/A	N/A	260	5	N/A	No	Yes	Standard	PB Suffix	Mature		
45051x	Film	Planar	Dec-04	No	Yes [Note 4]	e1:SnCuAg	No	Alloy	N/A	N/A	260	5	N/A	No	Yes	Standard	N/A	Mature		
45052x	Film	Planar	Dec-04	No	Yes [Note 4]	e3:Sn	Yes:95.5	Hot tin dip	N/A	N/A	260	5	N/A	No	Yes	Standard	PB Suffix	Mature		
45061x	Film	Planar	Dec-04	No	Yes [Note 4]	e1:SnCuAg	No	Alloy	N/A	N/A	260	5	N/A	No	Yes	Standard	N/A	Mature		
45062x	Film	Planar	Dec-04	No	Yes [Note 4]	e3:Sn	Yes:95.5	Hot tin dip	N/A	N/A	260	5	N/A	No	Yes	Standard	PB Suffix	Mature		
45071x	Film	Planar	Dec-04	No	Yes [Note 4]	e1:SnCuAg	No	Alloy	N/A	N/A	260	5	N/A	No	Yes	Standard	N/A	Mature		
45072x	Film	Planar	Dec-04	No	Yes [Note 4]	e3:Sn	Yes:95.5	Hot tin dip	N/A	N/A	260	5	N/A	No	Yes	Standard	PB Suffix	Mature		
45311x	Film	Planar	Dec-04	No	Yes [Note 4]	e1:SnCuAg	No	Alloy	N/A	N/A	260	5	N/A	No	Yes	Standard	N/A	Mature		
45312x	Film	Planar	Dec-04	No	Yes [Note 4]	e3:Sn	Yes:95.5	Hot tin dip	N/A	N/A	260	5	N/A	No	Yes	Standard	PB Suffix	Mature		
45321x	Film	Planar	Dec-04	No	Yes [Note 4]	e1:SnCuAg	No	Alloy	N/A	N/A	260	5	N/A	No	Yes	Standard	N/A	Mature		
45322x	Film	Planar	Dec-04	No	Yes [Note 4]	e3:Sn	Yes:95.5	Hot tin dip	N/A	N/A	260	5	N/A	No	Yes	Standard	PB Suffix	Mature		
45331x	Film	Planar	Dec-04	No	Yes [Note 4]	e1:SnCuAg	No	Alloy	N/A	N/A	260	5	N/A	No	Yes	Standard	N/A	Mature		
45332x	Film	Planar	Dec-04	No	Yes [Note 4]	e3:Sn	Yes:95.5	Hot tin dip	N/A	N/A	260	5	N/A	No	Yes	Standard	PB Suffix	Mature		
45341x	Film	Planar	Dec-04	No	Yes [Note 4]	e1:SnCuAg	No	Alloy	N/A	N/A	260	5	N/A	No	Yes	Standard	N/A	Mature		
45342x	Film	Planar	Dec-04	No	Yes [Note 4]	e3:Sn	Yes:95.5	Hot tin dip	N/A	N/A	260	5	N/A	No	Yes	Standard	PB Suffix	Mature		
45351x	Film	Planar	Dec-04	No	Yes [Note 4]	e1:SnCuAg	No	Alloy	N/A	N/A	260	5	N/A	No	Yes	Standard	N/A	Mature		
45352x	Film	Planar	Dec-04	No	Yes [Note 4]	e3:Sn	Yes:95.5	Hot tin dip	N/A	N/A	260	5	N/A	No	Yes	Standard	PB Suffix	Mature		
45361x	Film	Planar	Dec-04	No	Yes [Note 4]	e1:SnCuAg	No	Alloy	N/A	N/A	260	5	N/A	No	Yes	Standard	N/A	Mature		
45362x	Film	Planar	Dec-04	No	Yes [Note 4]	e3:Sn	Yes:95.5	Hot tin dip	N/A	N/A	260	5	N/A	No	Yes	Standard	PB Suffix	Mature		
45371x	Film	Planar	Dec-04	No	Yes [Note 4]	e1:SnCuAg	No	Alloy	N/A	N/A	260	5	N/A	No	Yes	Standard	N/A	Mature		
45372x	Film	Planar	Dec-04	No	Yes [Note 4]	e3:Sn	Yes:95.5	Hot tin dip	N/A	N/A	260	5	N/A	No	Yes	Standard	PB Suffix	Mature		
4800	4802	Metal Foil	Radial	Mar-05	No	Yes	e3:Sn	Yes:95.5	Hot tin dip	N/A	N/A	260	5	N/A	No	Yes	Standard	PB Suffix	Mature	
	4804	Metal Foil	Radial	Mar-05	No	Yes	e3:Sn	Yes:95.5	Hot tin dip	N/A	N/A	260	5	N/A	No	Yes	Standard	PB Suffix	Mature	
	4805	Metal Foil	Radial	Mar-05	No	Yes	e3:Sn	Yes:95.5	Hot tin dip	N/A	N/A	260	5	N/A	No	Yes	Standard	PB Suffix	Mature	
	4812	Metal Foil	Radial	Mar-05	No	Yes	e3:Sn	Yes:95.5	Hot tin dip	N/A	N/A	260	5	N/A	No	Yes	Standard	PB Suffix	Mature	
	4832	Metal Foil	Axial	Mar-05	No	Yes	e3:Sn	Yes:95.5	Hot tin dip	N/A	N/A	260	5	N/A	No	Yes	Standard	PB Suffix	Mature	
	CAR5	Film	Axial	May-04	No	Yes	e3:Sn	Yes:95.5	Hot tin dip	N/A	N/A	260	5	N/A	No	Yes	Standard	PB Suffix	Mature	
CAR	CAR6	Film	Axial	Dec-04	No	Yes	e3:Sn	Yes:95.5	Hot tin dip	N/A	N/A	260	5	N/A	No	Yes	Standard	PB Suffix	Mature	
	CAR7	Film	Axial	May-04	No	Yes	e3:Sn	Yes:95.5	Hot tin dip	N/A	N/A	260	5	N/A	No	Yes	Standard	PB Suffix	Mature	
CC	CC1	Composition	Axial	Always	No	Yes	e3:Sn	N/A	Hot tin dip	N/A	N/A	260	5	N/A	No	Yes	Standard	N/A	Growth	
	CC2	Composition	Axial	Always	No	Yes	e3:Sn	N/A	Hot tin dip	N/A	N/A	260	5	N/A	No	Yes	Standard	N/A	Growth	

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Product Series	Part Number Type	Resistor Technology	Package Style	Pb-free Manufacture Date [Note 3]	Are any REACH SVHCs contained? [Note 7]	Is Pb-free Part RoHS Compliant? [Note 5]	Pb-free Termination Finish	Is an SnPb finish still available? [Note 9]	Tin Whisker Mitigation on Pb-free finish	Reflow Peak Temp (°C)	Reflow Peak Duration (s)	Wave Solder Temp (°C)	Wave Solder Contact Time (s)	Change to J-STD 020 MSL for Pb-free?	Marked Pb-free on Comp?	Marked Pb-free on Pack?	How to Specify Pb-free finish	How to Specify SnPb finish [Note 8]	Lifecycle Status	Alternative Part [Note 6]
CCR1	CCR1	Composition	Axial	Apr-04	N/A	Yes	e3:Sn	N/A	Hot tin dip	N/A	N/A	260	5	N/A	No	Yes	N/A	N/A	Obsolete	CC1
CR	CR0503F	Thick film	SMT chip	Aug-04	No	Yes [Note 4]	e3:100% Sn	Yes:60/40	Ni barrier	260	10	260	5	No	No	Yes	Standard	PB Suffix	Mature	
	CR0503G	Thick film	SMT chip	Always	No	Yes [Note 4]	Au	N/A	N/A	N/A	N/A	N/A	N/A	N/A	No	N/A	Standard	N/A	Mature	
	CR0805F	Thick film	SMT chip	Aug-04	No	Yes [Note 4]	e3:100% Sn	Yes:60/40	Ni barrier	260	10	260	5	No	No	Yes	Standard	PB Suffix	Mature	
	CR0805G	Thick film	SMT chip	Always	No	Yes [Note 4]	Au	N/A	N/A	N/A	N/A	N/A	N/A	N/A	No	N/A	Standard	N/A	Mature	
	CR1005F	Thick film	SMT chip	Aug-04	No	Yes [Note 4]	e3:100% Sn	Yes:60/40	Ni barrier	260	10	260	5	No	No	Yes	Standard	PB Suffix	Mature	
	CR1005G	Thick film	SMT chip	Always	No	Yes [Note 4]	Au	N/A	N/A	N/A	N/A	N/A	N/A	N/A	No	N/A	Standard	N/A	Mature	
	CR1206F	Thick film	SMT chip	Aug-04	No	Yes [Note 4]	e3:100% Sn	Yes:60/40	Ni barrier	260	10	260	5	No	No	Yes	Standard	PB Suffix	Mature	
	CR1206G	Thick film	SMT chip	Always	No	Yes [Note 4]	Au	N/A	N/A	N/A	N/A	N/A	N/A	N/A	No	N/A	Standard	N/A	Mature	
	CR2010F	Thick film	SMT chip	Aug-04	No	Yes [Note 4]	e3:100% Sn	Yes:60/40	Ni barrier	260	10	260	5	No	No	Yes	Standard	PB Suffix	Mature	
	CR2010G	Thick film	SMT chip	Always	No	Yes [Note 4]	Au	N/A	N/A	N/A	N/A	N/A	N/A	N/A	No	N/A	Standard	N/A	Mature	
	CR2512F	Thick film	SMT chip	Aug-04	No	Yes [Note 4]	e3:100% Sn	Yes:60/40	Ni barrier	260	10	260	5	No	No	Yes	Standard	PB Suffix	Mature	
	CR2512G	Thick film	SMT chip	Always	No	Yes [Note 4]	Au	N/A	N/A	N/A	N/A	N/A	N/A	N/A	No	N/A	Standard	N/A	Mature	
CRT	CRT0805	Thick film	SMT chip	Jan-05	No	Yes [Note 4]	e3:100% Sn	No	Ni barrier	260	10	260	5	No	No	Yes	Standard	N/A	Mature	
	CRT1206	Thick film	SMT chip	Jan-05	No	Yes [Note 4]	e3:100% Sn	No	Ni barrier	260	10	260	5	No	No	Yes	Standard	N/A	Mature	
	CRT1210	Thick film	SMT chip	Jan-05	No	Yes [Note 4]	e3:100% Sn	No	Ni barrier	260	10	260	5	No	No	Yes	Standard	N/A	Mature	
DSC	DSC1206	Thick film	SMT chip	Aug-04	No	Yes [Note 4]	e3:100% Sn	Yes:60/40	Ni barrier	260	10	260	5	No	No	Yes	Standard	PB Suffix	Mature	
	DSC2010	Thick film	SMT chip	Aug-04	No	Yes [Note 4]	e3:100% Sn	Yes:60/40	Ni barrier	260	10	260	5	No	No	Yes	Standard	PB Suffix	Growth	
	DSC2512	Thick film	SMT chip	Aug-04	No	Yes [Note 4]	e3:100% Sn	Yes:60/40	Ni barrier	260	10	260	5	No	No	Yes	Standard	PB Suffix	Growth	
EMC	EMC2	Film	Axial	Apr-04	No	Yes	e3:Sn	Yes:95:5	Hot tin dip	N/A	N/A	260	5	N/A	No	Yes	Standard	PB Suffix	Growth	
F40	F43	Film	Axial	Apr-04	No	Yes [Note 4]	e3:Sn	Yes:95:5	Hot tin dip	N/A	N/A	260	5	N/A	No	Yes	Standard	PB Suffix	Decline	T43
	F44	Film	Axial	Apr-04	No	Yes [Note 4]	e3:Sn	Yes:95:5	Hot tin dip	N/A	N/A	260	5	N/A	No	Yes	Standard	PB Suffix	Decline	T44
FA	FA025	Film	Axial	May-04	N/A	Yes	e3:Sn	N/A	Hot tin dip	N/A	N/A	260	5	N/A	No	Yes	N/A	N/A	Obsolete	MF1/2S
	FA05	Film	Axial	May-04	N/A	Yes	e3:Sn	N/A	Hot tin dip	N/A	N/A	260	5	N/A	No	Yes	N/A	N/A	Obsolete	MF1S
	FA1	Film	Axial	Apr-04	N/A	Yes	e3:Sn	N/A	Hot tin dip	N/A	N/A	260	5	N/A	No	Yes	N/A	N/A	Obsolete	MF3S
	FA94	Film	Axial	Apr-04	N/A	Yes	e3:Sn	N/A	Hot tin dip	N/A	N/A	260	5	N/A	No	Yes	N/A	N/A	Obsolete	MF3S / GF3
FA8025	FA8225	Film	Axial	May-04	N/A	Yes	e3:Sn	N/A	Hot tin dip	N/A	N/A	260	5	N/A	No	Yes	N/A	N/A	Obsolete	FM1/4
	FA8325	Film	Axial	May-04	N/A	Yes	e3:Sn	N/A	Hot tin dip	N/A	N/A	260	5	N/A	No	Yes	N/A	N/A	Obsolete	FM1/2
	FA8425	Film	Axial	Apr-04	N/A	Yes	e3:Sn	N/A	Hot tin dip	N/A	N/A	260	5	N/A	No	Yes	N/A	N/A	Obsolete	FM1
FA80	FA84	Film	Axial	Apr-04	N/A	Yes	e3:Sn	N/A	Hot tin dip	N/A	N/A	260	5	N/A	No	Yes	N/A	N/A	Obsolete	WMO2S
FC	FC4	Film	Axial	May-04	No	Yes	e3:Sn	Yes:95:5	Hot tin dip	N/A	N/A	260	5	N/A	No	Yes	Standard	PB Suffix	Mature	
FCR	FCR0603	Thick film	SMT chip	Always	No	Yes [Note 4]	e3:100% Sn	No	Ni barrier	260	10	260	5	No	No	Yes	Standard	N/A	Mature	
	FCR0805	Thick film	SMT chip	Always	No	Yes [Note 4]	e3:100% Sn	No	Ni barrier	260	10	260	5	No	No	Yes	Standard	N/A	Mature	
	FCR1206	Thick film	SMT chip	Always	No	Yes [Note 4]	e3:100% Sn	No	Ni barrier	260	10	260	5	No	No	Yes	Standard	N/A	Mature	
	FCR1210	Thick film	SMT chip	Jan-05	No	Yes [Note 4]	e3:100% Sn	No	Ni barrier	260	10	260	5	No	No	Yes	Standard	N/A	Mature	
	FCR2010	Thick film	SMT chip	Jan-05	No	Yes [Note 4]	e3:100% Sn	No	Ni barrier	260	10	260	5	No	No	Yes	Standard	N/A	Mature	
FM	FM1	Film	Axial	Apr-04	No	Yes	e3:Sn	Yes:95:5	Hot tin dip	N/A	N/A	260	5	N/A	No	Yes	Standard	PB Suffix	Mature	
	FM1/2	Film	Axial	May-04	No	Yes	e3:Sn	Yes:95:5	Hot tin dip	N/A	N/A	260	5	N/A	No	Yes	Standard	PB Suffix	Mature	
	FM1/4	Film	Axial	May-04	No	Yes	e3:Sn	Yes:95:5	Hot tin dip	N/A	N/A	260	5	N/A	No	Yes	Standard	PB Suffix	Mature	
FN	FN4	Film	Axial	May-04	No	Yes	e3:Sn	Yes:95:5	Hot tin dip	N/A	N/A	260	5	N/A	No	Yes	Standard	PB Suffix	Mature	
GC	GC55	Film	Axial	May-04	No	Yes [Note 4]	e3:Sn	Yes:95:5	Hot tin dip	N/A	N/A	260	5	N/A	No	Yes	Standard	PB Suffix	Mature	
	GC65	Film	Axial	May-04	No	Yes [Note 4]	e3:Sn	Yes:95:5	Hot tin dip	N/A	N/A	260	5	N/A	No	Yes	Standard	PB Suffix	Mature	
	GC70	Film	Axial	May-04	No	Yes [Note 4]	e3:Sn	Yes:95:5	Hot tin dip	N/A	N/A	260	5	N/A	No	Yes	Standard	PB Suffix	Mature	
GCF	GCF3	Film	Axial	Jan-05	No	Yes	e3:Sn	No	Hot tin dip	N/A	N/A	260	5	N/A	No	Yes	Standard	N/A	Mature	
	GCF2	Film	Axial	Jan-05	No	Yes	e3:Sn	No	Hot tin dip	N/A	N/A	260	5	N/A	No	Yes	Standard	N/A	Mature	
	GCF1	Film	Axial	Jan-05	No	Yes	e3:Sn	No	Hot tin dip	N/A	N/A	260	5	N/A	No	Yes	Standard	N/A	Mature	
	GCF1/2	Film	Axial	Jan-05	No	Yes	e3:Sn	No	Hot tin dip	N/A	N/A	260	5	N/A	No	Yes	Standard	N/A	Mature	
	GCF1/4	Film	Axial	Jan-05	No	Yes	e3:Sn	No	Hot tin dip	N/A	N/A	260	5	N/A	No	Yes	Standard	N/A	Mature	
	GCF1/6	Film	Axial	Jan-05	No	Yes	e3:Sn	No	Hot tin dip	N/A	N/A	260	5	N/A	No	Yes	Standard	N/A	Mature	
	GCF1/8	Film	Axial	Jan-05	No	Yes	e3:Sn	No	Hot tin dip	N/A	N/A	260	5	N/A	No	Yes	Standard	N/A	Mature	

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HR	HR0503F	Thick film	SMT chip	Aug-04	No	Yes [Note 4]	e3:100% Sn	Yes:60/40	Ni barrier	260	10	260	5	No	No	Yes	Standard	PB Suffix	Mature	
	HR0503G	Thick film	SMT chip	Always	No	Yes [Note 4]	Au	N/A	N/A	N/A	N/A	N/A	N/A	N/A	No	N/A	Standard	N/A	Mature	
	HR0805F	Thick film	SMT chip	Aug-04	No	Yes [Note 4]	e3:100% Sn	Yes:60/40	Ni barrier	260	10	260	5	No	No	Yes	Standard	PB Suffix	Mature	
	HR0805G	Thick film	SMT chip	Always	No	Yes [Note 4]	Au	N/A	N/A	N/A	N/A	N/A	N/A	N/A	No	N/A	Standard	N/A	Mature	
	HR1005F	Thick film	SMT chip	Aug-04	No	Yes [Note 4]	e3:100% Sn	Yes:60/40	Ni barrier	260	10	260	5	No	No	Yes	Standard	PB Suffix	Mature	
	HR1005G	Thick film	SMT chip	Always	No	Yes [Note 4]	Au	N/A	N/A	N/A	N/A	N/A	N/A	N/A	No	N/A	Standard	N/A	Mature	
	HR1206F	Thick film	SMT chip	Aug-04	No	Yes [Note 4]	e3:100% Sn	Yes:60/40	Ni barrier	260	10	260	5	No	No	Yes	Standard	PB Suffix	Mature	
HR1206G	Thick film	SMT chip	Always	No	Yes [Note 4]	Au	N/A	N/A	N/A	N/A	N/A	N/A	N/A	No	N/A	Standard	N/A	Mature		
HV	HV31	Film	Axial	Apr-04	N/A	Yes [Note 4]	e3:Sn	N/A	Hot tin dip	N/A	N/A	260	5	N/A	No	Yes	N/A	N/A	Obsolete	VRW37
	HV32	Film	Axial	Apr-04	N/A	Yes [Note 4]	e3:Sn	N/A	Hot tin dip	N/A	N/A	260	5	N/A	No	Yes	N/A	N/A	Obsolete	VRW68
	HV33	Film	Axial	Apr-04	N/A	Yes [Note 4]	e3:Sn	N/A	Hot tin dip	N/A	N/A	260	5	N/A	No	Yes	N/A	N/A	Obsolete	VRW68
	HV34	Film	Axial	Apr-04	N/A	Yes [Note 4]	e3:Sn	N/A	Hot tin dip	N/A	N/A	260	5	N/A	No	Yes	N/A	N/A	Obsolete	-
	HV35	Film	Axial	Apr-04	N/A	Yes [Note 4]	e3:Sn	N/A	Hot tin dip	N/A	N/A	260	5	N/A	No	Yes	N/A	N/A	Obsolete	-
HVC	HVC1206	Thick film	SMT chip	Aug-04	No	Yes [Note 4]	e3:100% Sn	Yes:60/40	Ni barrier	260	10	260	5	No	No	Yes	Standard	PB Suffix	Growth	
	HVC2010	Thick film	SMT chip	Aug-04	No	Yes [Note 4]	e3:100% Sn	Yes:60/40	Ni barrier	260	10	260	5	No	No	Yes	Standard	PB Suffix	Growth	
	HVC2512	Thick film	SMT chip	Aug-04	No	Yes [Note 4]	e3:100% Sn	Yes:60/40	Ni barrier	260	10	260	5	No	No	Yes	Standard	PB Suffix	Growth	
HVL	HVL43	Film	Axial	Feb-05	N/A	Yes [Note 4]	e1:SnCuAg	N/A	Alloy	N/A	N/A	260	5	N/A	No	Yes	N/A	N/A	Obsolete	T43
	HVL44	Film	Axial	Feb-05	N/A	Yes [Note 4]	e1:SnCuAg	N/A	Alloy	N/A	N/A	260	5	N/A	No	Yes	N/A	N/A	Obsolete	T44
	HVL45	Film	Axial	Feb-05	N/A	Yes [Note 4]	e1:SnCuAg	N/A	Alloy	N/A	N/A	260	5	N/A	No	Yes	N/A	N/A	Obsolete	-
HVP	HVP04	Film	Planar	Always	No	Yes [Note 4]	e1:SnCuAg	No	Alloy	N/A	N/A	260	5	N/A	No	Yes	Standard	N/A	Growth	
	HVP06	Film	Planar	Always	No	Yes [Note 4]	e1:SnCuAg	No	Alloy	N/A	N/A	260	5	N/A	No	Yes	Standard	N/A	Growth	
LHVC	LHVC0805	Thick film	SMT chip	Always	No	Yes [Note 4]	e3:100% Sn	N/A	Ni barrier	260	10	260	5	No	No	Yes	Standard	N/A	Growth	
	LHVC1206	Thick film	SMT chip	Always	No	Yes [Note 4]	e3:100% Sn	N/A	Ni barrier	260	10	260	5	No	No	Yes	Standard	N/A	Growth	
	LHVC2010	Thick film	SMT chip	Always	No	Yes [Note 4]	e3:100% Sn	N/A	Ni barrier	260	10	260	5	No	No	Yes	Standard	N/A	Growth	
LR(F)	LR1206	Thick film	SMT chip	Aug-04	No	Yes [Note 4]	e3:100% Sn	Yes:60/40	Ni barrier	260	10	260	5	No	No	Yes	Standard	PB Suffix	Mature	
	LR2010	Thick film	SMT chip	Aug-04	No	Yes [Note 4]	e3:100% Sn	Yes:60/40	Ni barrier	260	10	260	5	No	No	Yes	Standard	PB Suffix	Mature	
	LR2512	Thick film	SMT chip	Aug-04	No	Yes [Note 4]	e3:100% Sn	Yes:60/40	Ni barrier	260	10	260	5	No	No	Yes	Standard	PB Suffix	Mature	
	LRF1206	Thick film	SMT chip	Aug-04	No	Yes [Note 4]	e3:100% Sn	Yes:60/40	Ni barrier	260	10	260	5	No	No	Yes	Standard	PB Suffix	Mature	
	LRF2010	Thick film	SMT chip	Aug-04	No	Yes [Note 4]	e3:100% Sn	Yes:60/40	Ni barrier	260	10	260	5	No	No	Yes	Standard	PB Suffix	Mature	
	LRF2512	Thick film	SMT chip	Aug-04	No	Yes [Note 4]	e3:100% Sn	Yes:60/40	Ni barrier	260	10	260	5	No	No	Yes	Standard	PB Suffix	Mature	
	LRF3W	Thick film	SMT chip	Aug-04	No	Yes [Note 4]	e3:100% Sn	Yes:60/40	Ni barrier	260	10	260	5	No	No	Yes	Standard	PB Suffix	Mature	
LRCS	LRCS0402	Thick film	SMT chip	Always	No	Yes [Note 4]	e3:100% Sn	No	Ni barrier	260	10	260	5	No	No	Yes	Standard	N/A	Mature	
	LRCS0603	Thick film	SMT chip	Always	No	Yes [Note 4]	e3:100% Sn	No	Ni barrier	260	10	260	5	No	No	Yes	Standard	N/A	Mature	
	LRCS0805	Thick film	SMT chip	Always	No	Yes [Note 4]	e3:100% Sn	No	Ni barrier	260	10	260	5	No	No	Yes	Standard	N/A	Mature	
LRZ	LRZ0805	Thick film	SMT chip	Aug-04	No	Yes [Note 4]	e3:100% Sn	Yes:60/40	Ni barrier	260	10	260	5	No	No	Yes	Standard	PB Suffix	Mature	
	LRZ1206	Thick film	SMT chip	Aug-04	No	Yes [Note 4]	e3:100% Sn	Yes:60/40	Ni barrier	260	10	260	5	No	No	Yes	Standard	PB Suffix	Mature	
	LRZ2010	Thick film	SMT chip	Aug-04	No	Yes [Note 4]	e3:100% Sn	Yes:60/40	Ni barrier	260	10	260	5	No	No	Yes	Standard	PB Suffix	Mature	
	LRZ2512	Thick film	SMT chip	Aug-04	No	Yes [Note 4]	e3:100% Sn	Yes:60/40	Ni barrier	260	10	260	5	No	No	Yes	Standard	PB Suffix	Mature	
MAR	MAR40	Film	Radial	May-04	No	Yes	e3:Sn	Yes:95:5	Hot tin dip	N/A	N/A	260	5	N/A	No	Yes	Standard	PB Suffix	Mature	
	MAR42	Film	Radial	May-04	No	Yes	e3:Sn	Yes:95:5	Hot tin dip	N/A	N/A	260	5	N/A	No	Yes	Standard	PB Suffix	Mature	
MFP	MFP1	Film	Axial	May-04	No	Yes	e3:Sn	Yes:95:5	Hot tin dip	N/A	N/A	260	5	N/A	No	Yes	Standard	PB Suffix	Mature	
	MFP2	Film	Axial	Apr-04	No	Yes	e3:Sn	Yes:95:5	Hot tin dip	N/A	N/A	260	5	N/A	No	Yes	Standard	PB Suffix	Mature	
MFR	MFR3	Film	Axial	Jan-04	No	Yes	e3:Sn	No	Hot tin dip	N/A	N/A	260	5	N/A	No	Yes	Standard	N/A	Mature	
	MFR4	Film	Axial	May-04	No	Yes	e3:Sn	Yes:95:5	Hot tin dip	N/A	N/A	260	5	N/A	No	Yes	Standard	PB Suffix	Mature	
	MFR5	Film	Axial	May-04	No	Yes	e3:Sn	Yes:95:5	Hot tin dip	N/A	N/A	260	5	N/A	No	Yes	Standard	PB Suffix	Mature	
MFR4P	Film	Axial	May-04	No	Yes	e3:Sn	Yes:95:5	Hot tin dip	N/A	N/A	260	5	N/A	No	Yes	Standard	PB Suffix	Mature		
MF-S	MF1/2S	Film	Axial	May-04	No	Yes	e3:Sn	No	Hot tin dip	N/A	N/A	260	5	N/A	No	Yes	Standard	N/A	Mature	
	MF1S	Film	Axial	May-04	No	Yes	e3:Sn	No	Hot tin dip	N/A	N/A	260	5	N/A	No	Yes	Standard	N/A	Mature	
	MF2S	Film	Axial	Apr-04	No	Yes	e3:Sn	No	Hot tin dip	N/A	N/A	260	5	N/A	No	Yes	Standard	N/A	Mature	
	MF3S	Film	Axial	Apr-04	No	Yes	e3:Sn	No	Hot tin dip	N/A	N/A	260	5	N/A	No	Yes	Standard	N/A	Mature	
MH	MH25	Film	Axial	May-04	No	Yes	e3:Sn	Yes:95:5	Hot tin dip	N/A	N/A	260	5	N/A	No	Yes	Standard	PB Suffix	Mature	VRW25
	MH37	Film	Axial	May-04	No	Yes	e3:Sn	Yes:95:5	Hot tin dip	N/A	N/A	260	5	N/A	No	Yes	Standard	PB Suffix	Mature	VRW37

# Compliance / Obsolescence Matrix



Component				Compliance			Terminations			Processing (Note 1)					Ordering & Identification				Obsolescence	
Product Series	Part Number Type	Resistor Technology	Package Style	Pb-free Manufacture Date [Note 3]	Are any REACH SVHCs contained? [Note 7]	Is Pb-free Part RoHS Compliant? [Note 5]	Pb-free Termination Finish	Is an SnPb finish still available? [Note 9]	Tin Whisker Mitigation on Pb-free finish	Reflow Peak Temp (°C)	Reflow Peak Duration (s)	Wave Solder Temp (°C)	Wave Solder Contact Time (s)	Change to J-STD 020 MSL for Pb-free?	Marked Pb-free on Comp?	Marked Pb-free on Pack?	How to Specify Pb-free finish	How to Specify SnPb finish [Note 8]	Lifecycle Status	Alternative Part [Note 6]
MO-S	MO1/2S	Film	Axial	May-04	N/A	Yes	e3:Sn	N/A	Hot tin dip	N/A	N/A	260	5	N/A	No	Yes	N/A	N/A	Obsolete	WMO1/2S
	MO1S	Film	Axial	May-04	N/A	Yes	e3:Sn	N/A	Hot tin dip	N/A	N/A	260	5	N/A	No	Yes	N/A	N/A	Obsolete	WMO1S
	MO2S	Film	Axial	Apr-04	N/A	Yes	e3:Sn	N/A	Hot tin dip	N/A	N/A	260	5	N/A	No	Yes	N/A	N/A	Obsolete	WMO2S
	MO3S	Film	Axial	Apr-04	N/A	Yes	e3:Sn	N/A	Hot tin dip	N/A	N/A	260	5	N/A	No	Yes	N/A	N/A	Obsolete	WMO3S
	MO5S	Film	Axial	Jan-05	N/A	Yes	e3:Sn	N/A	Hot tin dip	N/A	N/A	260	5	N/A	No	Yes	N/A	N/A	Obsolete	WMO5S
PCF	PCF0201	Thin Film	SMT chip	Jan-05	No	Yes	e3:100% Sn	No	Ni barrier	260	10	260	5	No	No	Yes	Standard	N/A	Mature	
	PCF0402	Thin Film	SMT chip	Jan-05	No	Yes	e3:100% Sn	No	Ni barrier	260	10	260	5	No	No	Yes	Standard	N/A	Mature	
	PCF0603	Thin Film	SMT chip	Jan-05	No	Yes	e3:100% Sn	No	Ni barrier	260	10	260	5	No	No	Yes	Standard	N/A	Mature	
	PCF0805	Thin Film	SMT chip	Jan-05	No	Yes	e3:100% Sn	No	Ni barrier	260	10	260	5	No	No	Yes	Standard	N/A	Mature	
	PCF1206	Thin Film	SMT chip	Jan-05	No	Yes	e3:100% Sn	No	Ni barrier	260	10	260	5	No	No	Yes	Standard	N/A	Mature	
	PCF1210	Thin Film	SMT chip	Jan-05	No	Yes	e3:100% Sn	No	Ni barrier	260	10	260	5	No	No	Yes	Standard	N/A	Mature	
PCF	PCF2010	Thin Film	SMT chip	Jan-05	No	Yes	e3:100% Sn	No	Ni barrier	260	10	260	5	No	No	Yes	Standard	N/A	Mature	
	PCF2512	Thin Film	SMT chip	Jan-05	No	Yes	e3:100% Sn	No	Ni barrier	260	10	260	5	No	No	Yes	Standard	N/A	Mature	
PCR	PCR0503F	Thick film	SMT chip	Aug-04	No	Yes [Note 4]	e3:100% Sn	Yes:60/40	Ni barrier	260	10	260	5	No	No	Yes	Standard	PB Suffix	Mature	
	PCR0503G	Thick film	SMT chip	Always	No	Yes [Note 4]	Au	N/A	N/A	N/A	N/A	N/A	N/A	No	N/A	Standard	N/A	Mature		
	PCR0805F	Thick film	SMT chip	Aug-04	No	Yes [Note 4]	e3:100% Sn	Yes:60/40	Ni barrier	260	10	260	5	No	No	Yes	Standard	PB Suffix	Mature	
	PCR0805G	Thick film	SMT chip	Always	No	Yes [Note 4]	Au	N/A	N/A	N/A	N/A	N/A	N/A	No	N/A	Standard	N/A	Mature		
	PCR1005F	Thick film	SMT chip	Aug-04	No	Yes [Note 4]	e3:100% Sn	Yes:60/40	Ni barrier	260	10	260	5	No	No	Yes	Standard	PB Suffix	Mature	
	PCR1005G	Thick film	SMT chip	Always	No	Yes [Note 4]	Au	N/A	N/A	N/A	N/A	N/A	N/A	No	N/A	Standard	N/A	Mature		
	PCR1206F	Thick film	SMT chip	Aug-04	No	Yes [Note 4]	e3:100% Sn	Yes:60/40	Ni barrier	260	10	260	5	No	No	Yes	Standard	PB Suffix	Mature	
PR	PR4	Film	Axial	May-04	No	Yes	e3:Sn	Yes:95:5	Hot tin dip	N/A	N/A	260	5	N/A	No	Yes	Standard	PB Suffix	Mature	
	PR5	Film	Axial	May-04	No	Yes	e3:Sn	Yes:95:5	Hot tin dip	N/A	N/A	260	5	N/A	No	Yes	Standard	PB Suffix	Mature	
PTCR	PTCR0805	Thick film	SMT chip	Aug-04	No	Yes [Note 4]	e3:100% Sn	Yes:60/40	Ni barrier	260	10	260	5	No	No	Yes	Standard	PB Suffix	Mature	
	PTCR1206	Thick film	SMT chip	Aug-04	No	Yes [Note 4]	e3:100% Sn	Yes:60/40	Ni barrier	260	10	260	5	No	No	Yes	Standard	PB Suffix	Mature	
PWC	PWC0805	Thick film	SMT chip	Aug-04	No	Yes [Note 4]	e3:100% Sn	Yes:60/40	Ni barrier	260	10	260	5	No	No	Yes	Standard	PB Suffix	Mature	
	PWC1206	Thick film	SMT chip	Aug-04	No	Yes [Note 4]	e3:100% Sn	Yes:60/40	Ni barrier	260	10	260	5	No	No	Yes	Standard	PB Suffix	Mature	
	PWC2010	Thick film	SMT chip	Aug-04	No	Yes [Note 4]	e3:100% Sn	Yes:60/40	Ni barrier	260	10	260	5	No	No	Yes	Standard	PB Suffix	Mature	
	PWC2512	Thick film	SMT chip	Aug-04	No	Yes [Note 4]	e3:100% Sn	Yes:60/40	Ni barrier	260	10	260	5	No	No	Yes	Standard	PB Suffix	Mature	
RB	RBxx	[SEE V700: V7xx]																		
RC	RC55	Film	Axial	May-04	No	Yes	e3:Sn	Yes:95:5	Hot tin dip	N/A	N/A	260	5	N/A	No	Yes	Standard	PB Suffix	Mature	
	RC65	Film	Axial	Dec-04	No	Yes	e3:Sn	Yes:95:5	Hot tin dip	N/A	N/A	260	5	N/A	No	Yes	Standard	PB Suffix	Mature	
	RC70	Film	Axial	May-04	No	Yes	e3:Sn	Yes:95:5	Hot tin dip	N/A	N/A	260	5	N/A	No	Yes	Standard	PB Suffix	Mature	
RCP	RCP55	Film	Axial	May-04	No	Yes	e3:Sn	Yes:95:5	Hot tin dip	N/A	N/A	260	5	N/A	No	Yes	Standard	PB Suffix	Mature	
	RCP60	Film	Axial	Dec-04	No	Yes	e3:Sn	Yes:95:5	Hot tin dip	N/A	N/A	260	5	N/A	No	Yes	Standard	PB Suffix	Mature	
	RCP70	Film	Axial	May-04	No	Yes	e3:Sn	Yes:95:5	Hot tin dip	N/A	N/A	260	5	N/A	No	Yes	Standard	PB Suffix	Mature	
SC3	SC3	Thick film	SMT chip	Aug-04	No	Yes [Note 4]	e3:100% Sn	Yes:60/40	Ni barrier	260	10	260	5	No	No	Yes	Standard	PB Suffix	Mature	
SQM	SQM2	W/W & Oxide	Radial	Always	No	Yes	e3:Sn	No	Hot tin dip	N/A	N/A	260	5	N/A	No	Yes	Standard	N/A	Mature	
	SQM3	W/W & Oxide	Radial	Always	No	Yes	e3:Sn	No	Hot tin dip	N/A	N/A	260	5	N/A	No	Yes	Standard	N/A	Mature	
	SQM5	W/W & Oxide	Radial	Always	No	Yes	e3:Sn	No	Hot tin dip	N/A	N/A	260	5	N/A	No	Yes	Standard	N/A	Mature	
	SQM7	W/W & Oxide	Radial	Always	No	Yes	e3:Sn	No	Hot tin dip	N/A	N/A	260	5	N/A	No	Yes	Standard	N/A	Mature	
	SQM10	W/W & Oxide	Radial	Always	No	Yes	e3:Sn	No	Hot tin dip	N/A	N/A	260	5	N/A	No	Yes	Standard	N/A	Mature	
SQP	SQP2	W/W & Oxide	Axial	Always	No	Yes	e3:Sn	No	Hot tin dip	N/A	N/A	260	5	N/A	No	Yes	Standard	N/A	Mature	
	SQP3	W/W & Oxide	Axial	Always	No	Yes	e3:Sn	No	Hot tin dip	N/A	N/A	260	5	N/A	No	Yes	Standard	N/A	Mature	
	SQP5	W/W & Oxide	Axial	Always	No	Yes	e3:Sn	No	Hot tin dip	N/A	N/A	260	5	N/A	No	Yes	Standard	N/A	Mature	
	SQP7	W/W & Oxide	Axial	Always	No	Yes	e3:Sn	No	Hot tin dip	N/A	N/A	260	5	N/A	No	Yes	Standard	N/A	Mature	
	SQP7S	W/W & Oxide	Axial	Always	No	Yes	e3:Sn	No	Hot tin dip	N/A	N/A	260	5	N/A	No	Yes	Standard	N/A	Mature	
	SQP10	W/W & Oxide	Axial	Always	No	Yes	e3:Sn	No	Hot tin dip	N/A	N/A	260	5	N/A	No	Yes	Standard	N/A	Mature	
	SQP15	W/W & Oxide	Axial	Always	No	Yes	e3:Sn	No	Hot tin dip	N/A	N/A	260	5	N/A	No	Yes	Standard	N/A	Mature	
T40	SQP20	W/W & Oxide	Axial	Always	No	Yes	e3:Sn	No	Hot tin dip	N/A	N/A	260	5	N/A	No	Yes	Standard	N/A	Mature	
	T43	Film	Axial	Apr-04	No	[Note 2]	e3:Sn	Yes:95:5	Hot tin dip	N/A	N/A	260	5	N/A	No	Yes	Standard	PB Suffix	Mature	
	T44	Film	Axial	Apr-04	No	[Note 2]	e3:Sn	Yes:95:5	Hot tin dip	N/A	N/A	260	5	N/A	No	Yes	Standard	PB Suffix	Mature	
	T48	Film	Axial	Apr-04	No	[Note 2]	e3:Sn	Yes:95:5	Hot tin dip	N/A	N/A	260	5	N/A	No	Yes	Standard	PB Suffix	Mature	
TD4	TD4	Film	Axial	May-04	No	Yes	e3:Sn	Yes:95:5	Hot tin dip	N/A	N/A	260	5	N/A	No	Yes	Standard	PB Suffix	Mature	

# Compliance / Obsolescence Matrix



Component				Compliance			Terminations			Processing (Note 1)					Ordering & Identification				Obsolescence	
Product Series	Part Number Type	Resistor Technology	Package Style	Pb-free Manufacture Date [Note 3]	Are any REACH SVHCs contained? [Note 7]	Is Pb-free Part RoHS Compliant? [Note 5]	Pb-free Termination Finish	Is an SnPb finish still available? [Note 9]	Tin Whisker Mitigation on Pb-free finish	Reflow Peak Temp (°C)	Reflow Peak Duration (s)	Wave Solder Temp (°C)	Wave Solder Contact Time (s)	Change to J-STD 020 MSL for Pb-free?	Marked Pb-free on Comp?	Marked Pb-free on Pack?	How to Specify Pb-free finish	How to Specify SnPb finish [Note 8]	Lifecycle Status	Alternative Part [Note 6]
ULR	ULR1	Metal Strip	SMD	Always	No	Yes	e3:Sn	No	e3:100% Sn	260	10	260	5	No	No	Yes	Standard	N/A	Growth	
	ULR2	Metal Strip	SMD	Always	No	Yes	e3:Sn	No	e3:100% Sn	260	10	260	5	No	No	Yes	Standard	N/A	Growth	
	ULR25	Metal Strip	SMD	Always	No	Yes	e3:Sn	No	e3:100% Sn	260	10	260	5	No	No	Yes	Standard	N/A	Growth	
	ULR3	Metal Strip	SMD	Always	No	Yes	e3:Sn	No	e3:100% Sn	260	10	260	5	No	No	Yes	Standard	N/A	Growth	
ULW	ULW2	Wirewound	Axial	Always	No	Yes	e3:Sn	Yes:95:5	Hot tin dip	N/A	N/A	260	5	N/A	No	Yes	Standard	PB Suffix	Growth	
	ULW3	Wirewound	Axial	Always	No	Yes	e3:Sn	Yes:95:5	Hot tin dip	N/A	N/A	260	5	N/A	No	Yes	Standard	PB Suffix	Growth	
	ULW4	Wirewound	Axial	Always	No	Yes	e3:Sn	Yes:95:5	Hot tin dip	N/A	N/A	260	5	N/A	No	Yes	Standard	PB Suffix	Growth	
	V757	Wirewound	Axial	Dec-04	No	Yes	e1:SnCuAg	Yes:60/40	Alloy	N/A	N/A	260	5	N/A	No	Yes	Standard	PB Suffix	Mature	W22
V700	V758	Wirewound	Axial	Dec-04	No	Yes	e1:SnCuAg	Yes:60/40	Alloy	N/A	N/A	260	5	N/A	No	Yes	Standard	PB Suffix	Mature	W21
	V759	Wirewound	Axial	Dec-04	No	Yes	e1:SnCuAg	Yes:60/40	Alloy	N/A	N/A	260	5	N/A	No	Yes	Standard	PB Suffix	Mature	W21
	V760	Wirewound	Axial	Dec-04	No	Yes	e1:SnCuAg	Yes:60/40	Alloy	N/A	N/A	260	5	N/A	No	Yes	Standard	PB Suffix	Mature	W21
	V761	Wirewound	Axial	Dec-04	No	Yes	e1:SnCuAg	Yes:60/40	Alloy	N/A	N/A	260	5	N/A	No	Yes	Standard	PB Suffix	Mature	W215
	VRW25	Thick film	Axial	Always	No	Yes [Note 4]	e3:Sn	No	Hot tin dip	N/A	N/A	260	5	N/A	No	Yes	Standard	N/A	Mature	
W20	VRW37	Thick film	Axial	Always	No	Yes [Note 4]	e3:Sn	No	Hot tin dip	N/A	N/A	260	5	N/A	No	Yes	Standard	N/A	Mature	
	VRW68	Thick film	Axial	Always	No	Yes [Note 4]	e3:Sn	No	Hot tin dip	N/A	N/A	260	5	N/A	No	Yes	Standard	N/A	Mature	
	W21	Wirewound	Axial	Dec-04	No	Yes	e1:SnCuAg	Yes:60/40	Alloy	N/A	N/A	260	5	N/A	No	Yes	Standard	PB Suffix	Mature	
	W215	Wirewound	Axial	Dec-04	No	Yes	e1:SnCuAg	Yes:60/40	Alloy	N/A	N/A	260	5	N/A	No	Yes	Standard	PB Suffix	Mature	
W30	W22	Wirewound	Axial	Dec-04	No	Yes	e1:SnCuAg	Yes:60/40	Alloy	N/A	N/A	260	5	N/A	No	Yes	Standard	PB Suffix	Mature	
	W23	Wirewound	Axial	Dec-04	No	Yes	e1:SnCuAg	Yes:60/40	Alloy	N/A	N/A	260	5	N/A	No	Yes	Standard	PB Suffix	Mature	
	W24	Wirewound	Axial	Dec-04	No	Yes	e1:SnCuAg	Yes:60/40	Alloy	N/A	N/A	260	5	N/A	No	Yes	Standard	PB Suffix	Mature	
	W31	Wirewound	Axial	Apr-04	No	Yes	e3:Sn	Yes:95:5	Hot tin dip	N/A	N/A	260	5	N/A	No	Yes	Standard	PB Suffix	Mature	
WA80	WA82	Wirewound	Axial	May-04	No	Yes	e3:Sn	Yes:95:5	Hot tin dip	N/A	N/A	260	5	N/A	No	Yes	Standard	PB Suffix	Mature	WP1S
	WA83	Wirewound	Axial	May-04	No	Yes	e3:Sn	Yes:95:5	Hot tin dip	N/A	N/A	260	5	N/A	No	Yes	Standard	PB Suffix	Mature	WP2S
	WA835	Wirewound	Axial	Apr-04	No	Yes	e3:Sn	Yes:95:5	Hot tin dip	N/A	N/A	260	5	N/A	No	Yes	Standard	PB Suffix	Mature	WP25S
	WA84	Wirewound	Axial	Apr-04	No	Yes	e3:Sn	Yes:95:5	Hot tin dip	N/A	N/A	260	5	N/A	No	Yes	Standard	PB Suffix	Mature	WP3S
	WA85	Wirewound	Axial	Apr-04	No	Yes	e3:Sn	Yes:95:5	Hot tin dip	N/A	N/A	260	5	N/A	No	Yes	Standard	PB Suffix	Mature	WP5S
	WA87	Wirewound	Axial	Feb-05	No	Yes	e3:Sn	Yes:95:5	Hot tin dip	N/A	N/A	260	5	N/A	No	Yes	Standard	PB Suffix	Obsolete	KNP7
WA80Z	WA83Z	Wirewound	SMT leadform	May-04	No	Yes	e3:Sn	Yes:95:5	Hot tin dip	260	10	N/A	N/A	No	No	Yes	Standard	PB Suffix	Mature	
	WA84Z	Wirewound	SMT leadform	Apr-04	No	Yes	e3:Sn	Yes:95:5	Hot tin dip	260	10	N/A	N/A	No	No	Yes	Standard	PB Suffix	Mature	
	WA85Z	Wirewound	SMT leadform	Apr-04	No	Yes	e3:Sn	Yes:95:5	Hot tin dip	260	10	N/A	N/A	No	No	Yes	Standard	PB Suffix	Mature	
	WA84F	Wirewound	Axial	Apr-04	No	Yes	e3:Sn	Yes:95:5	Hot tin dip	N/A	N/A	260	5	N/A	No	Yes	Standard	PB Suffix	Mature	
WCR	WCR0201	Thick film	SMT chip	Jan-05	No	Yes [Note 4]	e3:100% Sn	No	Ni barrier	260	10	260	5	No	No	Yes	Standard	N/A	Mature	
	WCR0402	Thick film	SMT chip	Jan-05	No	Yes [Note 4]	e3:100% Sn	No	Ni barrier	260	10	260	5	No	No	Yes	Standard	N/A	Mature	
	WCR0603	Thick film	SMT chip	Jan-05	No	Yes [Note 4]	e3:100% Sn	No	Ni barrier	260	10	260	5	No	No	Yes	Standard	N/A	Mature	
	WCR0805	Thick film	SMT chip	Jan-05	No	Yes [Note 4]	e3:100% Sn	No	Ni barrier	260	10	260	5	No	No	Yes	Standard	N/A	Mature	
	WCR1206	Thick film	SMT chip	Jan-05	No	Yes [Note 4]	e3:100% Sn	No	Ni barrier	260	10	260	5	No	No	Yes	Standard	N/A	Mature	
	WCR1210	Thick film	SMT chip	Jan-05	No	Yes [Note 4]	e3:100% Sn	No	Ni barrier	260	10	260	5	No	No	Yes	Standard	N/A	Mature	
	WCR2010	Thick film	SMT chip	Jan-05	No	Yes [Note 4]	e3:100% Sn	No	Ni barrier	260	10	260	5	No	No	Yes	Standard	N/A	Mature	
	WCR2512	Thick film	SMT chip	Jan-05	No	Yes [Note 4]	e3:100% Sn	No	Ni barrier	260	10	260	5	No	No	Yes	Standard	N/A	Mature	
WDBR	WDBRxI	Thick-film	Heatsink mount	Always	No	Yes	SnAg (96S)	No	Alloy	N/A	N/A	N/A	N/A	N/A	No	No	Standard	N/A	Mature	
	WDBRxL	Thick-film	Heatsink mount	Always	No	Yes	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	No	No	Standard	N/A	Mature	
	WDBRxT	Thick-film	Heatsink mount	Always	No	Yes	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	No	No	Standard	N/A	Mature	
WFF	WFF1/4	Film	Axial	Apr-04	N/A	Yes	e3:Sn	N/A	Hot tin dip	N/A	N/A	260	5	N/A	No	Yes	N/A	N/A	Obsolete	FM1/4
	WFF1/2	Film	Axial	May-04	N/A	Yes	e3:Sn	N/A	Hot tin dip	N/A	N/A	260	5	N/A	No	Yes	N/A	N/A	Obsolete	FM1/2
	WFF1	Film	Axial	May-04	N/A	Yes	e3:Sn	N/A	Hot tin dip	N/A	N/A	260	5	N/A	No	Yes	N/A	N/A	Obsolete	FM1
WH	WH10	Wirewound	Chassis Mount	Dec-04	No	Yes	e1:SnCuAg	Yes:60/40	Alloy	N/A	N/A	N/A	N/A	N/A	No	Yes	Standard	PB Suffix	Mature	
	WH25	Wirewound	Chassis Mount	Dec-04	No	Yes	e1:SnCuAg	Yes:60/40	Alloy	N/A	N/A	N/A	N/A	N/A	No	Yes	Standard	PB Suffix	Mature	
	WH5	Wirewound	Chassis Mount	Dec-04	No	Yes	e1:SnCuAg	Yes:60/40	Alloy	N/A	N/A	N/A	N/A	N/A	No	Yes	Standard	PB Suffix	Mature	
	WH50	Wirewound	Chassis Mount	Dec-04	No	Yes	e1:SnCuAg	Yes:60/40	Alloy	N/A	N/A	N/A	N/A	N/A	No	Yes	Standard	PB Suffix	Mature	
WHPC	WHPC1206	Thick-film	SMT chip	Always	No	Yes [Note 4]	e3:100% Sn	No	Ni barrier	260	10	260	5	No	No	Yes	Standard	N/A	Growth	
	WHPC2010	Thick-film	SMT chip	Always	No	Yes [Note 4]	e3:100% Sn	No	Ni barrier	260	10	260	5	No	No	Yes	Standard	N/A	Growth	
WL	WL4	Film	Axial	Apr-04	No	Yes	e3:Sn	Yes:95:5	Hot tin dip	N/A	N/A	260	5	N/A	No	Yes	Standard	PB Suffix	Mature	
	WLT0652	N/A	Axial	Apr-04	No	Yes	e3:Sn	Yes:95:5	Hot tin dip	N/A	N/A	260	5	N/A	No	Yes	Standard	PB Suffix	Mature	
WLT	WLT0752	N/A	Axial	Apr-04	No	Yes	e3:Sn	Yes:95:5	Hot tin dip	N/A	N/A	260	5	N/A	No	Yes	Standard	PB Suffix	Mature	
	WLT0805	N/A	Axial	Apr-04	No	Yes	e3:Sn	Yes:95:5	Hot tin dip	N/A	N/A	260	5	N/A	No	Yes	Standard	PB Suffix	Mature	

# Compliance / Obsolescence Matrix



Component				Compliance			Terminations			Processing (Note 1)					Ordering & Identification				Obsolescence	
Product Series	Part Number Type	Resistor Technology	Package Style	Pb-free Manufacture Date [Note 3]	Are any REACH SVHCs contained? [Note 7]	Is Pb-free Part RoHS Compliant? [Note 5]	Pb-free Termination Finish	Is an SnPb finish still available? [Note 9]	Tin Whisker Mitigation on Pb-free finish	Reflow Peak Temp (°C)	Reflow Peak Duration (s)	Wave Solder Temp (°C)	Wave Solder Contact Time (s)	Change to J-STD 020 MSL for Pb-free?	Marked Pb-free on Comp?	Marked Pb-free on Pack?	How to Specify Pb-free finish	How to Specify SnPb finish [Note 8]	Lifecycle Status	Alternative Part [Note 6]
WMO-S	WMO1/2S	Film	Axial	Always	No	Yes	e3:Sn	No	Hot tin dip	N/A	N/A	260	5	N/A	No	Yes	Standard	N/A	Mature	
	WMO1S	Film	Axial	Always	No	Yes	e3:Sn	No	Hot tin dip	N/A	N/A	260	5	N/A	No	Yes	Standard	N/A	Mature	
	WMO2S	Film	Axial	Always	No	Yes	e3:Sn	No	Hot tin dip	N/A	N/A	260	5	N/A	No	Yes	Standard	N/A	Mature	
	WMO3S	Film	Axial	Always	No	Yes	e3:Sn	No	Hot tin dip	N/A	N/A	260	5	N/A	No	Yes	Standard	N/A	Mature	
	WMO5S	Film	Axial	Always	No	Yes	e3:Sn	No	Hot tin dip	N/A	N/A	260	5	N/A	No	Yes	Standard	N/A	Mature	
WNCR	WNCR164	Thick film	SMT chip	Jan-05	No	Yes [Note 4]	e3:100% Sn	No	Ni barrier	260	10	260	5	No	No	Yes	Standard	N/A	Mature	
	WNCR168	Thick film	SMT chip	Jan-05	No	Yes [Note 4]	e3:100% Sn	No	Ni barrier	260	10	260	5	No	No	Yes	Standard	N/A	Mature	
WP-S	WP1S	Wirewound	Axial	Always	No	Yes	e3:Sn	Yes:95:5	Hot tin dip	N/A	N/A	260	5	N/A	No	Yes	Standard	PB Suffix	Mature	
	WP2S	Wirewound	Axial	Always	No	Yes	e3:Sn	Yes:95:5	Hot tin dip	N/A	N/A	260	5	N/A	No	Yes	Standard	PB Suffix	Mature	
	WP25S	Wirewound	Axial	Always	No	Yes	e3:Sn	Yes:95:5	Hot tin dip	N/A	N/A	260	5	N/A	No	Yes	Standard	PB Suffix	Mature	
	WP3S	Wirewound	Axial	Always	No	Yes	e3:Sn	Yes:95:5	Hot tin dip	N/A	N/A	260	5	N/A	No	Yes	Standard	PB Suffix	Mature	
	WP4S	Wirewound	Axial	Always	No	Yes	e3:Sn	Yes:95:5	Hot tin dip	N/A	N/A	260	5	N/A	No	Yes	Standard	PB Suffix	Mature	
	WP5S	Wirewound	Axial	Always	No	Yes	e3:Sn	Yes:95:5	Hot tin dip	N/A	N/A	260	5	N/A	No	Yes	Standard	PB Suffix	Mature	
	WP7S	Wirewound	Axial	Always	No	Yes	e3:Sn	Yes:95:5	Hot tin dip	N/A	N/A	260	5	N/A	No	Yes	Standard	PB Suffix	Obsolete	KNP7
WPYP	WPYP8	Wirewound	Terminal Mount	Always	No	Yes	Stainless steel	N/A	N/A	N/A	N/A	N/A	N/A	N/A	No	N/A	Standard	N/A	Mature	
	WPYP10	Wirewound	Terminal Mount	Always	No	Yes	Stainless steel	N/A	N/A	N/A	N/A	N/A	N/A	N/A	No	N/A	Standard	N/A	Mature	
WRM	WRM0102	Film	MELF	Always	No	Yes	e3:Sn	No	Ni barrier	260	10	260	5	No	No	Yes	Standard	N/A	Mature	
	WRM0204	Film	MELF	Always	No	Yes	e3:Sn	No	Ni barrier	260	10	260	5	No	No	Yes	Standard	N/A	Mature	
	WRM0207	Film	MELF	Always	No	Yes	e3:Sn	No	Ni barrier	260	10	260	5	No	No	Yes	Standard	N/A	Mature	
WSM	WSM1	Wirewound	Molded SMT	Jul-05	No	Yes	e3:100% Sn	No	Ni barrier	260	10	260	5	No (2)	No	Yes	Standard	N/A	Mature	
	WSM2	Wirewound	Molded SMT	Jul-05	No	Yes	e3:100% Sn	No	Ni barrier	260	10	260	5	No (2)	No	Yes	Standard	N/A	Mature	
	WSM3	Wirewound	Molded SMT	Jul-05	No	Yes	e3:100% Sn	No	Ni barrier	260	10	260	5	No (2)	No	Yes	Standard	N/A	Mature	

**Notes**

- The processing conditions stated are safe limits within which the components will not suffer damage. They are not intended as a process recommendation.
- The T40 Series has limited RoHS compliance as follows:
  - T43 values ≤10M and values ≥1G5 are RoHS compliant (exemption 5 applies - see note 4)
  - T44 values ≤30M and values ≥3G0 are RoHS compliant (exemption 5 applies - see note 4)
  - T48 values ≤60M and values ≥10G are RoHS compliant (exemption 5 applies - see note 4)
- Changeover to Pb-free manufacturing happened mainly during 2004 on a phased basis. Dates declared for Pb-free / RoHS compliant availability relate to manufacture changeover. Both finishes were supplied for a transitional period as stocks were exhausted; customers requiring guaranteed Pb-free product during this period needed to specify "Pb-free" when ordering. This transitional period ended in July 2006.
  - Some parts are listed as having "always" been Pb-free; this is either because they have been launched since 2004, or because they were already Pb-free before 2004.
- The exemption number 5 is claimed, which is "Lead in glass of cathode ray tubes, electronic components and fluorescent tubes." The terminations are Pb-free and the component is RoHS compliant.
- This RoHS status declaration takes into account the inclusion of DecaBDE in the list of banned substances from mid 2008.
- Alternatives to obsolete parts may not be drop-in equivalents, so a datasheet check of the alternative part is recommended.
- REACH substances included in this declaration are those published in the Candidate List on 1st Nov 2008.
- To specify SnPb finish a suffix PB replaces the normal pack code suffix. E.g. for standard (Pb-free) part W21-470RJI, the corresponding SnPb version is W21-470RJPB. See also note 9.
- SnPb finish options are non-standard. Check terms and availability before ordering. They are intended for mitigation of obsolescence rather than for new designs.