

# TRN50 – Material Composition – MELF Thin Film Chip Resistors (Series TRN)

## TRN – MELF Thin Film Chip Resistors

Size/Series: TRN50

Total Mass (g): 0.0049

This statement pertains to the following directive: 2002/95/EC of the European Parliament and of the Council of the European Union of January 27, 2003 on the restriction of the use of certain hazardous substances in electrical and electronic equipment regarding Article 4 and its subsequent annex on the exemption of lead in glass. No. 5 in the annex states that lead in glass of cathode ray tubes, electronic components and fluorescent tubes are exempt from RoHS requirements. Therefore any lead oxide in glass of any size chip resistor array is exempt and all chip resistor arrays meet RoHS requirements.

Part Name	Material	Total Mass (g)	Substance Name	Substance Mass (%)	CAS No.
TRN50	Ceramic Rod	0.0015	Aluminium Oxide (Al <sub>2</sub> O <sub>3</sub> )	30.60	6E03418
			Silicon Dioxide (SiO <sub>2</sub> )		
	End Caps	0.0008	Iron (Fe)	16.38	
	Resistive Element	0.0004	Nickel (Ni)	28.54	
			Chromium (Cr)		
			Silicon (Si)		
	Protective Layer	0.0012	Bisphenol A Type Liquid Epoxy Resin	24.48	25068-38-6
			Bisphenol A		80-05-7
			Phenolic Resin		9003-35-4
			Amine Hardener		
			Titania		13463-67-7
			Co, Al, Cr Compound Oxide		
			Solvent Naphtha		647492-94-5
TOTAL:	0.0049				

# TRN55 – Material Composition – MELF Thin Film Chip Resistors (Series TRN)

## TRN – MELF Thin Film Chip Resistors

Size/Series: TRN55

Total Mass (g): 0.02400

This statement pertains to the following directive: 2002/95/EC of the European Parliament and of the Council of the European Union of January 27, 2003 on the restriction of the use of certain hazardous substances in electrical and electronic equipment regarding Article 4 and its subsequent annex on the exemption of lead in glass. No. 5 in the annex states that lead in glass of cathode ray tubes, electronic components and fluorescent tubes are exempt from RoHS requirements. Therefore any lead oxide in glass of any size chip resistor array is exempt and all chip resistor arrays meet RoHS requirements.

Part Name	Material	Total Mass (g)	Substance Name	Substance Mass (%)	CAS No.
TRN55	Ceramic Rod	0.00805	Aluminium Oxide (Al <sub>2</sub> O <sub>3</sub> )	33.54	6E03418
			Silicon Dioxide (SiO <sub>2</sub> )		
	End Caps	0.0045	Iron (Fe)	18.75	
	Resistive Element	0.00815	Nickel (Ni)	33.96	
			Chromium (Cr)		
			Silicon (Si)		
	Protective Layer	0.0033	Bisphenol A Type Liquid Epoxy Resin	13.75	25068-38-6
			Bisphenol A		80-05-7
			Phenolic Resin		9003-35-4
			Amine Hardener		
			Titania		13463-67-7
			Co, Al, Cr Compound Oxide		
			Solvent Naphtha		647492-94-5
TOTAL:	0.02400				

# TRN60 – Material Composition – MELF Thin Film Chip Resistors (Series TRN)

## TRN – MELF Thin Film Chip Resistors

Size/Series: TRN60

Total Mass (g): 0.11300

This statement pertains to the following directive: 2002/95/EC of the European Parliament and of the Council of the European Union of January 27, 2003 on the restriction of the use of certain hazardous substances in electrical and electronic equipment regarding Article 4 and its subsequent annex on the exemption of lead in glass. No. 5 in the annex states that lead in glass of cathode ray tubes, electronic components and fluorescent tubes are exempt from RoHS requirements. Therefore any lead oxide in glass of any size chip resistor array is exempt and all chip resistor arrays meet RoHS requirements.

Part Name	Material	Total Mass (g)	Substance Name	Substance Mass (%)	CAS No.
TRN60	Ceramic Rod	0.0423	Aluminium Oxide (Al <sub>2</sub> O <sub>3</sub> )	37.43	6E03418
			Silicon Dioxide (SiO <sub>2</sub> )		
	End Caps	0.018	Iron (Fe)	15.93	
	Resistive Element	0.0427	Nickel (Ni)	37.79	
			Chromium (Cr)		
			Silicon (Si)		
	Protective Layer	0.01	Bisphenol A Type Liquid Epoxy Resin	8.85	25068-38-6
			Bisphenol A		80-05-7
			Phenolic Resin		9003-35-4
			Amine Hardener		
			Titania		13463-67-7
			Co, Al, Cr Compound Oxide		
			Solvent Naphtha		647492-94-5
TOTAL:	0.11300				