

RoHS
Ready 



Passive Components

Introduction

Tyco Electronics is one of the major business units of Tyco International Ltd. (NYSE:TYC, LSE:TYI, BSX:TYC). Headquartered in Harrisburg, Pennsylvania, USA, Tyco Electronics is the world's largest passive electronic components manufacturer, and a world leader in cutting-edge wireless technologies, fibre optic active components, and complete power systems. The company has facilities located in 51 countries serving customers in the aerospace, automotive, computer, communications, consumer electronics, industrial and power industries.

Tyco Electronics provides advanced technology products from over thirty well-known and respected product brands, including Agastat, Alcoswitch, AMP, AMP NETCONNECT, Buchanan, CII, CoEv, Critchley, Elcon, Elo Touch Systems, HTS, M/A-COM, Madison Cable, OEG, Potter & Brumfield, Raychem, Schrack, Simel and TDI Batteries.

Tyco Electronics' product portfolio now includes a comprehensive range of passive components, including surface mount and leaded resistors, trimmers, potentiometers, PTC and NTC surface mount thermistors, as well as a wide range of inductive products covering wirewound, metal film surface mount, ceramic and ferrite bead.

A range of SMD Capacitors, including Multi Layer Ceramic (MLCC), Tantalum and Aluminium Electrolytic completes the Passive Components product portfolio.

The Holsworthy range of precision resistors meets the requirement for economically priced components for both industrial and military applications. In SMD and leaded packages, with tolerances down to 0.05% and TCRs as low as 5ppm, the Holsworthy



range from Tyco Electronics delivers the "Complete Precision Portfolio".

For all trimming solutions, the Citec brand is the ideal design partner where your circuit requires sealed or unsealed trimmers from just 2mm square. Multiturns for precision trimming are available with 11 or 12 turn setability. Further, Citec offers a prestigious range of potentiometers, from single and multturn versions with cermet or carbon elements, through to switched options with shafts in either plastic or metal.

Sigma noise suppression and protection inductor chips from Tyco Electronics can help protect circuits in a variety of ways. The range offers solutions for high power, high speed, low frequency noise impedance as well as temperature responsive resistors

in PTC and NTC. Sigma also encompasses a wide range of wound, multilayered and printed inductors in addition to noise reduction bead inductors and through-hole RF chokes.

CGS high power and high voltage resistors are rated up to 100W with voltage proof to 50kV and are available in a wide variety of package styles. High power and pulse resistors in the CGS range are capable of dissipating up to 25,000 Watts for applications such as regenerative braking and power supplies.

The Neohm range of commodity resistors are available with SMD and Leaded devices. This wide range of products complements and supports the Passives range available from the Tyco Electronics portfolio.

Contents

Resistive Products	Page	Inductive Products (cont)	Page
Fixed - Surface Mount	3	Ferrite Beads	10
Fixed - Leaded	4-5	Power - Surface Mount - Unshielded	11
Trimmers - Surface Mount	6	Leaded - Unshielded	11
Trimmers - Leaded	7	Power - Surface Mount - Shielded	12
Potentiometers - Leaded	8	Capacitive Products	
Encoders - Leaded	9	Ceramic - Surface Mount	13
Thermistors and Varistors	9	Tantalum - Surface Mount	13
Inductive Products		Aluminium Electrolytic - Surface Mount	13
Moulded	10	Colour Codes and E-Series Grid	14
High Frequency	10	Associated Products	15

Resistive Products, Fixed - Surface Mount

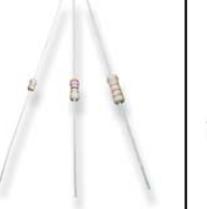
Product Type	Commodity CRG / 3520	High Ohmic RH73	Fusible FCR	Trimmable TCR	Commodity MCN
					
Features	0201 to 2512 Package Sizes 1R0 to 10M Value Range Tolerances down to 1% and 5% TCR ±200ppm/°C max. 500 Volt Maximum Overload	0402 to 2512 Package Sizes 10M to 100G Value Range Tolerances down to 2% TCR's down to 100ppm/°C Special Values Possible	0805 and 1206 Package Sizes 1R0 to 5IR Value Range 5% Tolerance 2.0W or 2.5W Fusing Power 30 Seconds Fusing Time	0805 and 2512 Package Sizes 1R0 to 10M Value Range Trimming Ratios up to 3 Times TCR's down to 100ppm/°C Up to 1W Dissipation	2, 4, or 8 x 0603 Resistors 10R to 1M Value Range ±1%, ±2% ±5% Tolerances TCR ±200ppm/°C max. Concave or Convex Terminals

Product Type	Ultra Precision RN73	Precision CPF	Precision Thick Film CPG	Precision MRS	Precision SU
					
Features	0402 to 1210 Package Sizes 5R0 to 1M Value Range 0.01% Tolerance TCR 10ppm/°C max. 0805-E96 Values in Distribution	0402 to 1206 Package Sizes 5R1 to 1M Value Range Tolerances down to 0.1% TCR's down to 25ppm/°C E24 and E96 Value Grid	0603 to 1206 Package Sizes 10R to 4M7 Value Range Tolerances down to 0.5% TCR's down to 50ppm/°C E24 and E96 Value Grid	4 x 0603 Resistors 10R to 330K Value Range Tolerances down to 0.1% TCR's down to 25ppm/°C 1206 Real Estate	0.125W to 0.50W 1R0 - 2M0 Value Range Tolerances down to 0.005% TCR's down to 10ppm/°C Available in E192 Value grid

Product Type	Low Ohmic RL73	Low Ohmic TL / HL	Low Ohmic SL	Power Wirewound SP	Power SM
					
Features	0402 to 2512 Package Sizes Values down to R10 Tolerances down to 1% TCR 100ppm/°C or 200ppm/°C 2512 E12 Grid in Distribution	0.25W to 2.0W Dissipation R001 to 1R0 Value Range 1% Tolerance Down to TCR +50ppm/°C Non Inductive Foil Element	0.5W & 3.0W Dissipation R01 to R011 Value Range 1% - 5% Tolerance Down to 4.7nH Inductance 4 Package Sizes	0.75W to 3.5W @ 25°C Dissipation R06 to 45K Value Range Tolerances down to 0.1% TCR's down to 20ppm/°C Suited to Pulse Applications	1W to 5W Dissipation R10 to 2M Value Range 1% or 5% Tolerances 200ppm/°C Wire / 100ppm/°C Film True Pick and Place Body Style

Resistive Products, Fixed - Leaded

Product Type	Metal Film Precision H4P / H4 / H8	Metal Film Semi Precision R	Standard Metal Film LR	Precision Wirewound UPW
				
Features	0.25W to 1.0W Dissipation 1R0 to 10M Value Range Tolerances down to 0.05% TCR's down to 5ppm/°C Released to BS/CECC	0.25W Dissipation 4R02 to 1M Value Range 0.1% to 1% Tolerance TCR's down to 15ppm/°C E96 Value Grid	0.25W to 0.75W Dissipation R10 to 10M Value Range 1%, 2% or 5% Tolerance TCR's down to 10ppm/°C Taped Ammo Pack to IEC286-1	0.15W to 0.5W Dissipation R10 to 2M Value Range Tolerances down to 0.005% TCR's down to 1ppm/°C Low Inductance

Product Type	Carbon Film CFR	Metal Oxide RSS / ROX	Fusible FRN / SQF / FKN	Metal Glaze RGP	High Voltage Thick Film HH / HJ
					
Features	0.25W to 2.0W Dissipation 1R0 to 10M Value Range 2% or 5% Tolerance Small Body Sizes Available Taped Ammo Pack to IEC286-1	0.5W to 7.0W Dissipation 1R0 to 200K Value Range ±5% Tolerance Axial Leaded Ammo Packed or Reeled	1W to 10W Dissipation R10 to 150R Value Range Axial or Radial Leaded 5% Tolerance TCR 300ppm/°C max.	0.25W to 4.0W Dissipation 1M to 10G Value Range 5% or 10% Tolerance ±0.005%/V Voltage Coefficient TCR 350ppm/°C max.	0.5W to 6.0W Dissipation 100K to 50G Value Range Tolerances down to 0.5% TCR's down to 25ppm/°C Axial Leaded

Product Type	High Voltage Thick Film HB	High Voltage Thick Film HVR	High Power Thick Film BDS	High Power Thick Film MPC	Thin Film Power MPR
					
Features	Dissipation up to 2W @ 70°C 1K to 1G Value Range Tolerance down to 1% Up to 15kV Voltage Rating Axial / Radial Options	Up to 100 W Dissipation (in oil) 2K to 1G Value Range Tolerances down to 1% Up to 50kV Voltage Rating Various Mounting Styles	100W to 600W Dissipation R20 to 1M Value Range 5% or 10% Tolerance TCR 150ppm/°C max. Customised as Required	3W to 10W Dissipation 1R0 to 200K Value Range 1% or 5% Tolerance TCR ±100ppm/°C max. Radial Leads	20W Dissipation (Heatsink) R22 to 51K Value Range TO220 Package 1% (E24), 5% (E12) Tolerances TCR down to ±50ppm/°C

Resistive Products, Fixed - Leaded

Product Type	Power Wirewound SBC / SBCHE	Power Wirewound SQP / SQM / SQZ	Power Wirewound C3A / C7 / C10 / C14	Power Wirewound ER	Power Wirewound ES
					
Features	3W to 40W Dissipation R10 to 22K Value Range 10% or 5% Tolerance Radial and Axial Styles 2000V Dielectric Strength	2W to 25W Dissipation R10 to 150K Value Range 5% Tolerance Radial and Axial Styles Wire or Power Oxide	3W to 14W Dissipation R10 to 100K Value Range 10%, 5% or 2% Tolerance Axial Leaded 3W and 7W Ammo Packed	3W to 14W Dissipation R10 to 100K Value Range Tolerances down to 0.5% Axial and Radial Types Custom Designs as Required	0.5W to 10W Dissipation R10 to 3K3 Value Range 5% Tolerance Super Small Size available Taped and Ammo Packed

Product Type	Power Wirewound HS / THS	Power Wirewound FC	Power Wirewound ME	Power Wirewound TG	Power Wirewound TT / TK
					
Features	5W to 300W Dissipation R01 to 82K Value Range Tolerances down to 0.25% High Voltage Versions Low Inductance Styles	2W to 8W Dissipation R20 to 22K Value Range 5% or 10% Tolerance Radial Leads Two Height Profiles	Up to 500W Dissipation R02 to 22K Value Range 5% or 10% Tolerance Fixed or Adjustable Range of Terminal Style	Up to 293W Dissipation R24 to 100K Value Range 5% or 10% Tolerance Glass Bond Coated 6000J Pulse Energy	10W to 1000W Dissipation R20 to 70K Value Range 5% or 10% Tolerance Fixed or Adjustable Range of Mounting Styles

Product Type	Foil Low Ohmic SBL	Wire Shunt OS / OP	Zerohm Link ZR	Carbon Moulded CBT	Ceramic Composition CCR
					
Features	4W and 5W Dissipation R005 to R051 Value Range 1% or 5% Tolerance 2KV Dielectric Strength Essentially Non Inductive	Values from R003 to R150 2 Different Styles Current Rating to 21A 5% Tolerance as Standard Custom Designs Available	Two Case Sizes < 2 milliohm Resistance Dielectric Strength - 500V > 10G Insulation Resistance Taped Ammo Pack to IEC286-1	0.25W, 0.5W Dissipation 2R2 to 22M Value range E24 - 5% E12 - 10% Tolerance Up to 750V Overload Low Inductance	0.5, 1.0, 2.0W Power Dissipation Up to 20kV Impulse Withstand Tolerance 10% Up to 400V Working Voltage 3R3 to 390K Value Range

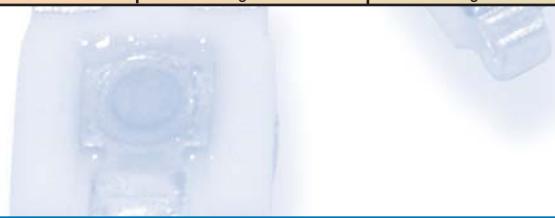
Resistive Products, Trimmers - Surface Mount

Product Type	Open Frame 3121	Open Frame 3130	Open Frame 3135	Open Frame 3142	Open Frame 3150 / 3165
					
Features	Board Area - 2.2mm x 2.75mm Height 1.8mm 200R to 1M Value Range 25% Tolerance 50V DC Operating Voltage	Board Area - 3.75mm x 3mm Height 1.85mm Max. 100R to 1M Value Range Auto Adjust Version 50V DC Operating Voltage	3mm Square Nominal Height 1.2mm Max. 100R to 1M Value Range Delta Terminals Integrated End Stop	4mm Square Nominal Height 2.4mm 100R to 1M Value Range Delta Terminals 50V DC Operating Voltage	4mm Square Nominal Lightweight - 0.2 Grams 100R to 1M Value Range In-line or Delta Terminals Underside Adjust Version

Product Type	Semi Sealed 3103	Semi Sealed 3203	Semi Sealed 3204	
				
Features	Board Area - 3.6mm x 3.1mm Height < 1.8mm 500R to 1M Value Range 0.05W Dissipation @ 50°C Sealed for Processing	Board Area - 3.4mm x 3.4mm Height < 2.1mm 100R to 1M Value Range 0.05W Dissipation Sealed for Processing	Board Area - 4mm x 4.5mm Height 2.4mm 100R to 1M Value Range 0.1W Dissipation Sealed for Processing	

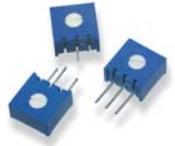


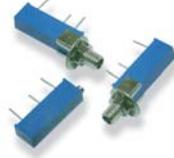
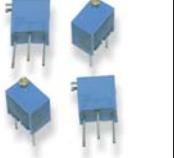
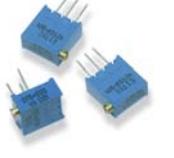
Product Type	Sealed 3212	Sealed 3213	Sealed 3315	Multiturn 3240	Multiturn 3270
					
Features	Board Area - 2.4mm x 2.8mm Height 1.7mm 100R to 1M Value Range 20% Tolerance O-ring Sealed	Board Area - 3.4mm x 3.4mm Height 2.0mm 10R to 1M Value Range 20% Tolerance O-ring Sealed	Board Area - 5mm x 5mm Height 2.5mm 10R to 2M Value Range 20% Tolerance O-ring Sealed	4mm Square Nominal Top and Side Adjust Styles 10R to 2M Value Range 10% Tolerance 11 Turns	6mm Square Nominal Top and Side Adjust Styles 10R to 1M Value Range 10% Tolerance 12 Turns



Resistive Products, Trimmers - Leaded

Product Type	Economy CT6	Economy 416	Economy 409	Economy CB10	Economy CB15 / CT15
					
Features	6mm Single Turn 200R to 1M Value Range 0.1W Dissipation Top and Side Adjust Versions Resin Moulded Technology	6mm Single Turn 100R to 1M Value Range 0.2W Dissipation Top and Side Adjust Versions Dust and Splash Proof	10mm Single Turn 100R to 10M Value Range 0.5W Dissipation 100 Cycles Maximum Dust and Splash Proof	Carbon Element 100R to 4M7 Value Range 0.15W Log / 0.25W Lin Dissipation Long Life Version (>10,000 cycles) Enclosed Package	Carbon Element 100R to 4M7 Value Range 0.15W Log / 0.25W Lin Dissipation Long Life (>10,000 cycles) Plug in Shaft Available

Product Type	Professional 470	Professional 4265	Professional 4275	Professional 4295
				
Features	6mm Single Turn 10R to 1M Value Range 10% Tolerance 0.5W Dissipation Fully Sealed	6mm Single Turn Sealed 10R to 2M Value Range 0.5W Dissipation 20% Tolerance Standard Three Pin Layouts/Taped Versions	6mm Single Turn Sealed 10R to 2M Value Range 0.5W Dissipation 10% Tolerance Standard Three Pin Layouts/Taped Versions	10mm Single Turn Sealed 10R to 2M Value Range 0.5W Dissipation TCR ±100ppm/°C Five Pin Layouts

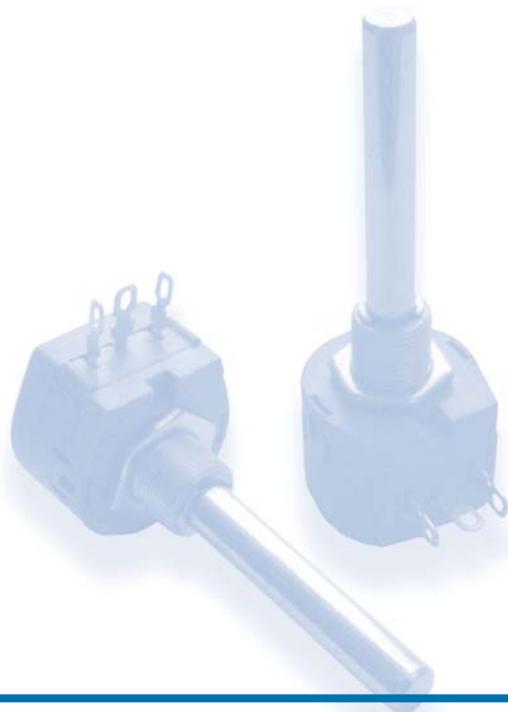
Product Type	Multiturn 433	Multiturn 4270	Multiturn 4290
			
Features	19mm Multiturn Sealed 10R to 2M Value Range 0.75W Dissipation 15 Electrical Turns Panel Mount Available	6mm Multiturn Sealed 50R to 2M Value Range 0.25W Dissipation 12 Electrical Turns Wide Variety of Styles	10mm Multiturn Sealed 50R to 2M Value Range 0.5W Dissipation 25 Electrical Turns Wide Variety of Styles

Resistive Products, Potentiometers - Leaded

Product Type	Economy PC610	Economy 31 / 23	Economy 51 / 54 / 56	Economy 17P	Economy CP16
					
Features	9mm Square Pluggable Polymer Element 500R to 500K Value Range 0.05W Dissipation Non Linear Laws Available 10,000 Operations minimum	20mm/16mm Round Body Printed Carbon Element 1K to 1M Value Range (Linear) 0.25W Log/0.4W Lin Dissipation Non Linear Laws Available Dual Gang & Switched Styles	16mm Package Polymer Element 470R to 2M2 Value Range 0.25W Dissipation Non Linear Laws Available Switched Version	16mm Square all Plastic Body Polymer Thick Film Element 1K to 1M Value Range (Lin) 0.25W Dissipation Non Linear Laws Available Multigangs, Switches Available	16mm Square Package Polymer Thick Film Element 100R to 4M7 Value Range 0.1W Log/0.2W Lin Dissipation Non Linear Laws Available Switches Available

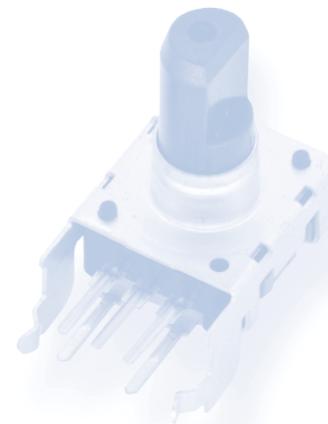
Product Type	Professional CS9	Professional TW	Professional 5930 / 5940	Professional LC	Professional MC
					
Features	9mm Square Body Polymer Element 5K to 250K Value Range 0.05W Dissipation Linear or Logarithmic Laws Multigangs, Switches Available	265° Travel Wirewound Element 5R to 22K Value Range 1 Watt @ 40°C TCR - 100 ppm 5000 Operations	10 Turn Multiturn Wirewound Element 200R to 100K Value Range 2W Dissipation <0.25% Linearity Range of Dials Available	13mm Round Body Cermet Element 100R to 2M2 Value Range 1W Dissipation O-ring Spindle Sealed 25,000 Operations minimum	19mm Round Body Cermet Element 100R to 2M2 Value Range 2W Dissipation O-ring Spindle Sealed 25,000 Operations minimum

Product Type	Economy RW	Rheostats BFA
		
Features	40mm Enclosed Body Wirewound Element 10R to 100K Value Range 1W (RW1), 3W (RW3) Dissipation Linear Laws Only Excellent Linearity	Wirewound Variable Load Up to 811W Dissipation Current up to 10 Amps 5 Case Sizes Operates up to 400°C Protective Case



Encoders - Leaded

Product Type	Contact Encoder DP(S) 9	Contact Encoder DP(S) 12	Contact Encoder DP(S) 15
			
Features	9mm Square Switch / Detent Options Vertical / Horizontal Mounting Various Shaft Configurations 12 / 24 Pulses	12mm Square Switch / Detent Options Vertical / Horizontal Mounting Various Shaft Configurations 12 / 24 Pulses	12mm Square Switch / Detent Options Vertical / Horizontal Mounting Various Shaft Configurations 12 / 24 Pulse

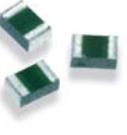


Encoders - Leaded, with Illuminated Shaft

Product Type	Contact Encoder with LED DPSL 12		
			
Features	Integrated Colour LED's (Yellow / Blue / Red / Orange / Green) Switch / Detent Options Vertical / Horizontal Mounting Various Shaft Configurations 12 / 24 Pulses - 5V 0.5mA Rating		



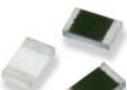
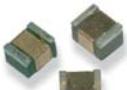
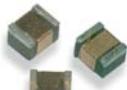
Resistive Products, Thermistors and Varistors

Product Type	Temperature Sense 8158	Temperature Sense NTC	Temperature Sense LT73	PTC Thermistor LT
				
Features	0402 to 1206 Package Sizes 40R to 500K Value Range Tolerances down to 5% β Values - 2800 to 4350 (NTC) β Value Tolerances down to 1%	0603 and 0805 Case Size 100R to 150K Value Range 5% or 10% Tolerance β Values -2700 to 4100 5% Tolerance on B Value	0805 and 1206 Package Styles 510R to 6K2 Value Range 5% Tolerance TCR 3900ppm/ $^{\circ}$ C max (PTC) Operating Temp. -40 $^{\circ}$ C to 150 $^{\circ}$ C	Axial Leaded 0.16W or 0.25W Wide Temperature Range Values from 10R to 10K Insulated Package Style

Inductive Products, Moulded

Product Type	Moulded 3610	Moulded 3611	Moulded 3612	Moulded 3613	Moulded 3615
					
Features	0805, 1008, 1210, 1812 Packages 10µH to 1mH Value Range Temp.Range -25°C to 100°C Moulded Package Dip and Wave Solderable	0805, 1008, 1210, 1812 Packages 10µH to 1mH Value Range Temp.Range -25°C to 100°C Moulded Package Dip and Wave Solderable	0805, 1008, 1210, 1812 Packages 10µH to 1mH Value Range Temp.Range -25°C to 100°C Moulded Package Dip and Wave Solderable	0805, 1008, 1210, 1812 Packages 10µH to 1mH Value Range Temp.Range -25°C to 100°C Moulded Package Dip and Wave Solderable	Board Area 13mm x 5mm 0.1µH to 1mH Value Range High Current (3.5A) Moulded Package Dip and Wave Solderable

Inductive Products, High Frequency

Product Type	High Frequency 3640	High Frequency 3650	High Frequency 3651 / 52 / 53	High Frequency 3670	High Frequency 3680
					
Features	0402 to 1206 Package Sizes 1µH to 100mH Value (E12 Grid) DC Current 1200mA Tolerances down to ±0.2µH High Self Resonant Frequency	0603 to 1008 Package Sizes 1.8nH to 4.7µH Value Range DC Current up to 1Amp Tolerances down to 2% -40°C to 125°C Temp. Range	0805 & 1008 Low Profile (3651) 0603 High Current (3652) 0805 & 1008 High Q (3653) Up to 2.4A IDC	0603 to 1206 Package Sizes Low DC Resistance Low Q Factor High Reliability Range of Tolerances	0402, 0603, 0805 Package Sizes 1nH to 470nH Value Range DC Current 0.3 Amps Tolerances down to ±0.3 nH E12 Value Grid

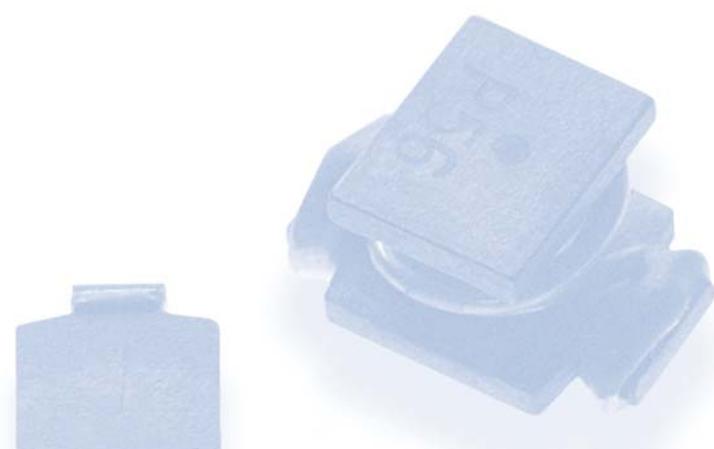
Inductive Products, Ferrite Beads

Product Type	BMB A & B Series	BMB R Series	BMB L Series	BMB P & S Series	BMB W Series
					
Features	0402 to 1812 Package Sizes 10R to 2K7 Impedance General Purpose Applications High Frequency Applications DC Current to 0.6A	0603 to 1206 Package Sizes 26R to 600R Impedance Low Frequency Applications Prevents Signal Ringing DC Current to 0.4A	0603 to 0805 Package Sizes 30R to 1K5 Impedance High Current Signal Line Applications DC Current to 1A	0603 to 1812 Package Sizes 10R to 600R Impedance High Current Noise Filtering Applications DC Current to 6A	0603 Size 120R to 1K0 Impedance Minimal Electromagnetic Interference Minimises Stray Capacitance DC Current to 0.2A

Inductive Products, Power, Surface Mount - Unshielded

Product Type	Power Chokes 3621	Power Chokes 3622	Power Chokes 3623	Power Chokes 3624	Power Chokes 3625
					
Features	Board Area from 3mm x 2.8mm Values 1µH to 15,000µH Current up to 9.5 Amps Only 1.5mm Height 12 Package Styles	Board Area from 6.6mm x 4.5mm Values 1µH to 10,000 µH Current up to 10 Amps Less than 3mm Height 4 Package Sizes	Board Area from 22mm x 15mm Values 0.8µH to 1,000µH Current up to 16 Amps Less than 7mm Height 2 Package Sizes	Board Area from 3.2mm x 1.6mm Values 0.12µH to 3,300µH Current up to 9 Amps Less than 2mm Height 8 Package Sizes	Board Area from 6mm x 6mm Values 1.5µH to 1,000µH Current up to 7.2 Amps Less than 3mm Height 3 Package Sizes

Product Type	Power Chokes 3626
	
Features	Board Area from 7.5mm x 7.5mm Values 10µH to 5,000µH Current up to 4 Amps Less than 4mm Height 2 Package Sizes


Inductive Products, Leaded - Unshielded

Product Type	Insulated SC 10 / 20 / 30	Leaded Axial SC	Leaded Radial SC	Moulded MSC
				
Features	0402 to 1812 and Arrays 5R to 2K ohms impedance DC Current up to 6 Amps HS Signal Line, Digital Sound, High Current, High Loss, etc	4 Package Sizes Suited to Power Circuits Wide Value Range E12 Series Values DC Current to 1.7A	4 Package Sizes Suited to Power Circuits Wide Value Range E12 Series Values DC Current to 5.6A	2 Case Sizes 0.1µH to 10mH Value (E12 Grid) DC Current up to 1.79 Amps 5% or 10% Tolerance Dielectric Strength up to 1KV

Inductive Products, Power, Surface Mount - Shielded

Product Type	Shielded Power Chokes 3630	Shielded Power Chokes 3631	Shielded Power Chokes 3632	Shielded Power Chokes 3633	Shielded Power Chokes 3634
					
Features	Board Area from 6.5mm x 4.4mm Values 1 μ H to 10,000 μ H Current up to 4.5 Amps Less than 3mm Height 6 Package Sizes	Board Area from 12.5mm x 12.5mm Values 1.1 μ H to 1,500 μ H Current up to 10.2 Amps From 4mm Height 6 Package Sizes	Board Area from 10.5mm x 9.5mm Values 1.5 μ H to 15,000 μ H Current up to 5.6 Amps From 6mm Height 2 Package Sizes	Board Area from 3.3mm x 3.5mm Values 1 μ H to 220 μ H Current up to 3.5 Amps From less than 1mm Height 7 Package Sizes	Board Area from 3.8mm x 3.8mm Values 0.9 μ H to 1,000 μ H Current up to 4.6 Amps From less than 1.2mm Height 9 Package Sizes

Product Type	Shielded Power Chokes 3635	Shielded Power Chokes 3636	Shielded Power Chokes 3637	Shielded Power Chokes 3638	Shielded Power Chokes 3639
					
Features	Board Area from 6.6mm x 6.6mm Values .054 μ H to 7.4 μ H Current up to 38 Amps From 4.5mm Height 2 Package Sizes	Board Area 7.8mm x 7.5mm Values 1.2 μ H to 5,600 μ H Current up to 2.6 Amps Less than 2.5mm Height 1 Package Size	Board Area from 7.5mm x 7.5mm Values 10 μ H to 1,500 μ H Current up to 4.6 Amps From 4mm Height 3 Package Sizes	Board Area from 6mm x 6mm Values 1 μ H to 1,000 μ H Current up to 3.8 Amps From less than 3mm Height 3 Package Sizes	Board Area from 8mm x 8mm Values 0.8 μ H to 330 μ H Current up to 7.8 Amps From less than 3mm Height 5 Package Sizes

Capacitive Products, Ceramic - Surface Mount

Product Type	NPO Dielectric TYC	X7R / X5R Dielectric TYC	Y5V Dielectric TYC
			
Features	Ultra Stable Low ESR No Ageing of Capacitance 0201 to 1206 Sizes Tolerances down to $\pm 1\%$	Semi Stable and High K High Volumetric Efficiency Extended Voltage Ratings 0402 to 1206 Sizes 5% Tolerance Available	General Purpose, High K High Volumetric Efficiency Non Polar Construction 0402 - 1206 Sizes 20% Tolerance Available

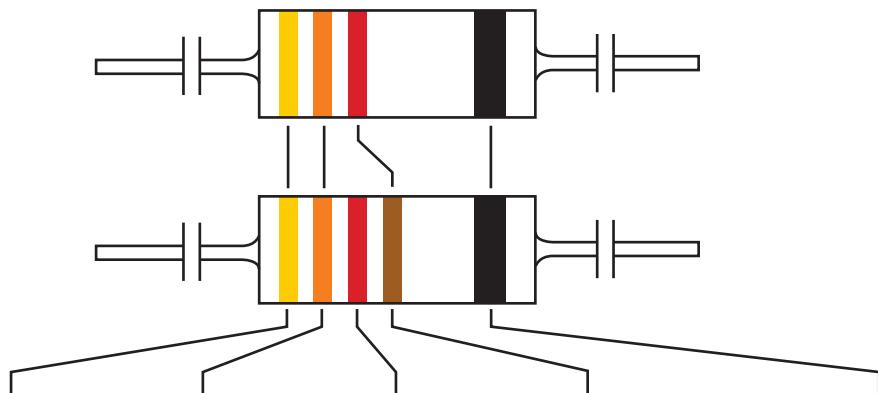

Capacitive Products, Tantalum - Surface Mount

Product Type	Standard TYTS	Extended Range TYTM	0805 Case Size TYTP	Low ESR TYTR
				
Features	Full Value Range A, B, C & D Case Sizes 4V to 50V Ratings 10% / 20% Tolerance RoHS Compliant	Super Compact Size A, B, C & D Case Sizes 2.5V to 50V Ratings 10% or 20% Tolerance RoHS Compliant	Super Compact Size Suited to High Density PCB's 2.5V to 25V Ratings 10% or 20% Tolerance RoHS Compliant	Suited to High Frequency B, C & D Case Sizes 6V to 35V Ratings 10% or 20% Tolerance RoHS Compliant

Capacitive Products, Aluminium Electrolytic - Surface Mount

Product Type	85°C TYEV	105°C TYEH	Long Life TYEL	Low Impedance TYEE	Organic Conductive Polymer TYOH
					
Features	-40°C to +85°C 4.0V to 100V DC 2000 Hours Load Life 0.1 to 6800µF Capacitance Range 7 Case Sizes	-40°C to +105°C 6.3V to 100V DC Up to 3000 Hours Load Life 0.1 to 6800µF Capacitance Range 7 Case Sizes	-40°C to +105°C 6.3V to 50V DC 3000 Hours Load Life 0.1 to 1000µF Capacitance Range 6 Case Sizes	-55°C to +105°C 6.3V to 50V DC 1000 Hours Load Life 1.0 to 220µF Capacitance Range 4 Case Sizes	-55°C to +105°C 2.5V to 25V DC 2000 Hours Load Life 22 to 2700µF Capacitance Range 7 Case Styles



Colour Code in Accordance with IEC 62


Colour	1st Figure	2nd Figure	3rd Figure	Multiplier	Tolerance	
					Letter	Percent
Black	0	0	0	1		
Brown	1	1	1	10	F	±1%
Red	2	2	2	100	G	±2%
Orange	3	3	3	1,000		
Yellow	4	4	4	10,000		
Green	5	5	5	100,000	D	±0.5%
Blue	6	6	6	1,000,000	C	±0.25%
Violet	7	7	7	10,000,000	B	±0.1%
Grey	8	8	8	100,000,000		
White	9	9	9	1,000,000,000		
Gold				0.1	J	±5%
Silver				0.01	K	±10%
None					M	±20%

E Series Value Grid

E Series in accordance with IEC 63																								
E6	E12	E24	E96	E6	E12	E24	E96	E6	E12	E24	E96	E6	E12	E24	E96	E6	E12	E24	E96	E6	E12	E24	E96	
100	100	100	100				147	220	220	220	215				316	470	470	470	464	680	680	680	681	
				102	150	150	150				221	330	330	330	324				475				698	
				105			154				226				332				487				715	
				107			160	158			232				340				499				732	
				110	110		162			240	237			348				510	511			750		
				113			165				243			360	357				523				768	
				115			169				249			365					536				787	
				120	120	118	174				255			374					549				806	
							121				261			390	383				560	560	562		825	
							124				267				392					576				845
							127				274				402					590				866
							130	130			280				412					604				887
							133				287				422					619				909
							137				294				432					634				931
							140				300	301			442					649				953
							143				309				453					665				976

Associated Products



Alcoswitch Switches



Schrack PCB Relays



Amp Connectors



Power Resistors



Microdot Connectors and Cables

Notes

Contacts

Austria - Vienna

Phone: +43-1-905-60-0
Fax: +43-1-905-60-1333
Product Information Center:
Phone: +43-1-905-60-1249
Fax: +43-1-905-60-1251

Belgium - Kessel-Lo

Phone: +32-16-352-300
Fax: +32-16-352-352

Bulgaria - Sofia

Phone: +359-2-971-2152
Fax: +359-2-971-2153

Czech Republic and Slovakia

Czech Republic - Kurim
Phone: +420-541-162-111
Fax: +420-541-162-223
Product Information Center:
Phone: +420-541-162-113
Fax: +420-541-162-132

Denmark - Glostrup

Phone: +45-43-48-04-00
Fax: +45-43-44-14-14

Egypt - Cairo

Phone: +202-419-2334
Fax: +202-417-7647

Estonia - Tartu

Phone: +372-5138-274
Fax: +372-7400-779

Finland - Helsinki

Phone: +358-95-12-34-20
Fax: +358-95-12-34-250

France - Cergy-Pontoise Cedex

Phone: +33-1-3420-8888
Fax: +33-1-3420-8600

Product Information Center:

Phone: +33-1-3420-8686
Fax: +33-1-3420-8623

France Export Divisions -

Cergy-Pontoise Cedex
Phone: +33-1-3420-8804
Fax: +33-1-3420-8699

Germany - Bensheim

Phone: +49-6251-133-0
Fax: +49-6251-133-1600
Product Information Center:
Phone: +49-6251-133-1999
Fax: +49-6251-133-1988

Greece - Athens

Phone: +30-210-9370-396/397
Fax: +30-210-9370-655

Hungary - Budapest

Phone: +36-1-289-1000
Fax: +36-1-289-1010
Product Information Center:
Phone: +36-1-289-1016
Fax: +36-1-289-1017

Ireland - Dublin

Phone: +353-1-866-5612
Fax: +353-1-866-5714

Israel - Petach-Tikva

Phone: +972-3-929-0999
Fax: +972-3-919-1088

Italy - Collegno (Torino)

Phone: +39-011-4012-111
Fax: +39-011-4031-116
Product Information Center:
Phone: +39-011-4012-428
Fax: +39-011-4028-7428

Lithuania and Latvia

Lithuania - Vilnius
Phone: +370-5-213-1402
Fax: +370-5-213-1403
Product Information Center:
Phone: +370-5-211-3016
Fax: +370-5-213-1403

Netherlands - 's-Hertogenbosch

Phone: +31-73-6246-246
Fax: +31-73-6212-365
Product Information Center:
Phone: +31-73-6246-999
Fax: +31-73-6246-998

Norway - Nesbru

Phone: +47-66-77-88-50
Fax: +47-66-77-88-55

Poland - Warsaw

Phone: +48-22-4576-700
Fax: +48-22-4576-720
Product Information Center:
Phone: +48-22-4576-704
Fax: +48-22-4576-720

Romania - Bucharest

Phone: +40-21-311-3479/3596
Fax: +40-21-312-0574

Russia - Moscow

Phone: +7-495-790-7902
Fax: +7-495-721-1893
Product Information Center:
Phone: +7-495-790-7902-404
Fax: +7-495-790-7902-401

Russia - St.Petersburg

Phone: +7-812-718-8192
Fax: +7-812-718-8193

Slovenia - Ljubljana

Phone: +386-1561-3270
Fax: +386-1561-3240

South Africa - Port Elizabeth

Phone: +27-41-503-4500
Fax: +27-41-581-0440

Spain - Barcelona

Phone: +34-93-291-0330
Fax: +34-93-201-7879

Sweden - Upplands Väsby

Phone: +46-8-50-72-50-00
Fax: +46-8-50-72-50-01

Switzerland - Steinach

Phone: +41-71-447-0447
Fax: +41-71-447-0444

Turkey - Istanbul

Phone: +90-212-281-8181/2/3
+90-212-282-5130/5430
Fax: +90-212-281-8184

Ukraine - Kiev

Phone: +380-44-206-2265
Fax: +380-44-206-2264
Product Information Center:
Phone: +380-44-206-2265
Fax: +380-44-206-2264

United Kingdom -

Stanmore, Middlesex
Phone: +44-8706-080208
Fax: +44-208-954-6234
Product Information Center:
Freephone (UK only):
0800-267-666
Phone: +44-8706-080208
Fax: +44-208-420-8095

tycoelectronics.com
passives.tycoelectronics.com

Catalogue No: 1309350. Revise August 2007

TE Logo and Tyco Electronics are trademarks

 **Tyco Electronics**
Our commitment. Your advantage.

Mouser Electronics

Authorized Distributor

Click to View Pricing, Inventory, Delivery & Lifecycle Information:

[TE Connectivity:](#)

[SIL10M472J](#)