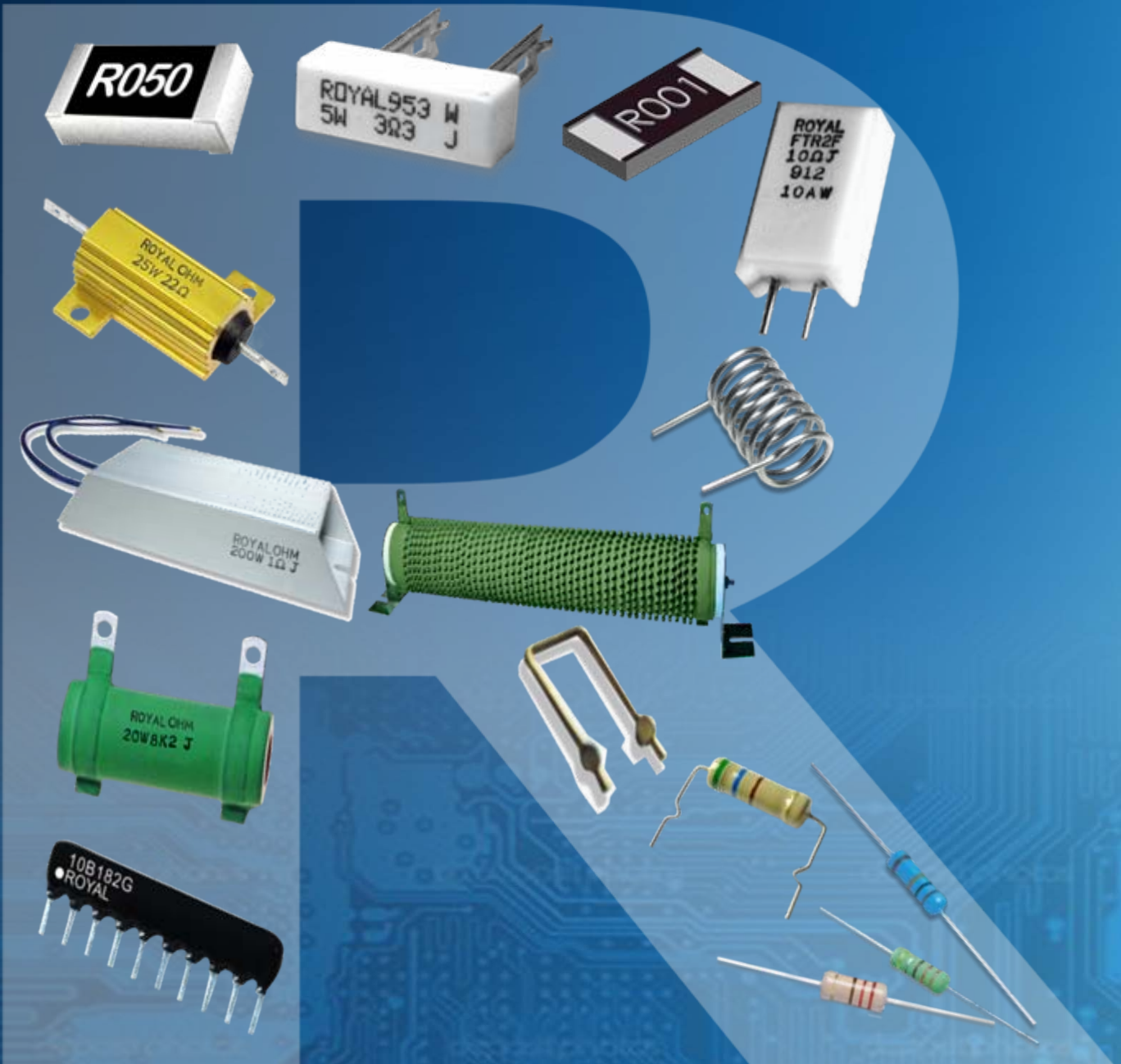










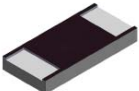










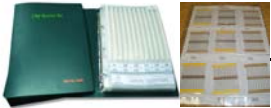
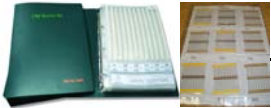






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40 yrs.
Resistor Specialist

Product List	Series	Power Rating	Value Range	Tol	T.C.R. ppm/°C
General Purpose 01005, 0201, 0402, 0603, 0805, 1206, 1210, 1812, 2010, 2512	 RMC	1/32W ~ 3W	0.1Ω ~ 10MΩ	±1% ±2% ±5%	0.01Ω~0.029Ω: ±1500PPM/°C 0.030Ω~0.99Ω: ±800PPM/°C 1Ω~10Ω: ±400PPM/°C 11Ω~100Ω: ±200PPM/°C >100Ω: ±100PPM/°C
Wide Terminal WR08, WR12, WR20, WR18, WR25					
Anti Surge AS03, AS05, AS06, AS07, AS10, AS12	 AS	1/5W ~ 2W	1Ω ~ 10MΩ	±5% ±10% ±20%	1Ω~10Ω: ±400PPM/°C 10.1Ω~10MΩ: ±100PPM/°C
High Precision Anti Surge PS03, PS05, PS06, PS07, PS10, PS12	 PS	1/4W ~ 2W	0.1Ω ~ 10MΩ	±1% ±5%	0.1Ω~10MΩ: ±200PPM/°C
Anti-Electrostatic Discharge ES01, ES02, ES03, ES05, ES06, ES07	 ES	1/20W ~ 1/2W	1Ω ~ 10MΩ	±1% ±5%	1Ω~10Ω: ±200PPM/°C 11Ω~10MΩ: ±100PPM/°C
High Power HP02, HP03, HP05, HP06, HP07, HP10, HP12	 HP	1/10W ~ 2W	0.01Ω ~ 10MΩ	±1% ±5%	0.01Ω~0.99Ω: ±800PPM/°C 0.1Ω~10Ω: ±200PPM/°C 11Ω~10MΩ: ±100PPM/°C
Extra High Power SP12 (Patent no.: I566261)	 SP	3W	1Ω ~ 10MΩ	±1% ±5%	1Ω~10Ω: ±200PPM/°C 10.1Ω~10MΩ: ±100PPM/°C
High Voltage HV03, HV05, HV06, HV07, HV10, HV12	 HV	1/16W ~ 1W	36kΩ ~ 10MΩ	±1% ±5%	±200PPM/°C
Trimmable TR03, TR05, TR06	 TR	1/10W ~ 1/4W	1Ω ~ 1MΩ	0~30% 0~20% 0~10% -30~0% -20~0% -10~0% ±5% ±10% ±20%	1Ω~10Ω: ±400PPM/°C 10.1Ω~1MΩ: ±200PPM/°C
Anti Sulfurized NS01, NS02, NS03, NS05, NS06, NS07, NS10, NS12	 NS	1/20W ~ 1W	1Ω ~ 10MΩ	±1% ±5%	1Ω~10Ω: ±400PPM/°C 11Ω~100Ω: ±200PPM/°C >100Ω: ±100PPM/°C
Automotive Grade SMD 0402, 0603, 0805 1206, 1210, 1812, 2010, 2512	 HQ CQ	1/16W ~ 1W	1Ω ~ 10MΩ	±1% ±5%	1Ω~10Ω: ±400PPM/°C 11Ω~100Ω: ±200PPM/°C >100Ω: ±100PPM/°C
Current Sense CS03, CS05, CS06, CS07, CS10, CS12	 CS	1/10W ~ 1W	10mΩ ~ 1Ω	±1% ±5%	Depends on size & value range
Metal Strip - Current Sensing MS05, MS06, MS07, MS10, MS11, MS12, MS17, MS20, MS27, MS28	 MS	1/2W ~ 5W	1mΩ ~ 250mΩ	±1% ±2% ±5%	Depend on size & value range
Metal Strip - Ultra Low LR12	 LR	1W ~ 3W	0.5mΩ ~ 10mΩ	±1% ±5%	±50PPM/°C ±75PPM/°C ±150PPM/°C ±400PPM/°C

Product List		Series	Power Rating	Value Range	Tol	T.C.R. ppm/°C
Chip Type Resistors						
Precision Thin Film TC01, TC02, TC03, TC05, TC06, TC07, TC10, TC12		TC	1/32W ~ 1W	1Ω ~ 3MΩ	±0.1% ±0.25% ±0.5% ±1%	±10PPM/°C ±15PPM/°C ±25PPM/°C ±50PPM/°C
Chip Array-Convex Terminal 2D02, 4D02, 4D03, 4DP3, 16P8		Array	1/16W ~ 1/10W	1Ω ~ 1MΩ	±1% ±5%	±200PPM/°C ±400PPM/°C
Chip Array-Concave Terminal 2C02, 4C02, 4C03, 2F01, 4F01		Array	1/20W ~ 1/16W	1Ω ~ 1MΩ	±1% ±5%	±200PPM/°C ±400PPM/°C
Chip/Leaded Resistors Kits						
Album Type Standard SMD High Power (HP Series)		Album	1/16W ~ 2W	E6 E12 E24	±1% ±2% ±5%	Depends on size /value range / type
Plastic Bag Type CFR , MFR, MOR		Plastic Bag	1/16W ~ 1W	E6 E12 E24	±1% ±2% ±5%	Depends on size /value range / type
Network Resistors						
SIL (Single In Line) 4-14 Pins		RNL	1/8W ~ 1/5W	10Ω ~ 1MΩ	±2%, ±5%	<50Ω: ±250PPM/°C 50Ω~1MΩ: ±200PPM/°C >1MΩ: ±250PPM/°C
MELF Resistors						
Carbon Film (Leadless) 0102, 0204, 0207, 0309		MCxx	1/8W ~ 2W	1Ω ~ 10MΩ	±2% ±5%	1Ω~100KΩ : ±350PPM/°C 101KΩ~500KΩ : ±700PPM/°C 501KΩ~1MΩ : ±1000PPM/°C 1MΩ~10MΩ : ±1500PPM/°C
Metal Film (Leadless) 0102, 0204, 0207, 0309		Mxx	1/8W ~ 2W	0.1Ω ~ 5.1MΩ	±0.1% ±0.25% ±0.5% ±1% ±2% ±5%	±15PPM/°C ±25PPM/°C ±50PPM/°C ±100PPM/°C
Metal Glaze Film (Leadless) 0207, 0309		MGxx	1/2W ~ 1W	100KΩ ~ 100MΩ	±1% ±5%	±200PPM/°C
Jumper Resistors						
Jumper Wire		ZW	φ0.45mm ~ φ1.00mm	0Ω	N/A	N/A
Zero Ohm		ZOC ZOT	1/8W ~ 1/4W	0Ω	N/A	ZOC (ceramic rod) ZOT (steel rod)

Product List		Series	Power Rating	Value Range	Tol	T.C.R. ppm/°C
Coated Type Resistors						
Carbon Film		CFR	1/8W ~ 3W	1Ω ~ 10MΩ	±2% ±5% ±10%	≤10Ω: ±350PPM/°C 11Ω~99KΩ: 0~-450PPM/°C 100KΩ~1MΩ: 0~-700PPM/°C 1.1MΩ~10MΩ: 0~-1500PPM/°C
Metal Film		MFR	1/8W ~ 3W	1Ω ~ 1MΩ	±0.1% ±0.25% ±0.5% ±1% ±2% ±5%	±15PPM/°C ±25PPM/°C ±50PPM/°C ±100PPM/°C ±200PPM/°C
Metal Oxide Film		MOR	1/4W ~ 9W	0.3Ω ~ 200kΩ	±2% ±5% ±10%	±350PPM/°C
Fusible Film (UL Approved)		FRN	1/4W ~ 3W	0.22Ω ~ 10kΩ	±2% ±5% ±10%	±350PPM/°C
Metal Glaze Film		MGR	1/4W ~ 3W	1kΩ ~ 100MΩ	±1% ±5%	±200PPM/°C
Power Metal		PMR	1W ~ 3W	0.56Ω ~ 1MΩ	±1% ±2% ±5%	±350PPM/°C ±400PPM/°C ±800PPM/°C
Wire-Wound (Standard)		KNP	1/2W ~ 10W	0.06Ω ~ 15kΩ	±1% ±2% ±5%	<20Ω: ±400PPM/°C ≥20Ω: ±300PPM/°C
Wire-Wound E306074 (UL Approved)		KNPU	1W ~ 7W	0.47Ω ~ 240Ω	±5%	<20Ω: ±400PPM/°C ≥20Ω: ±300PPM/°C
Wire-Wound (Anti-Surge)		KNPA	1/2W ~ 10W	10Ω ~ 15kΩ	±1% ±2% ±5%	<20Ω: ±400PPM/°C ≥20Ω: ±300PPM/°C
Fusible Wire-Wound E306074 (UL Approved)		FWR	1W ~ 3W	0.47Ω ~ 470Ω	±5%	<20Ω: ±400PPM/°C ≥20Ω: ±300PPM/°C
Fusible Wire-Wound E306074 (Anti-Surge & UL Approved)		FWRA	1W ~ 3W	0.47Ω ~ 470Ω	±5%	<20Ω: ±400PPM/°C ≥20Ω: ±300PPM/°C
Wire-Wound (Terminal Type)		KNH KNHA KNS	2W ~ 100W	0.1Ω ~ 50kΩ	±5% ±10%	<20Ω: ±400PPM/°C ≥20Ω: ±300PPM/°C
Thermal Fusing Wire-Wound		TFR	1W	2.2Ω ~ 4.7Ω	±5% ±10%	±400PPM/°C
Terminal Type Metal Oxide		TMOR TMOV	3W ~ 7W	10Ω ~ 43kΩ	±5%	<20Ω: ±400PPM/°C ≥20Ω: ±350PPM/°C

Product List		Series	Power Rating	Value Range	Tol	T.C.R. ppm/°C
Cement Type Resistors						
Axial Type		PRW PRWA PRWC PRWC-1	1W ~ 25W	0.1Ω ~ 200kΩ	±5% ~ ±10%	<20Ω: ±400PPM/°C ≥20Ω: ±300PPM/°C
Radial Type		PRM PRMA PRMB PRS	2W ~ 25W	0.1Ω ~ 200kΩ	±5% ~ ±10%	<20Ω: ±400PPM/°C ≥20Ω: ±300PPM/°C
Radial Terminal		PRZ PRV PRT PRU	5W ~ 40W	0.1Ω ~ 100kΩ	±5% ~ ±10%	<20Ω: ±400PPM/°C ≥20Ω: ±300PPM/°C
Cement (Vertical/Axial)		PRWI	4W ~ 17W	0.1Ω ~ 39kΩ	±5% ~ ±10%	<20Ω: ±400PPM/°C ≥20Ω: ±350PPM/°C
Cement Thermal Fusible		FTR	1.4W ~ 5.2W	0.22Ω ~ 1.8kΩ	±5% ~ ±10%	<20Ω: ±400PPM/°C ≥20Ω: ±350PPM/°C
Power Flat Alloy		PFA	2W ~ 10W	0.1Ω ~ 3.3Ω	±5% ~ ±10%	±350PPM/°C
Shunt and Coil Resistors						
Shunt		CSR	4.5A ~ 50A	3mΩ ~ 50mΩ	±2% ~ ±10%	±400PPM/°C
Coil		CSC	4A ~ 12A	3mΩ ~ 50mΩ	±5% ~ ±10%	±200PPM/°C
Industrial Power Resistors						
Aluminum Power Dissipation		PDM	5W ~ 100W	0.01Ω ~ 35kΩ	±5% ~ ±10%	<20Ω: ±400PPM/°C ≥20Ω: ±350PPM/°C
Flat / Ribbon Wire-Wound		QH QL QR QRZG	20W ~ 1000W	0.2Ω ~ 200kΩ	±5% ~ ±10%	<20Ω: ±400PPM/°C ≥20Ω: ±350PPM/°C
Aluminum Case Wire-Wound		HEWR HBWR	60W ~ 1000W	0.5Ω ~ 15kΩ	±5% ~ ±10%	±350PPM/°C
Thermal Fuse Wire-Wound (Blower Fan Resistor)		ASSY	12V	0.1Ω ~ 10Ω	±10%	±350PPM/°C



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