



The DNA of tech.®

LEADED RESISTORS

Vishay Draloric / Beyschlag

Vishay Draloric / Beyschlag Leaded Resistor Solutions for All Types of Applications



KEY BENEFITS

- Broad portfolio
- High performance products
- Application-specific product range

FEATURES

- Resistor solutions for application-specific requirements, such as:
 - High pulse load
 - High voltage
 - High power
 - High reliability
 - High frequency
 - Fusible

RESOURCES

- For technical questions contact: filmresistorsleaded@vishay.com, ww1resistors@vishay.com
- Sales contacts: www.vishay.com/doc?99914



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Accuracy Classification

General	Standard (e.g. TCR 100 / 5 %)	Professional (e.g. TCR 50 / 1 %)	Precision (e.g. TCR 15 / 0.1 %)	Ultra Precision (e.g. TCR 5 / 0.01 %)	Jumper
Metal Film (pp. 3 to 7)	SFR16 SFR25 SFR25H CCF07 CCF55	MBA/SMA 0204 MBB/SMA 0207 MBE/SMA 0414 MRS16 MRS25	MBA/SMA 0204 MBB/SMA 0207 MBE/SMA 0414	UXA UXB UXE MPR24	MBA/SMA 0204 MBB/SMA 0207
Carbon Film (p. 8)	LCA				
Wirewound (pp. 10 to 12)	Z300-C00	AC	PAC Z300-C00		DB..U

Resistor Solutions for Specific Application Requirements

Application-Specific	High Pulse Load	High Power / High Temperature	High Voltage	High Reliability	Fusible
Metal Film (pp. 3 to 7)	PR02-FS	PR01 PR02 PR03	HVR25 HVR37	MBA/SMA 0204 VG06 MBB/SMA 0207 VG06 MBE/SMA 0414 VG06	NFR25 NFR25H PR02-FS
Carbon Film (p. 8)	CBB 0207				
Metal Glaze (p. 8)			VR25 VR37 VR68		
Metal Oxide (p. 9)		WK2 WR4 WR5 WK8			
Wirewound (pp. 10 to 12)	Z300-Cxx	G200			AC01-CS AC03-CS AC05-CS



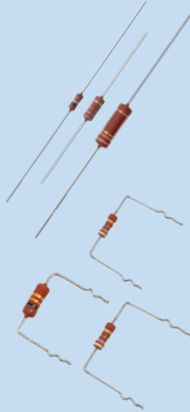
Application-Specific	Non-Inductive	AEC-Q200 Qualified	High Frequency
Metal Film (pp. 3 to 7)	PR02-FS	MBA/SMA 0204 MBB/SMA 0207 MBE/SMA 0414 PR01 PR02 PR03	MBA/SMA 0204 HF
Metal Glaze (p. 8)		VR25 VR37	
Wirewound (pp. 10 to 12)	AC-NI	AC-AT, AC-NI	



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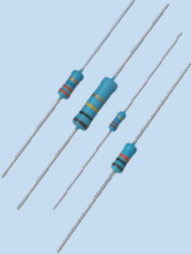
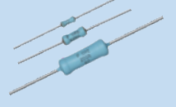


Metal Film Resistors						
Product	Model	Power (W)	Resistance Range	TCR ppm/°C	Tolerance (%)	Features
<div><div>SFR Standard</div></div>	SFR16S	0.5	10.0 Ω to 3 MΩ 100.0 Ω to 976 kΩ	± 100 ± 250	± 5	<ul style="list-style-type: none">• Good long term stability due to metal film technology• High power rating: 0.5 W in 0204 (SFR16S) and 0207 (SFR25H) sizes• High power rating: 0.5 W in 0207 (CCF07, CCF55) size• High operating voltage: 350 V (SFR25H)• Flame-retardant epoxy conformal coating
	SFR25	0.4	1.0 Ω to 10 MΩ 10.0 Ω to 1.0 MΩ		± 1	
					± 5	
	SFR25H	0.5	1.0 Ω to 10 MΩ 10.0 Ω to 1.0 MΩ		± 1	
					± 5	
					± 1	
<div><div>CCF Standard</div></div>	CCF07	0.25 / 0.50	10 Ω to 1 MΩ 1.1 MΩ to 2 MΩ	± 100 ± 250	± 2 / ± 5 ± 5	<ul style="list-style-type: none">• Good long term stability due to metal film technology• High power rating: 0.5 W in 0204 (SFR16S) and 0207 (SFR25H) size• High power rating: 0.5 W in 0207 (CCF07, CCF55) size• High operating voltage: 350 V (SFR25H)• Wide resistance range from 0.22 Ω to 10 MΩ• Flame-retardant epoxy conformal coating
	CCF55	0.25 / 0.50	10 Ω to 3.01 MΩ	± 100	± 1	
<div><div>PR01 / 02 / 03 High Power / High Temperature</div></div>	PR01 AEC-Q200	0.6 1	0.22 Ω to 1 Ω 1 Ω to 1 MΩ	± 250 ± 250	± 5 ± 1 / ± 5	<ul style="list-style-type: none">• High power rating: 1 W in 0207 (PR01) size, 3 W for PR03• High maximum operating temperature: +200 °C• AEC-Q200 qualified (PR01, PR02, PR03)• Non-flammable lacquer, meets UL 94V0 requirements• FeCu lead wire version available for lower solder spot temperature• Kinked and radial versions available
	PR02 AEC-Q200	1.2 2	0.33 Ω to 1 Ω 1 Ω to 1 MΩ	± 250 ± 250	± 5 ± 1 / ± 5	
	PR03 AEC-Q200	1.6 3	0.68 Ω to 1 Ω 1 Ω to 1 MΩ	± 250 ± 250	± 5 ± 1 / ± 5	
	PR01 double kink	0.6 1	0.22 Ω to 1 Ω 1 Ω to 1 MΩ	± 250 ± 250	± 5 ± 5	
	PR02 double kink	1.2 2	0.33 Ω to 1 Ω 1 Ω to 1 MΩ	± 250 ± 250	± 5 ± 5	
	PR03 double kink	1.6 3	0.68 Ω to 1 Ω 1 Ω to 1 MΩ	± 250 ± 250	± 5 ± 5	



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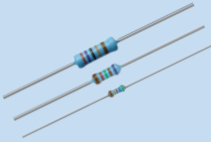

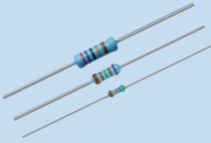

Metal Film Resistors						
Product	Model	Power (W)	Resistance Range	TCR ppm/°C	Tolerance (%)	Features
PR02-FS High Pulse, Fusible, Non-Inductive, Flameproof  cN ^{US} UL file number: E362452	PR02-FS	2 W	1 Ω to 100 Ω	± 250	± 10 ± 20	<ul style="list-style-type: none">Defined fusing behaviorInherent non-inductive designHigh power rating: 2 W in 0411 sizeHigh maximum operating temperature: +200 °CMeets UL1412 safety requirementsNon-flammable lacquer, meets UL 94V0 requirementsSuperior surge handling capability > 600 V (1.2 / 50 μs pulse)Radial version is available
HVR25 / HVR37 High Voltage 	HVR25	0.25	100 kΩ to 10 MΩ 100 kΩ to 10 MΩ	± 200	± 5 ± 1	<ul style="list-style-type: none">Special resistive metal film for high voltage handlingHigh pulse load capability (up to 10 kV)Meets pulse handling and safety requirements under Clause 14.1.a: IEC 60065, EN 60065 (no formal safety approval certificate)Lower cost alternative to VR25, VR37
	HVR37	0.5	100 kΩ to 10 MΩ 100 kΩ to 10 MΩ	± 200	± 5 ± 1	
UXx Ultra Precision 	UXA 0204	0.1	22 Ω to 221 kΩ	± 10, ± 5 ± 2	± 0.25 / ± 0.1	<ul style="list-style-type: none">TCR down to 2 ppm/K – tolerance down to 0.01 %Excellent long term stability due to advanced metal film technology: < 0.02 % (1000 h)Wide resistance range from 10 Ω to 1 MΩ (UXB 0207)
	UXB 0207	0.25	10 Ω to 1 MΩ	± 10, ± 5 ± 2	± 0.05 / ± 0.01	
	UXE 0414	0.5	22 Ω to 511 kΩ	± 10, ± 5	± 0.1 / ± 0.05	
MPR24 Ultra Precision 	MPR24	0.125	10 Ω to 1 MΩ	± 25, ± 15 ± 10, ± 5	± 0.05 / ± 0.02 / ± 0.01	
		0.25			± 0.5 / ± 0.25 / ± 0.1	
MBA/SMA HF High Frequency 	MBA/SMA 0204 HF	0.25 / 0.4	1.5 Ω to 470 Ω	± 50	± 2 / ± 1	<ul style="list-style-type: none">Specialty product for RF applicationsLow inductance, non-helical trimmed productSuitable for more than 3 GHz



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Metal Film Resistors						
Product	Model	Power (W)	Resistance Range	TCR ppm/°C	Tolerance (%)	Features
MBx/SMA Professional   AEC-Q200	MBA/SMA 0204	0.25 / 0.4	0.22 Ω to 10 M Ω	$\pm 50, \pm 25$	$\pm 5 / \pm 1 / \pm 0.5$	<ul style="list-style-type: none"> • Very good long term stability due to advanced metal film technology: < 0.25 % (1000 h) • High power rating: 0.6 W in 0207 (MBB/SMA 0207) size • High operating voltage: 350 V (MBB/SMA 0207) • Wide resistance range from 0.22 Ω to 22 MΩ, 0 Ω • AEC-Q200 qualified • Available as IECQ-CECC version, approved acc. to EN140101-806 • Lead wire bending options available • Lead wire material options available for MBA/SMA 0204 (Ni, NiSn, Fe, CuAg)
	MBB/SMA 0207	0.4 / 0.6	0.22 Ω to 22 M Ω	$\pm 50, \pm 25$		
	MBE/SMA 0414	0.65 / 1.0	0.22 Ω to 22 M Ω	$\pm 50, \pm 25$		
MBx/SMA Precision  	MBA/SMA 0204	0.07 / 0.25	0.22 Ω to 332 k Ω	$\pm 25, \pm 15$	$\pm 0.25, \pm 0.1$	<ul style="list-style-type: none"> • TCR down to 15 ppm/K – tolerance down to 0.1 % • Excellent long term stability due to advanced metal film technology: < 0.03 % (1000 h) • High power rating: 0.6 W in 0207 (MBB/SMA 0207) size • High operating voltage: 350 V (MBB/SMA 0207) • Wide resistance range from 10 Ω to 1 MΩ (MBB/SMA 0207) • AEC-Q200 qualified • Available as IECQ-CECC version, approved acc. to EN140101-806 • Lead wire bending options available
	MBB/SMA 0207	0.11 / 0.4	10 Ω to 1 M Ω	$\pm 25, \pm 15$		
	MBE/SMA 0414	0.17 / 0.65	22 Ω to 1.5 M Ω	$\pm 25, \pm 15$		

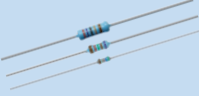

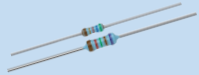



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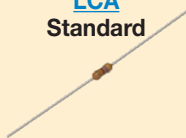
Product	Model	Power (W)	Resistance Range	TCR ppm/°C	Tolerance (%)	Features
MBx/SMA VG06 High Reliability  	MBA/SMA 0204 VG06	0.4	1 Ω to 5.11 M Ω	± 50 , ± 15	$\pm 1 / \pm 0.1$	<ul style="list-style-type: none"> IECQ-CECC approved to EN 140101-806, version E Established reliability, failure rate level E7
	MBB/SMA 0207 VG06	0.6	1 Ω to 10 M Ω	± 50 , ± 15	$\pm 1 / \pm 0.1$	
	MBE/SMA 0414 VG06	1	1 Ω to 21.5 M Ω	± 50 , ± 15	$\pm 1 / \pm 0.1$	
MRS Professional 	MRS16	0.4	4.99 Ω to 1 M Ω	± 50	± 1	<ul style="list-style-type: none"> Very good long term stability due to advanced metal film technology: < 0.25 % (1000 h) High power rating: 0.6 W in 0207 size High operating voltage: 350 V (MBB/SMA 0207) Wide resistance range from 0.22 Ω to 22 MΩ, 0 Ω Lead wire bending options available
	MRS25	0.6	1 Ω to 1 M Ω			
NFR25 / NFR25H Fusible 	NFR25	0.33	0.22 Ω to 15 k Ω	Refer to datasheet	± 5	<ul style="list-style-type: none"> Performs dual functions: current limiting resistor under normal conditions, fuse under overload conditions Overload protection without risk of fire due to non-flammable coating Cost effective compared to combination of resistor + glass fuse
	NFR25H	0.5				



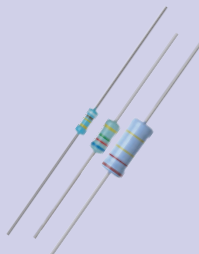


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Carbon Film Resistors						
Product	Model	Power (W)	Resistance Range	TCR ppm/°C	Tolerance (%)	Features
CBB High Pulse Load 	CBB 0207	0.6	10 Ω to 1.5 M Ω	-250*	± 2	<ul style="list-style-type: none">• Excellent pulse load capability due to carbon film: up to 6 kV or 140 W• Small 0207 size• High power rating: 0.6 W• High operating voltage: 350 V
LCA Standard 	LCA0207	0.35	0.22 Ω to 5.1 M Ω	-200*	$\pm 2 / \pm 5$	<ul style="list-style-type: none">• Better pulse load stability due to carbon film technology• Wide resistance range from 0.22 Ω to 10 MΩ
	LCA0414	0.6	0.22 Ω to 10 M Ω			

*Note: The TCR mentioned is applicable for most of the ohmic range. For specific details and TCR, refer to product datasheet.

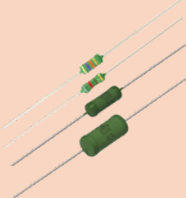
Metal Glaze Resistors						
Product	Model	Power (W)	Resistance Range	TCR ppm/°C	Tolerance (%)	Features
VRxx High Voltage 	VR25, AEC-Q200	0.25	100 k Ω to 22 M Ω	± 200	$\pm 1 / \pm 5 / \pm 10$	<ul style="list-style-type: none">• Very high operating voltage: 1600 V in 0207 (VR25), 10 kV for VR68• High pulse load capability up to 10 kV• Resistance value up to 68 MΩ• AEC-Q200 qualified (VR25, VR37)• Compliance to safety requirements of IEC IEC 62368-1; VDE 0860; UL1676; CQC (VR37, VR68)
	VR37, AEC-Q200  UL file number: E171160	0.5	100 k Ω to 33 M Ω	± 200	$\pm 1 / \pm 5$	
	VR68,  UL file number: E171160	1	100 k Ω to 68 M Ω	± 200	$\pm 1 / \pm 5$	



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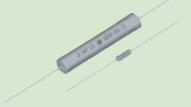
Metal Oxide Resistors						
Product	Model	Power (W)	Resistance Range	TCR ppm/°C	Tolerance (%)	Features
<div>WK / WR</div> <div>High Power / High Temperature</div> <div></div>	WK2, AEC-Q200	1	0.22 Ω to 1 MΩ	± 50 / ± 100 / ± 200	± 1 / ± 2 / ± 5	<ul style="list-style-type: none">• High power rating: 1 W in 0207 (WK2) size, 4 W for WK8• High operating voltage: 500 V (WK2), 750 V for WK8• High maximum operating temperature: +200 °C• AEC-Q200 qualified (WK2, WR4)• Excellent pulse load rating due to metal oxide film• Non-flammable lacquer
	WR4, AEC-Q200	2	0.33 Ω to 1 MΩ	± 200	± 2 / ± 5	
	WR5	3	0.22 Ω to 560 kΩ			
	WK8	4	0.22 Ω to 100 kΩ			



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Wirewound Resistors						
Product	Model	Power (W)	Resistance Range	TCR (ppm/K)*	Tolerance (%)*	Features
AC, AC-AT, AC-NI Professional, Non-Inductive  AEC-Q200	AC 01, AC01-AT	1 W	0.1 Ω to 2.4 k Ω	- 10...- 80 / 100...180	± 5	<ul style="list-style-type: none"> High power dissipation in small size High pulse energy handling Non-flammable cement coating Non-inductive design available Radial and Z-bend terminations available
	AC 03, AC03-AT	3 W	0.1 Ω to 5.1 k Ω			
	AC 04, AC04-AT	4 W	0.10 Ω to 6.8 k Ω			
	AC 05, AC05-AT	5 W	0.10 Ω to 10 k Ω			
	AC 07, AC07-AT	7 W	0.10 Ω to 15 k Ω			
	AC 10, AC10-AT	10 W	0.22 Ω to 27 k Ω			
	AC03-NI	3 W	0.10 Ω to 69 Ω			
	AC04-NI	4 W	0.10 Ω to 68 Ω			
	AC05-NI	5 W	0.18 Ω to 56 Ω			
PAC Precision 	PAC 01	1 W	0.10 Ω to 2.2 k Ω	± 100	± 1	<ul style="list-style-type: none"> High power dissipation in small size TCR = ± 100 ppm/K; 1 % tolerance Non-flammable cement coating Higher temperature derating, 275 $^{\circ}\text{C}$ Radial and kinked lead forming available
	PAC 02	2 W	0.10 Ω to 3.6 k Ω			
	PAC 03	3 W	0.10 Ω to 4.7 k Ω			
	PAC 04	4 W	0.10 Ω to 8.2 k Ω			
	PAC 05	5 W	0.10 Ω to 12 k Ω			
	PAC 06	6 W	0.10 Ω to 12 k Ω			
Z300 Professional and Precision 	Z301	1 W	0.30 Ω to 2 k Ω	-10...-80 / 100...180	$\pm 5 / \pm 10$	<ul style="list-style-type: none"> High power dissipation in small size High pulse energy handling Non-flammable cement coating Non-inductive design available Radial and Z-bend terminations available
	ZDA0411	2 W	0.47 Ω to 4.3 k Ω on request		$\pm 5 / \pm 10$ $\pm 1 / \pm 2$	
	Z302	3 W	0.10 Ω to 3.3 k Ω 0.22 Ω to 510 Ω		$\pm 5 / \pm 10$ $\pm 1 / \pm 2$	
	Z303	4 W	0.10 Ω to 3.9 k Ω 1 Ω to 1 k Ω		$\pm 5 / \pm 10$ $\pm 1 / \pm 2$	
	Z305	6 W	0.1 Ω to 2.4 k Ω 1.2 Ω to 2.4 k Ω		$\pm 5 / \pm 10$ $\pm 1 / \pm 2$	
	Z306	8 W	0.13 Ω to 16 k Ω 1 Ω to 4.7 k Ω		$\pm 5 / \pm 10$ $\pm 1 / \pm 2$	
	Z307	10 W	0.20 Ω to 30 k Ω 1.8 Ω to 8.2 k Ω		$\pm 5 / \pm 10$ $\pm 1 / \pm 2$	

Note: Ni = non-inductive

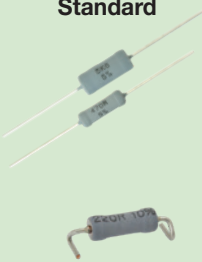

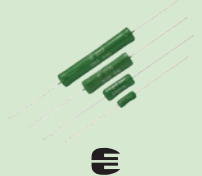




* Ohmic values are not available in all tolerances and TC values. For more details, refer to datasheets at www.vishay.com or contact your local sales office.



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Wirewound Resistors						
Product	Model	Power (W)	Resistance Range	TCR (ppm/K)*	Tolerance (%)*	Features
Z300-C00 Standard 	Z301-C00	1 W	0.30 Ω to 2 k Ω	200	$\pm 10 / \pm 5$	<ul style="list-style-type: none"> Non-flammable cement coating High power dissipation in small size Radial and Z-bend termination
	ZDA0411-C00	2 W	0.10 Ω to 4.3 k Ω			
	Z302-C00	3 W	0.10 Ω to 3.3 k Ω			
	Z303-C00	4 W	0.47 Ω to 3.9 k Ω			
	Z304-C00	5 W	0.62 Ω to 5.6 k Ω			
	Z305-C00	6 W	0.15 Ω to 10 k Ω			
	Z306M-C00	7 W	10.0 Ω to 3.9 k Ω			
Z300-Cxx High Pulse Load 	Z301-C	1 W	430 Ω to 2 k Ω	200	$\pm 10 / \pm 5$	<ul style="list-style-type: none"> High surge voltage handling (up to 12 kV; 1.2 / 50 μs pulse) Non-flammable cement coating High power dissipation in small size Radial and Z-bend terminations
	ZDA0411-C	2 W	180 Ω to 4.3 k Ω			
	Z302-C	3 W	62 Ω to 3.3 k Ω			
	Z303-C	4 W	27 Ω to 3.9 k Ω			
	Z304-C	5 W	15 Ω to 5.6 k Ω			
	Z305-C	6 W	4.7 Ω to 10 k Ω			
	Z306M-C	7 W	10.0 Ω to 3.9 k Ω			
G200 High Power / High Temperature 	G202	4 W	0.10 Ω to 10 k Ω	100 to 180	$\pm 10 / \pm 5 / \pm 2$	<ul style="list-style-type: none"> High power rating up to 17 W Humidity protection by vitreous coating IECQ-CECC qualified versions available: FDG, FDK, FDP
	G204	7 W	0.10 Ω to 39 k Ω			
	G206	13 W	0.15 Ω to 68 k Ω			
	G207	17 W	0.20 Ω to 120 k Ω			
Safety Resistor AC-CS Fusible 	AC01-CS 	1 W	1 Ω to 100 Ω	200	± 5	<ul style="list-style-type: none"> UL1412-recognized fusible wirewound resistor High surge handling capability, up to 6 kV Safe and silent fusing
	AC03-CS 	1 W	1 Ω to 100 Ω			
	AC05-CS 	1 W	1 Ω to 100 Ω			

Note: Ni = non-inductive

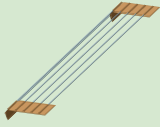
* Ohmic values are not available in all tolerances and TC values. For more details, refer to datasheets at www.vishay.com or contact your local sales office.



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Jumper Resistors						
Product	Model	Power (W)	Resistance Range	TCR ppm/°C	Tolerance (%)	Features
	DB1U	N/A	0.006 Ω max.	N/A	N/A	<ul style="list-style-type: none"> • High operating current: 5 A, 8 A, 12 A • Low resistance: 6 mΩ, 4.5 mΩ, 2.5 mΩ • Suitable for automatic insertion • Radial version available
	DB2U		0.0045 Ω max.			
	DB4U		0.0025 Ω max.			



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Vishay Intertechnology – A Global Industry Leader

Vishay Intertechnology components are used in virtually all types of electronic devices and equipment, in the industrial, computing, automotive, consumer, telecommunications, military, aerospace, power supplies, and medical markets. Vishay has manufacturing plants in the Americas, Asia, Europe, and Israel, as well as sales offices worldwide. Vishay Intertechnology has a diverse portfolio of semiconductors and passive components, including diodes, MOSFETs (metal-oxide semiconductor field-effect transistors), optoelectronic products, selected integrated circuits (ICs), resistors, inductors, and capacitors. This enables it to provide “one-stop shop” service and offer many different parts for each customer design. Its innovations in technology, successful acquisition strategy, superior product quality, and “one-stop shop” service to customers have made the Company a global industry leader.

www.vishay.com

The most important manufacturers of fixed film resistors are the Vishay Draloric, Vishay Beyschlag, and Vishay BCcomponents brands.

About Draloric

In 1900, in Germany, Mr. Philip Rosenthal, as a sideline to his established business of porcelain tableware, started to manufacture ceramics for electronic applications. Starting in 1910, these were also made in Selb, Germany. In 1936, this electronic ceramics activity was separated from Rosenthal AG and made part of a joint venture with AEG named Rosenthal Isolatoren GmbH, or “RIG.”

The RIG name lasted until 1974, when AEG took over all of RIG and renamed it “CRL” because of its portfolio of passive components. The name was changed again in 1974 to Draloric Electronic GmbH. With the acquisition of Draloric Electronic GmbH by the electronics division of Corning Glass Works in 1981, the name was changed to Corning-Draloric, which lasted until its acquisition by Vishay Intertechnology in 1987.

Vishay Draloric is a leading brand for MELF resistors and ceramic capacitor products. The Vishay Draloric product portfolio also includes thin film flat chip resistors, leaded film and wirewound resistors, and large ceramic power capacitors. As part of Vishay Intertechnology, Draloric Electronic has had production sites in Israel since 1989, and in the Czech Republic since 1991.

Draloric competitors Roederstein GmbH (resistors and capacitors), and Vitramon GmbH (capacitors only) were acquired by Vishay Intertechnology in 1993 and 1994, respectively, and merged with Draloric Electronic GmbH, which has its headquarters in Selb. Since then, the

name Vishay Draloric has been used as a brand name for resistor products.

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About Beyschlag

A look back into the history of the company shows a solid business based on natural growth. From the moment the company was founded in 1931, the customer has always come first. At the time, Dr. Bernhard Beyschlag started producing rectifiers in Berlin, Germany to meet the growing needs of the new radio industry. Soon, carbon film resistors were in production. The company spent periods in Hitzacker and Westerland on the Island of Sylt before finally relocating to Heide in 1974. From the early 1970s, Beyschlag belonged to Philips Components, until 1999, when Philips divested itself of its passive components business to allow the foundation of BCcomponents. In 2002, BCcomponents was bought by Vishay.

For more than 80 years, Beyschlag has stood for expertise in thin film technology, continuous innovation, excellence in service and logistics and customer-oriented solutions.

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About BCcomponents

BCcomponents (Beyschlag Centralab components), a leading manufacturer of passive electronic components, emerged from Philips Electronics Components division in January 1999. Building upon the tradition of excellence associated with Beyschlag, Philips, and Centralab, BCcomponents carried out, in close cooperation with customers, a continuous process of product innovation and improvement. This tradition of excellence included the development of several products that have become industry standards, such as SMD Mini-MELF resistors (branded Vishay Beyschlag) and a range of aluminum capacitors with industry-leading temperature capabilities. BCcomponents earned the status of preferred supplier to many of the world's leading electronics companies.

Vishay acquired BCcomponents in December 2002. The former BCcomponents product portfolio is now divided into Vishay Beyschlag and Vishay BCcomponents. Products branded Vishay Beyschlag include thin film and carbon film MELF resistors, thin film and cermet film chip resistors, and leaded metal film and carbon film resistors. The latest developments include thin film chip arrays, and thin and thick film chip fuses. Products branded Vishay BCcomponents include leaded metal film and metal glaze resistors, non-linear and variable components, and ceramic, aluminum, and film capacitors.

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