



VISHAY INTERTECHNOLOGY, INC.



## MILITARY FILM LEADED RESISTORS

MIL-R-10509

MIL-PRF-22684

MIL-PRF-39017

MIL-PRF-55182

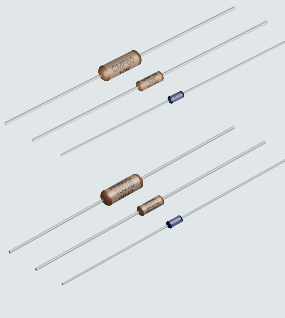

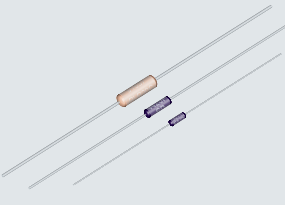
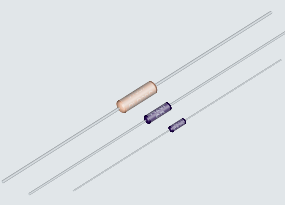
CECC 40101- 8 0 6



# Military Film Leaded Resistors

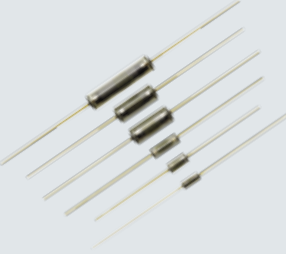
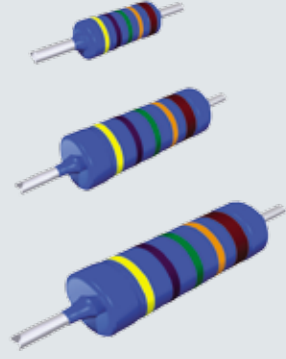
## Key Features

- A wide range of power ratings (0.05 W to 2 W)
- A wide resistance range (1 Ω to 22 MΩ)
- Low/high temperature performance (–65 °C to +175 °C)
- Tight tolerances (down to 0.1 %)
- Constructed using Metal Film resistive elements
- Very low noise: –40 dB
- MIL-PRF-39017, MIL-PRF-55182, MIL-PRF-22684 and MIL-R-10509 qualified

Model	Product	Part Number Definition	Wattage Rating	Resistance Range	Tolerance
<b>Non-Established Reliability</b>					
	RN50C / RN50E (CMF-50)	<u>RN</u> <u>60</u> <u>D</u> <u>3483</u> <u>F</u> 1 2 3 4 5	0.05	10 Ω – 100 KΩ	0.1 %, 0.25 %, 0.5 %, 1 %
	RN55C / RN55E (CMF-55)	1. Detail specification number	0.10	49.9 Ω – 100 KΩ	
	RN55D (CMF-55)	2. Size	0.125	10 Ω – 301 KΩ	
	RN60C / RN60E (CMF-60)	3. Temperature coefficient (E = ±25 ppm/°C, C = ±50 ppm/°C, *D = +200 ppm/°C – 500 ppm/°C)	0.125	49.9 Ω – 499 KΩ	
	RN60D (CMF-60)	4. Resistance value	0.25	10 Ω – 1 MΩ	
	RN65C / RN65E (CMF-65)	5. Tolerance (B = 0.1 %, C = 0.25 %, D = 0.5 %, F = 1 %)	0.25	49.9 Ω – 1 MΩ	
RN65D (CMF-65)		0.50	10 Ω – 2M Ω		
RN70C / RN70E (CMF-70)		0.50	24.9 Ω – 1M Ω		
		1.0	10 Ω – 2.49M Ω		
* Vishay Dale supplies ± 100 ppm/°C parts					
	RL07 (CMF-07)	<u>RL</u> <u>07</u> <u>S</u> <u>471</u> <u>J</u> 1 2 3 4 5	0.25	51 Ω – 150 KΩ	2 %, 5 %
	RL20 (CMF-20)	1. Detail specification number	0.50	4.3 Ω – 470 KΩ	
		2. Size			
		3. Lead (S = solderable)			
		4. Resistance value			
		5. Tolerance (G = 2 %, J = 5 %)			
<b>Established Reliability</b>					
	RLR05 (ERL-05)	<u>RLR</u> <u>07</u> <u>C</u> <u>3001</u> <u>F</u> <u>R</u> 1 2 3 4 5 6	0.125	4.7 Ω – 1 MΩ	1 %, 2 %
	RLR07 (ERL-07)	1. Detail specification number	0.25	1 Ω – 10 MΩ	
	RLR20 (ERL-20)	2. Size	0.5	4.3 Ω – 3.01 MΩ	
	RLR32 (ERL-32)	3. Lead material (C = solderable/weldable)	1	1 Ω – 2.7 MΩ	
		4. Resistance value			
		5. Tolerance (F = 1 %, G = 2 %)			
		6. Failure rate level (reference current MIL-PRF-39017 QPL List)			
	RNC50 / RNR50 (ERC-50)	<u>RNC</u> <u>55</u> <u>H</u> <u>2152</u> <u>F</u> <u>R</u> 1 2 3 4 5 6	0.05 – 0.1	10 Ω – 796 KΩ	0.1 %, 0.5 %, 1 %
	RNC55 / RNR55 (ERC-55)	1. Detail specification number	0.1 – 0.125	10 Ω – 2M Ω	
	RNC60 / RNR60 (ERC-55-200)	2. Size	0.125 – 0.25	10 Ω – 3.01 MΩ	
	RNC65 / RNR65 (ERC-65)	3. Temperature coefficient (J = ±25 ppm/°C, H = ±50 ppm/°C, K = ±100 ppm/°C)	0.25 – 0.5	10 Ω – 3.01 MΩ	
	RNC70 / RNR70 (ERC-70)	4. Resistance value	0.5 – 0.75	10 Ω – 3.01 MΩ	
		5. Tolerance (B = 0.1 %, D = 0.5 %, F = 1 %)			
	6. Failure rate level (reference current MIL-PRF-55182 QPL List)				

For extended values and sizes, consult DSCC drawings 98020 (RLR05), 99011 (RLR07), 98021 (RLR20), 98022 (RLR32) & 99004 (RLR62)



Model	Product	Part Number Definition	Wattage Rating	Resistance Range	Tolerance
<b>Established Reliability (cont.)</b>					
<b>MIL-PRF-55182 (cont.) (Hermetically Sealed)</b> 	RNR55 / RNN55 (HDN-55)	RNR <u>55</u> C <u>2152</u> B R 1 2 3 4 5 6	0.1 – 0.125	10 Ω – 1.21 MΩ	0.1 %, 0.5 %, 1 %
	RNR57 / RNN57 (HDN-57)	1. Detail specification number RNR = solderable only leads RNN = weldable only leads	0.125 – 0.25	49.9 Ω – 200 KΩ	
	RNR60 / RNN60 (HDN-60)	2. Size	0.125 – 0.25	10 Ω – 2.49 MΩ	
	RNR65 / RNN65 (HDN-65)	3. Temperature coefficient (E = ±25 ppm/°C, C = ±50 ppm/°C)	0.25 – 0.5	24.9 Ω – 4.99 MΩ	
	RNR70 / RNN70 (HDN-70)	4. Resistance value	0.5 – 0.75	24.9 Ω – 4.99 MΩ	
	RNR75 / RNN75 (HDN-75)	5. Tolerance (B = 0.1 %, D = 0.5 %, F = 1 %) 6. Failure rate level (reference current MIL-PRF-55182 QPL List)	1 – 2	49.9 Ω – 1.21 MΩ	
<b>Established Reliability</b>					
<b>CECC40101-806</b> 	MBA/SMA 0204 VG06	<u>CECC40401-806 EZ A C 287K F E7</u> 1 2 3 4 5 6 7	0.4	1 Ω – 5.11 MΩ	0.1 %, 1 %
	MBB/SMA 0207 VG06	<u>CECC40401-806 EZ B C 287K F E7</u> 1 2 3 4 5 6 7	0.6	1 Ω – 10 MΩ	0.1 %, 1 %
	MBE/SMA 0414 VG06	<u>CECC40401-806 EZ E C 287K F E7</u> 1 2 3 4 5 6 7	1.0	1 Ω – 21.5 MΩ	0.1 %, 1 %



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WORLDWIDE SALES CONTACTS

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**UNITED STATES**

VISHAY AMERICAS  
ONE GREENWICH PLACE  
SHELTON, CT 06484  
UNITED STATES  
PH: +1-402-563-6866  
FAX: +1-402-563-6296

**ASIA**

**SINGAPORE**

VISHAY INTERTECHNOLOGY  
ASIA PTE LTD.  
25 TAMPINES STREET 92  
KEPPEL BUILDING #02-00  
SINGAPORE 528877  
PH: +65-6788-6668  
FAX: +65-6788-0988

**P.R. CHINA**

VISHAY TRADING (SHANGHAI) CO., LTD.  
15D, SUN TONG INFOPORT PLAZA  
55 HUAI HAI WEST ROAD  
SHANGHAI 200030  
P.R. CHINA  
PH: +86-21-5258 5000  
FAX: +86-21-5258 7979

**JAPAN**

VISHAY JAPAN CO., LTD.  
MG IKENOHATA BLDG. 4F  
1-2-18, IKENOHATA  
TAITO-KU  
TOKYO 110-0008  
JAPAN  
PH: +81-3-5832-6210  
FAX: +81-3-5832-6260

**EUROPE**

**GERMANY**

VISHAY EUROPE SALES GMBH  
GEHEIMRAT-ROSENTHAL-STR. 100  
95100 SELB  
GERMANY  
PH: +49-9287-71-0  
FAX: +49-9287-70435

**FRANCE**

VISHAY S.A.  
199, BLVD DE LA MADELEINE  
06003 NICE, CEDEX 1  
FRANCE  
PH: +33-4-9337-2920  
FAX: +33-4-9337-2997

**UNITED KINGDOM**

VISHAY LTD.  
PALLION INDUSTRIAL ESTATE  
SUNDERLAND SR4 6SU  
UNITED KINGDOM  
PH: +44-191-514-4155  
FAX: +44-191-567-8262