

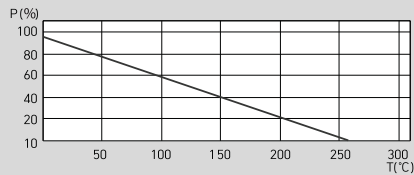
Single Type MCRA



Characteristics

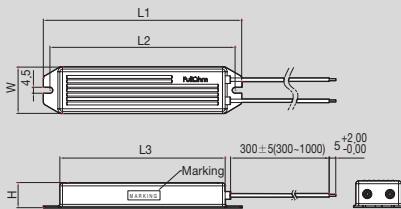
| | |
|-------------------------|-------------------|
| Temperature range | -55 °C~200 °C |
| Insulation resistance | Over 100 MΩ |
| Dielectric strength | AC 2,500V / 1 Min |
| Temperature coefficient | ±260 ppm / °C max |
| Resistor wattage Range | 50 ~ 200[W] |

Power Derating Curve



[NOTE] Thermostat sensor included types use 0.5mm² silicone asbestos wire.

Dimensions [mm]



| Model | L1 ±0.5 | L2 ±0.5 | L3 ±0.5 | W ±0.5 | H ±0.5 |
|----------|---------|---------|---------|--------|--------|
| MCRA-80 | 150 | 140 | 125 | 35 | 19 |
| MCRA-100 | 150 | 140 | 125 | 35 | 19 |
| MCRA-120 | 182 | 172 | 150 | 43 | 20 |
| MCRA-150 | 182 | 172 | 150 | 43 | 20 |
| MCRA-200 | 230 | 220 | 200 | 60 | 20 |

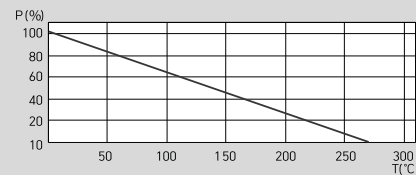
Single Type MCRF



Characteristics

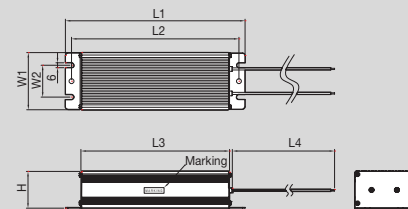
| | |
|-------------------------|-------------------|
| Temperature range | -55 °C~200 °C |
| Insulation resistance | Over 100 MΩ |
| Dielectric strength | AC 2,500V / 1 Min |
| Temperature coefficient | ±260 ppm / °C max |
| Resistor wattage Range | 300 ~ 2000[W] |

Power Derating Curve



[NOTE] Thermostat sensor included types use 0.5mm² silicone asbestos wire.

Dimensions [mm]



| Model | L1 ±1.0 | L2 ±1.0 | L3 ±1.0 | W1 ±0.5 | W2 ±0.5 | H ±0.5 |
|-----------|---------|---------|---------|---------|---------|--------|
| MCRF-300 | 190 | 175 | 152 | 70 | 39 | 45 |
| MCRF-400 | 220 | 205 | 182 | 70 | 39 | 45 |
| MCRF-500 | 240 | 225 | 202 | 70 | 39 | 45 |
| MCRF-600 | 260 | 245 | 222 | 70 | 39 | 45 |
| MCRF-800 | 300 | 285 | 262 | 70 | 39 | 45 |
| MCRF-1000 | 340 | 325 | 302 | 70 | 39 | 45 |
| MCRF-1200 | 400 | 385 | 362 | 70 | 39 | 45 |
| MCRF-1500 | 440 | 425 | 402 | 70 | 39 | 45 |
| MCRF-2000 | 510 | 495 | 472 | 70 | 39 | 45 |

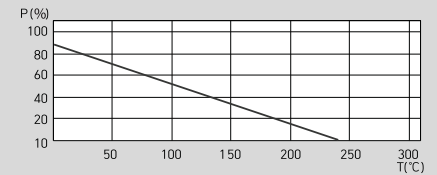
Single Type MCRS



Characteristics

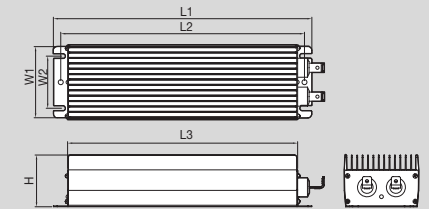
| | |
|-------------------------|-------------------|
| Temperature range | -55 °C~200 °C |
| Insulation resistance | Over 100 MΩ |
| Dielectric strength | AC 2,500V / 1 Min |
| Temperature coefficient | ±260 ppm / °C max |
| Resistor wattage Range | 2400[W] |

Power Derating Curve



[NOTE] Thermostat sensor included types use 0.5mm² silicone asbestos wire.

Dimensions [mm]



| Model | L1 ±1.0 | L2 ±1.0 | L3 ±1.0 | W1 ±1.0 | W2 ±1.0 | H ±1.0 |
|-----------|---------|---------|---------|---------|---------|--------|
| MCRS-2000 | 400 | 385 | 362 | 98 | 72 | 68 |
| MCRS-2500 | 470 | 455 | 432 | 98 | 72 | 68 |
| MCRS-3000 | 540 | 525 | 502 | 98 | 72 | 68 |

Set Type MCRF-ST



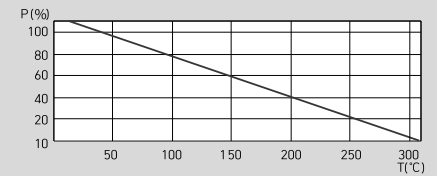
Characteristics

| | |
|----------------------------|-------------------|
| Temperature range | -55 °C~200 °C |
| Insulation resistance | Over 20 MΩ |
| Dielectric strength | AC 2,500V / 1 Min |
| Temperature coefficient | ±260 ppm / °C max |
| Resistor wattage Range | 12 ~ 60[kW] |
| Built-in thermostat sensor | B Contact |

Dimensions [mm]

| Model | L1 ±2 | L2 ±2 | L3 ±2 | W1 ±2 | W2 ±2 | H ±2 |
|-------------|-------|-------|-------|-------|-------|------|
| MCRF-ST2000 | 550 | 530 | 503 | 180 | 140 | 126 |
| MCRF-ST2400 | 550 | 530 | 503 | 180 | 140 | 126 |
| MCRF-ST3000 | 550 | 530 | 503 | 260 | 220 | 126 |
| MCRF-ST3600 | 550 | 530 | 503 | 260 | 220 | 126 |
| MCRF-ST4000 | 550 | 530 | 503 | 180 | 140 | 182 |
| MCRF-ST4800 | 550 | 530 | 503 | 180 | 140 | 182 |
| MCRF-ST5000 | 550 | 530 | 503 | 180 | 140 | 182 |
| MCRF-ST6000 | 550 | 530 | 503 | 260 | 220 | 182 |

Power Derating Curve



[NOTE] Thermostat sensor included types use 0.5mm² silicone asbestos wire.

| Model | L1 ±2 | L2 ±2 | L3 ±2 | W1 ±2 | W2 ±2 | H ±2 |
|--------------|-------|-------|-------|-------|-------|------|
| MCRF-ST6400 | 550 | 530 | 503 | 260 | 220 | 182 |
| MCRF-ST7200 | 550 | 530 | 503 | 260 | 220 | 182 |
| MCRF-ST8000 | 550 | 530 | 503 | 260 | 220 | 252 |
| MCRF-ST9600 | 550 | 530 | 503 | 260 | 220 | 252 |
| MCRF-ST10000 | 550 | 530 | 503 | 260 | 220 | 252 |
| MCRF-ST12000 | 550 | 530 | 503 | 260 | 220 | 322 |
| MCRF-ST15000 | 550 | 530 | 503 | 260 | 220 | 322 |
| MCRF-ST18000 | 550 | 530 | 503 | 260 | 220 | 392 |

DYNAMIC BRAKING RESISTOR

Built-in Dynamic Breaking IGBT

| Voltage Class | Capacity [kW] | Torque 100% | | | | | | Torque 150% | | | | | | | | | | |
|---------------|---------------|-------------|---------------------|-----------|------------|---------------|---------------|-------------|---------------------|----------------|------------|---------------|---------------|----------------------|-----------------|------------|---------------|---------------|
| | | Value [Ω] | Wattage[W] (%ED=5%) | Single | | Set | | Value [Ω] | Wattage[W] (%ED=5%) | Single(%ED=5%) | | Set(%ED=5%) | | Wattage[W] (%ED=10%) | Single(%ED=10%) | | Set(%ED=10%) | |
| | | | | ERP Code | Model Name | ERP Code | Model Name | | | ERP Code | Model Name | ERP Code | Model Name | | ERP Code | Model Name | ERP Code | Model Name |
| 200V | 0.4 | 400 | 50 | 64090131 | MCRA-50 | | | 300 | 100 | 64090132 | MCRA-100 | | | 200 | 64090133 | MCRA-200 | | |
| | 0.75 | 200 | 100 | 64090134 | MCRA-100 | | | 150 | 150 | 64090135 | MCRA-150 | | | 300 | 64090142 | MCRF-300 | | |
| | 1.5 | 100 | 200 | 64090136 | MCRA-200 | | | 60 | 300 | 64090149 | MCRF-300 | | | 600 | 64090150 | MCRF-600 | | |
| | 2.2 | 60 | 300 | 64090149 | MCRF-300 | | | 50 | 400 | 64090152 | MCRF-400 | | | 800 | 64090153 | MCRF-800 | | |
| | 3.7/4.0 | 40 | 500 | 64090155 | MCRF-500 | | | 33 | 600 | 64090158 | MCRF-600 | | | 1200 | 64090159 | MCRF-1200 | | |
| | 5.5 | 33 | 600 | 64090158 | MCRF-600 | | | 20 | 800 | 64090160 | MCRF-800 | | | 1600 | 64090161 | MCRF-1600 | | |
| | 7.5 | 20 | 800 | 64090160 | MCRF-800 | | | 15 | 1200 | 64090162 | MCRF-1200 | | | 2400 | 64090168 | MCRS 2500 | | |
| | 11 | 15 | 1200 | 64090162 | MCRF-1200 | 6409018400 | MCRF-ST 1.2kW | 10 | 2400 | 64090169 | MCRS-2500 | 6409018900 | MCRF-ST 2.4kW | 4800 | | | 6409019000 | MCRF-ST 4.8kW |
| | 15 | 10 | 2400 | 64090169 | MCRS 2500 | 6409018900 | MCRF-ST 2.4kW | 8 | 2400 | 64090170 | MCRS 2500 | 6409019700 | MCRF-ST 2.4kW | 4800 | | | 6409019800 | MCRF-ST 4.8kW |
| | 18.5 | 8 | 2400 | 64090170 | MCRS 2500 | 6409019700 | MCRF-ST 2.4kW | 5 | 3600 | | | 6409020200 | MCRF-ST 3.6kW | 7200 | | | 6409020300 | MCRF-ST 7.2kW |
| 22 | 8 | 2400 | 64090170 | MCRS 2500 | 6409019700 | MCRF-ST 2.4kW | 5 | 3600 | | | 6409020200 | MCRF-ST 3.6kW | 7200 | | | 6409020300 | MCRF-ST 7.2kW | |
| 400V | 0.4 | 1800 | 50 | 64090125 | MCRA-50 | | | 1200 | 100 | 64090126 | MCRA-100 | | | 200 | 64090127 | MCRA-200 | | |
| | 0.75 | 900 | 100 | 64090128 | MCRA-100 | | | 600 | 150 | 64090129 | MCRA-200 | | | 300 | 64090137 | MCRF-300 | | |
| | 1.5 | 450 | 200 | 64090130 | MCRA-200 | | | 300 | 300 | 64090138 | MCRF-300 | | | 600 | 64090139 | MCRF-600 | | |
| | 2.2 | 300 | 300 | 64090138 | MCRF-300 | | | 200 | 400 | 64090140 | MCRF-400 | | | 800 | 64090141 | MCRF-800 | | |
| | 3.7/4.0 | 200 | 400 | 64090140 | MCRF-400 | | | 130 | 600 | 64090143 | MCRF-600 | | | 1200 | 64090144 | MCRF-1200 | | |
| | 5.5 | 120 | 700 | 64090145 | MCRF-700 | | | 85 | 1000 | 64090147 | MCRF-1000 | | | 2000 | 64090148 | MCRF-2000 | | |
| | 7.5 | 90 | 1000 | 64090146 | MCRF-1000 | | | 60 | 1200 | 64090151 | MCRF-1200 | | | 2400 | 64090164 | MCRS 2500 | | |
| | 11 | 60 | 1200 | 64090151 | MCRF-1200 | 6409017200 | MCRF-ST 1.2kW | 40 | 2000 | 64090156 | MCRF-2000 | 6409017400 | MCRF-ST 2kW | 4000 | | | 6409017500 | MCRF-ST 4kW |
| | 15 | 45 | 2000 | 64090154 | MCRF-2000 | 6409017300 | MCRF-ST 2kW | 30 | 2400 | 64090166 | MCRS 2500 | 6409017800 | MCRF-ST 2.4kW | 4800 | | | 6409017900 | MCRF-ST 4.8kW |
| | 18.5 | 35 | 2400 | 64090165 | MCRS 2500 | 6409017600 | MCRF-ST 2.4kW | 20 | 3600 | | | 6409018100 | MCRF-ST 3.6kW | 7200 | | | 6409018200 | MCRF-ST 7.2kW |
| | 22 | 30 | 2400 | 64090166 | MCRS 2500 | 6409017800 | MCRF-ST 2.4kW | 20 | 3600 | | | 6409018100 | MCRF-ST 3.6kW | 7200 | | | 6409018200 | MCRF-ST 7.2kW |
| | 30 | 20 | 3600 | | | 6409018100 | MCRF-ST 3.6kW | 12 | 5000 | | | 6409018600 | MCRF-ST 5kW | 10000 | | | 6409018700 | MCRF-ST 10kW |

Dynamic Breaking Unit (Non Dynamic Breaking IGBT)

| Voltage Class | DB Unit Capacity [kW] | Torque 100% | | | | | | Torque 150% | | | | | | | | | | |
|---------------|-----------------------|-------------|----------------------|----------|------------|--------------|---------------|-------------|----------------------|----------------|------------|--------------|---------------|-----------------------|-----------------|------------|--------------|----------------|
| | | Value [Ω] | Wattage[kW] (%ED=5%) | Single | | Set | | Value [Ω] | Wattage[kW] (%ED=5%) | Single(%ED=5%) | | Set(%ED=5%) | | Wattage[kW] (%ED=10%) | Single(%ED=10%) | | Set(%ED=10%) | |
| | | | | ERP Code | Model Name | ERP Code | Model Name | | | ERP Code | Model Name | ERP Code | Model Name | | ERP Code | Model Name | ERP Code | Model Name |
| 200V | 11 | 8.5 | 1.6 | 64090163 | MCRF-1600 | 6409019300 | MCRF-ST 2kW | 10 | 2.4 | 64090169 | MCRS 2500 | 6409018900 | MCRF-ST 2.4kW | 4.8 | | | 6409019000 | MCRF-ST 4.8kW |
| | 15 | 8.5 | 1.6 | 64090163 | MCRF-1600 | 6409019300 | MCRF-ST 2kW | 8 | 2.4 | 64090170 | MCRS 2500 | 6409019700 | MCRF-ST 2.4kW | 4.8 | | | 6409019800 | MCRF-ST 4.8kW |
| | 18.5 | 5.7 | 2.4 | 64090171 | MCRS 2500 | 6409020100 | MCRF-ST 2.4kW | 5 | 3.6 | | | 6409020200 | MCRF-ST 3.6kW | 7.2 | | | 6409020300 | MCRF-ST 7.2kW |
| | 22 | 5.7 | 2.4 | 64090171 | MCRS 2500 | 6409020100 | MCRF-ST 2.4kW | 5 | 3.6 | | | 6409020200 | MCRF-ST 3.6kW | 7.2 | | | 6409020300 | MCRF-ST 7.2kW |
| | 30 | 4.2 | 3.2 | | | 6409020600 | MCRF-ST 3.2kW | 3 | 5 | | | 6409021100 | MCRF-ST 5kW | 10 | | | 6409021200 | MCRF-ST 10kW |
| | 37 | 4.2 | 3.2 | | | 6409020600 | MCRF-ST 3.2kW | 3 | 5 | | | 6409021100 | MCRF-ST 5kW | 10 | | | 6409021200 | MCRF-ST 10kW |
| | 45 | 2.8 | 4.8 | | | 6409021300 | MCRF-ST 4.8kW | 2.4 | 6 | | | 6409021600 | MCRF-ST 6kW | 12 | | | 6409021700 | MCRF-ST 12kW |
| | 55 | 2.8 | 4.8 | | | 6409021300 | MCRF-ST 4.8kW | 2 | 7.5 | | | 6409022000 | MCRF-ST 7.5kW | 15 | | | 6409022100 | MCRF-ST 12kW |
| | 75 | 2 | 7.5 | | | 6409022000 | MCRF-ST 7.5kW | 1.5 | 10 | | | 6409022400 | MCRF-ST 10kW | 20 | | | 6409022500 | MCRF-ST 20kW |
| | 90 | 1.5 | 10 | | | 6409022400 | MCRF-ST 10kW | 1.2 | 13 | | | 6409022600 | MCRF-ST 13kW | 26 | | | 6409022700 | MCRF-ST 26kW |
| 400V | 11 | 33.9 | 1.6 | 64090157 | MCRF-1600 | 6409017700 | MCRF-ST 1.6kW | 40 | 2 | 64090156 | MCRF-2000 | 6409017400 | MCRF-ST 2kW | 4 | | | 6409017500 | MCRF-ST 4kW |
| | 15 | 33.9 | 1.6 | 64090157 | MCRF-1600 | 6409017700 | MCRF-ST 1.6kW | 30 | 2.4 | 64090166 | MCRS 2500 | 6409017800 | MCRF-ST 2.4kW | 4.8 | | | 6409017900 | MCRF-ST 4.8kW |
| | 18.5 | 22.8 | 2.4 | 64090167 | MCRS 2500 | 6409018000 | MCRF-ST 2.4kW | 20 | 3.6 | | | 6409018100 | MCRF-ST 3.6kW | 7.2 | | | 6409018200 | MCRF-ST 7.2kW |
| | 22 | 22.8 | 2.4 | 64090167 | MCRS 2500 | 6409018000 | MCRF-ST 2.4kW | 20 | 3.6 | | | 6409018100 | MCRF-ST 3.6kW | 7.2 | | | 6409018200 | MCRF-ST 7.2kW |
| | 30 | 16.9 | 3.2 | | | 6409018300 | MCRF-ST 3.2kW | 12 | 5 | | | 6409018600 | MCRF-ST 5kW | 10 | | | 6409018700 | MCRF-ST 10kW |
| | 37 | 16.9 | 3.2 | | | 6409018300 | MCRF-ST 3.2kW | 12 | 5 | | | 6409018600 | MCRF-ST 5kW | 10 | | | 6409018700 | MCRF-ST 10kW |
| | 45 | 11.4 | 4.8 | | | 6409018800 | MCRF-ST 4.8kW | 10 | 6.4 | | | 6409019100 | MCRF-ST 6.4kW | 12.8 | | | 6409019200 | MCRF-ST 12.8kW |
| | 55 | 11.4 | 4.8 | | | 6409018800 | MCRF-ST 4.8kW | 8.4 | 7.2 | | | 6409019500 | MCRF-ST 7.2kW | 14.4 | | | 6409019600 | MCRF-ST 14.4kW |
| | 75 | 8.4 | 6.4 | | | 6409019400 | MCRF-ST 6.4kW | 6 | 10 | | | 6409019900 | MCRF-ST 10kW | 20 | | | 6409020000 | MCRF-ST 20kW |
| | 90 | 6 | 10 | | | 6409019900 | MCRF-ST 10kW | 5 | 13 | | | 6409020400 | MCRF-ST 13kW | 26 | | | 6409020500 | MCRF-ST 26kW |
| | 110 | 5 | 13 | | | 6409020400 | MCRF-ST 13kW | 4 | 16 | | | 6409020700 | MCRF-ST 16kW | 32 | | | 6409020800 | MCRF-ST 32kW |
| | 132 | 4 | 16 | | | 6409020700 | MCRF-ST 16kW | 3.4 | 20 | | | 6409020900 | MCRF-ST 20kW | 40 | | | 6409021000 | MCRF-ST 40kW |
| | 160 | 3.4 | 20 | | | 6409020900 | MCRF-ST 20kW | 2.8 | 24 | | | 6409021400 | MCRF-ST 24kW | 48 | | | 6409021500 | MCRF-ST 48kW |
| 185 | 2.8 | 24 | | | 6409021400 | MCRF-ST 24kW | 2.4 | 26 | | | 6409021800 | MCRF-ST 26kW | 52 | | | 6409021900 | MCRF-ST 52kW | |
| 220 | 2.4 | 26 | | | 6409021800 | MCRF-ST 26kW | 2 | 30 | | | 6409022200 | MCRF-ST 30kW | 60 | | | 6409022300 | MCRF-ST 60kW | |

Specifications in this catalog are subject to change without notice due to continuous product development and improvement.