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Please note that the number of variants of Goodsky relay part numbers means that it is not possible to maintain stock of every one. If you are researching to replace just one relay on a component, say as a spare part for domestic equipment, you may need to contact the manufacturer of that equipment. Stock of Goodsky relays is maintained in the UK for those exact parts where there is a continuous demand within the UK.

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### Important Note

The information shown in these documents is for guidance only. No liability is accepted for any errors or omissions. The designer or user is solely responsible for the safe and proper application of the parts, assemblies or equipment described.

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# *EMF SERIES*

**For General Control & Home Appliance**

**Application :** Control Board for Heating /  
Temp Control on Air Conditioner /  
Heater / Microwave Oven / Power Supply;  
etc.

**Features :** ◆ Quick Connecting Tab  
◆ High Current 18A

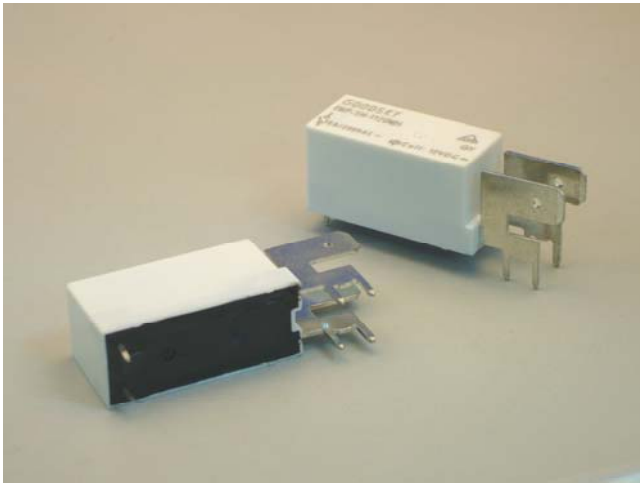
**Safety Standard :** VDE, C-UL  
(Certification in Progress)

**RoHS Compliant**

**GOODSKY**

EMF 性能比較表 (Performance Comparison List)

品牌 Supplier		GOODSKY		Schrack	Finder	SONG CHUAN	HONGFA	Relpol	
型號 Item		EMF (New Standard)	EMF (Current Standard)	RF	45 Series	881WP	JQX-115F-Q	RM85 faston	
Coil Type		DC	DC	DCV	DCV	DCV	DCV	DCV	
接觸部 Contact Specs	開關型式 Contact Configuration	1a, 1b	1a, 1b	1a, 1b	1a, 1b	1a	1a, 1b	1a	
	接觸材質 Contact Material	AgSnO2	AgSnO2	AgNi 10%	AgCdO	AgNi/AgNi+Au	AgNi/AgSnO2	AgSnO2	
	接觸規格 Contact Rating	25A/250VAC (105℃) 20A/250VAC (105℃) 20A/24VDC (105℃)	16A/250VAC 16A/30VDC	16A/250VAC (105℃) 11A/250VAC(105℃) 6A/400VAC(105℃) 10A/400VAC(105℃)	16A/250VAC (125℃)	12A/250VAC (VDE125℃) 17A/250VAC (VDE105℃) 12A/277VAC(CUL) 17A/277VAC(CUL)	12A/250VAC (VDE125℃) 18A/250VAC (VRE105℃) 20A/250VACCUL)	20A/250VAC 20A/24VDC	
	最大流通電流 Max. Allowable Current	25A	20A	25/16A	30/16A	17A	20A	20A/30A	
	最大承受電壓 Max. Allowable Voltage	250VAC/30VDC	250VAC/30VDC	440/240VAC	400/250VAC	277VAC	440VAC/125VDC	250VAC/400VAC	
線圈部 Coil Specs	額定電壓 Nominal Voltage	3,5,6,9,12,18,24,48,60	3,5,6,9,12,18,24,48,60	5, 6, 9, 12, 24, 48, 60	6, 12, 24, 48, 60	5, 6, 9, 12, 18, 24, 36, 48, 60	5, 6, 12, 24, 38, 60	5,6,9,10,12,18,24,48	
	動作電壓 Pull-In Voltage %	70%or75%	80%	70%	70%	70%	70%	75%	
	開放電壓 Drop-Out Voltage %	5%	5%	10%	10%	10%	10%		
	額定消耗功率 Power Consumption	0.4W	0.4W	0.4W	0.36W	0.4W	0.4W	0.25W	
	最大承受電壓 Maximum Allowable Voltage	130%	130%	254%	120%	110%	-	300%	
性能 Performance	接觸阻抗 Contact Resistance	100mΩ	100mΩ	-	-	100mΩ	100mΩ	100mΩ	
	動作時間 Operate Time	12mS	12mS	10mS	10mS	20mS	15mS	8mS	
	開放時間 Release Time	8mS	8mS	10mS	2mS	10mS	8mS	3mS	
	最大開閉頻率 Max. On/Off Switching	機械 Mechanical	300 / Min	300 / Min	1200/min	-	7,200/h	-	7200/hr
		電氣 Electrical	6 / Min	6 / Min	6/min	-	360/h	-	600/hr
	耐電壓(AC) Dielectric Strength	I/O	5,000V	5,000V	4,000V	6,000V	5,000V	5,000V	5,000V
		O/O	1,000V	1,000V	1,500V	1,000V	1,000V	1,000V	1,000V
	振動 Vibration	耐久 Endurance	10~55Hz 1.5mm	10~55Hz 1.5mm	55~500Hz	-	10~55Hz 1.5mm	100m/S2	
		誤動作 Error Operation	100m/S <sup>2</sup>	10~55Hz 1.5mm	-	-	10~55Hz 1.5mm	1,000m/S2	
	壽命 Life Expectancy	機械 Mechanical	1x10 <sup>7</sup>	1x10 <sup>7</sup>	10x10 <sup>6</sup>	30x10 <sup>6</sup>	30x10 <sup>6</sup>	1x10 <sup>7</sup>	3x10 <sup>7</sup>
		電氣 Electrical	1x10 <sup>5</sup>	1x10 <sup>5</sup>	-	100x10 <sup>3</sup>	10x10 <sup>4</sup>	1x10 <sup>5</sup>	20000 20A,250VAC,85℃ 150000 10A,250VAC,105℃
	使用環境溫度 Temperature Range	-40~+105℃	-40~+105℃	-40~+105℃	-40~+125℃	-40~+105℃	-40~+125℃	-40~+125℃	-40~+105℃
	使用環境濕度 Humidity Range	45%~85%	45%~85%	-	-	-	35%~85%		
重量 Weight	14g	14g	20g	-	13g	13.5g	16g		
安全規格 Safety Standard	VDE	NIL	VDE, CUL	COST, CUL, VDE	UL, CUL, CSA, VDE	VDE, UL	VDE, CUL		
寸法 Dimension	外型尺寸 Dimension	40.5x12.6x15.7	40.5x12.6x15.7	40.5x12.7x16	40.7x12.5x28.5	40.85x12.7x15.7	40.65x12.5x15.7	40.5x12.7x28.5	
端腳外型 Terminal Type	直Pin(DIP)	V	V	V	V	V	V	V	
	90°Pin(SMD)								



## Main Feature

1. EMF Series Relays are designed for switching capacity by 18A to comply with industrial control system use.
2. Compatible fixed terminal to match corresponding power relay.
3. Simple magnetic circuit to meet low cost demand.
4. Standard type contact form SPST is available for customer's preference.
5. Operating ambient temperature range from -40°C to 105°C.



## Contact Rating

Load Type	EMF (DM)	EMF (DB)
Rated Load (Resistive)	18A 250VAC	16A 250VAC
	18A 30VDC	16A 30VDC
Rated Carrying Current	18A	16A
Max. Allowable Voltage	AC 250V	AC 250V
	DC 30V	DC 30V
Max. Allowable Current	20A	20A
Max. Allowable Power Force	4000VA	4000VA
	480W	480W
Contact Material	Ag Alloy	Ag Alloy
Contact Form	SPST	SPST

## Application

Air Conditioning, Electric Heating, Microwave Ovens, Power Supplies...etc.

## Performance (at Initial Value)

- Contact Resistance ..... 100mΩ Max. @1A,6VDC
- Operate Time ..... 12 mSec. Max.
- Release Time ..... 8 mSec. Max.
- Dielectric Strength:  
Between Coil & Contact ..... 5,000VAC at 50/60 Hz for one minute.  
Between Contacts ..... 1,000VAC at 50/60 Hz for one minute.
- Insulation Resistance ..... 100MΩ Min. at 500VDC.
- Max. On/Off Switching:  
Electrical ..... 6 Cycles per Minute.  
Mechanical ..... 120 Cycles per Minute.

- Temperature Range ..... -40~105°C.
- Humidity Range ..... 45~85% RH.
- Coil Temperature Rise ..... 35°C Max.
- Vibration:  
Endurance ..... 10 to 55 Hz dual amplitude width 1.5 mm  
Error Operation ..... 10 to 55 Hz dual amplitude width 1.5mm.
- Shock:  
Endurance ..... 1,000 m/S<sup>2</sup> .  
Error Operation ..... 100 m/S<sup>2</sup> .
- Life Expectancy:  
Electrical ..... 10<sup>5</sup> Operations at Rated Resistive Load.  
Mechanical ..... 3x10<sup>7</sup> Operations at No Load condition.
- Weight ..... About 14.5 g.

## Safety Standard & Its File Number

- VDE ..... 40009648

## Coil Specification (at 20 °C)

Coil Sensitivity	Nominal Voltage(VDC)	Nominal Current (mA)	Coil Resistance ( $\Omega \pm 10\%$ )	Power Consumption (W)	Pull-In Voltage (VDC)	Drop-Out Voltage (VDC)	Maximum Allowable Voltage (VDC)
EMF	3	133	22.5	Abt. 0.4	70% Maximum	DM: 10% DB: 5% Minimum	130%
	5	79	63				
	6	67	90				
	9	44	203				
	12	33	360				
	15	26	562				
	18	22	810				
	24	17	1,440				
	48	8	5,760				
	60	7	9,000				

## Ordering Information

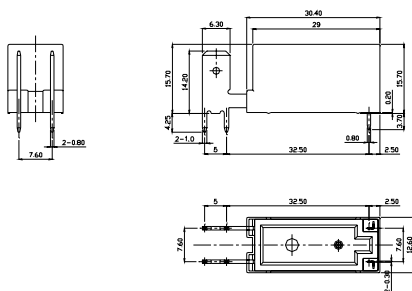
<b>EMF</b>	<b>-SH-</b>	<b>1</b>	<b>03</b>	<b>D</b>	<b>M</b>	<b>H</b>		
							<b>Terminal Type:</b>	<b>H</b> : Horizontal Bring Terminal <b>V</b> : Vertical Bring Terminal
							<b>Contact Form:</b>	<b>M</b> : One Form A <b>B</b> : One Form B
							<b>Coil Type:</b>	<b>D</b> : Standard DC Coil
							<b>Coil Voltage:</b>	<b>03</b> : 3V, <b>05</b> : 5V, <b>06</b> : 6V, <b>09</b> : 9V, <b>12</b> : 12V, <b>15</b> : 15V, <b>18</b> : 18V, <b>24</b> : 24V, <b>48</b> : 48V, <b>60</b> : 60V
							<b>Number of Pole:</b>	<b>1</b> : One Pole
							<b>Type of Sealing:</b>	<b>SS</b> : RT II Flux Proofed Relays <b>SH</b> : RT III Wash Tight Relays
							<b>Type:</b>	<b>EMF</b>

## Classification

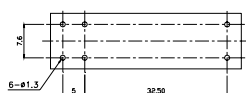
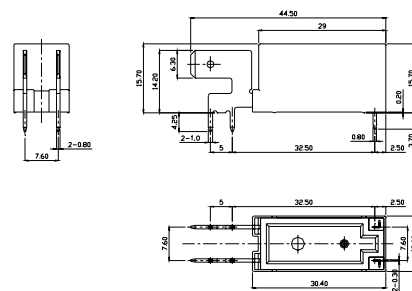
Model	EMF	
Coil Sensitivity	Standard DC Coil	
Contact Form	1A	1B
Flux Proofed Relay	EMF-SS-1□□DM□	EMF-SS-1□□DB□
Wash Tight Relay	EMF-SH-1□□DM□	EMF-SH-1□□DB□

## Dimension ( $\leq 5\text{mm} \pm 0.2\text{mm}$ , $> 5\text{mm} \pm 0.3\text{mm}$ , the tolerance of PCB thru hole: $+0.1\text{mm}$ )

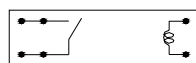
EMF-SS/SH-V



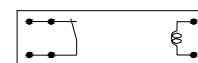
EMF-SS/SH-H



BOTTOM VIEW



(1A)



(1B)

BOTTOM VIEW