



## CONTACT RATING

Load Type	GQ (LM1)	GQ(DM2F)	GQ(DM2F-2)
Rated Load (Resistive)	10A 250VAC	16A 277VAC	20A 250VAC (UL/TUV)
	12A 250VAC (VDE)	-	-
	10A 30VDC	16A 24VDC	20A 24VDC (UL/TUV)
	10A 277VAC	-	-
Contact Capacity	TV-5 120VAC (UL)	TV-8 120VAC (UL)	TV-8 120VAC (UL)
	-	1/2 HP 125VAC (UL)	1/2 HP 125VAC (UL)
	-	1HP 277VAC (UL)	1HP 277VAC (UL)
Rated Carrying Current	12A	16A	20A
Max. Allowable Voltage	AC 250V	AC 277V	AC 250V
	DC 30V	DC 24V	DC 24V
Max. Allowable Current	12A	16A	20A
Max. Allowable Power Force	2,500VA	4432VA	5000VA
	300W	384W	480W
Contact Material	Ag Alloy	Ag Alloy	Ag Alloy
Contact Form	SPST	SPST	SPST

## APPLICATION

Domestic Appliances, HVAC, Office Machines, Audio Equipment, etc.

## PERFORMANCE (AT INITIAL VALUE)

- Contact Resistance ..... 100mΩ Max. @1A,6VDC
- Operate Time.....10mSec. Max.
- Release Time .....5 mSec. Max.
- Dielectric Strength:
  - Between Coil & Contact.....4,000VAC at 50/60 Hz for one minute
  - Between Contacts .....1,000VAC at 50/60 Hz For one minute
- Surge Strength ..... 10,000V (between coil & contact 1.2x50μSec.)
- Insulation Resistance..... 100 MegaΩ Min. at 500VDC
- Max. On/Off Switching:
  - Electrical .....6 Cycles per Minute
  - Mechanical.....300 Cycles per Minute
- Temperature Range .....-40~+105°C (10A. 16A)  
-40~+85°C (12A. 20A)  
-40~+80°C (Explosion proof version)
- Humidity Range .....45~85% RH.
- Coil Temperature Rise .....40°C Max.

## MAIN FEATURE

1. Miniature size with low power consumption for rated loading up to 20A.
2. Surge Strength up to 10,000V.
3. Operating temperature up to 105°C.
4. UL Class F insulation available.
5. Comply with RoHS and REACH regulations.
6. 3-in-1 combo available with THR reflow solderable + Halogen Free + IEC 60335-1 GWT Compliance.
7. Explosion proof version with IEC 60079-15 (IECEx)

- Vibration:
  - Destruction..... 10 to 55 to 10 Hz,0.75 mm single amplitude (1.5mm double amplitude)
  - Malfuction..... 10 to 55 to 10 Hz,0.75 mm single amplitude (1.5mm double amplitude)
- Shock:
  - Destruction..... 1,000 m/S<sup>2</sup>
  - Malfuction..... 100 m/S<sup>2</sup>
- Life Expectancy:
  - Mechanical..... 10<sup>7</sup> Operations at no Load condition
  - Electrical..... 10<sup>5</sup> Operations at Rated Resistive Load  
10<sup>4</sup> Operations at Rated Resistive Load (DM2F-2)  
2.5x10<sup>4</sup> Operations at TV Rated Load
- Weight..... About 5.3 g

## SAFETY STANDARD & FILE NUMBER

- UL ..... E516641(NCKL2/8)
- C-UL ..... E141060
- TÜV ..... R50121172
- VDE ..... 40025456 (LM1.DM2F)
- CQC..... U:25002458263  
A:21002325301 (LM1 only)

## 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)
GQ(LM1)	3	67	45	Abt. 0.20	80% Maximum	5% Minimum	110%
	5	40	125				
	6	33.3	180				
	9	22.5	400				
	12	16.7	720				
	15	13.3	1,125				
	18	11.1	1,620				
	24	8.3	2,880				
GQ(DM2F)	48	4.2	11,520	Abt. 0.36	80% Maximum	5% Minimum	110%
	5	71.4	70				
	6	60	100				
	9	40	225				
	12	30	400				
	15	24	625				
	18	20	900				
	24	15	1,600				
	48	7.5	6,400				

## ORDERING INFORMATION

GQ - SS - 1 12 L M 1 F -XXX

**Special Code:** Nil: Standard  
2: 20A

XXX: Customized

**Insulation System:** Nil: Standard Class  
F: Class F

**Rated Carrying Current:** 1: 10A, 12A(VDE)  
2: 16A, 20A

**Contact Form:** M: One Form A

**Coil Sensitivity:** D: New structure Standard DC, 16A, 20A  
L: High DC

**Coil Voltage:** 03: 3V, 05: 5V, 06: 6V, 09: 9V, 12: 12V  
15: 15V, 18: 18V, 24: 24V, 48: 48V

**Number of Pole:** 1: One Pole

**Type of Sealing:** SS: RTII Flux Proofed  
SH: RTIII Wash Tight

**Type:** GQ

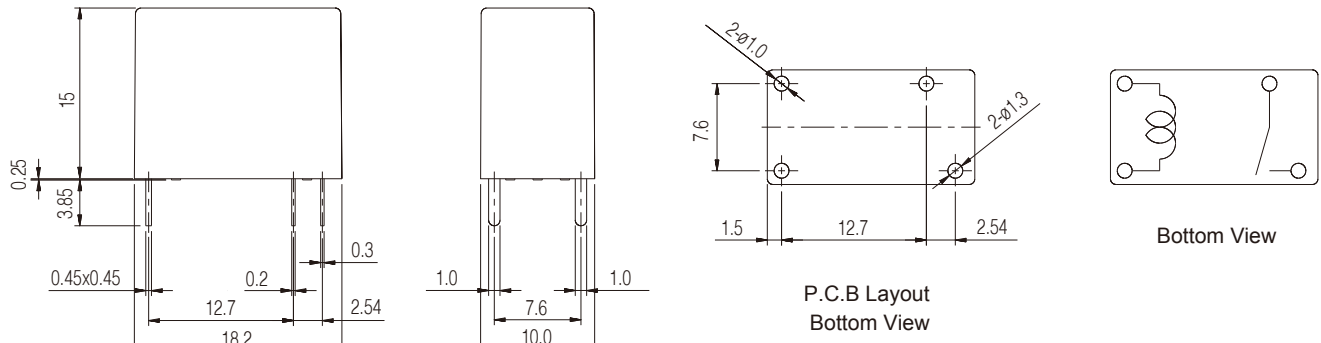
**\*\*Note:** 16A comes with standard Class F insulation and the ordering part no. shall be "DM2F".  
20A comes with standard Class F insulation and the ordering part no. shall be "DM2F-2".

## CLASSIFICATION

Model	GQ		
	10A/12A	16A	20A
Rated Carrying Current			
Flux Proofed	GQ-SS-1□□LM1/F	GQ-SS-1□□DM2F	GQ-SS-1□□DM2F-2
Wash Tight	GQ-SH-1□□LM1/F	GQ-SH-1□□DM2F	GQ-SH-1□□DM2F-2

**DIMENSION ( ≤ 5mm ± 0.3mm, > 5mm ± 0.5mm, the tolerance of PCB thru hole: +0.1mm)**

## GQ-LM1



## GQ-DM2F

