

MOSFET POWER SEMICONDUCTOR SOLID STATE RELAY DC - MODEL 803

35AMP-MODEL 803 PMDD 55 35 00
WITH "B-24" H.S.



Weight:
80gms SSR +
170gms Heat sink

Model 803 - 55VDC/35Amp
Input: 3-32VDC/4-20mA
Input LED Indication : Red
Output : 5-55VDC (MOSFET)
ON State Voltage Drop : $\leq 0.5VDC$
Body isolation : 4kV for 1min
I/P. to O/P. isolation : 4kV for 1min
Load Current : 30Amp @ 55 °C
With Heat Sink B-24+Din
Turn ON time : 2.5 mS, Turn OFF time : 40 μ S

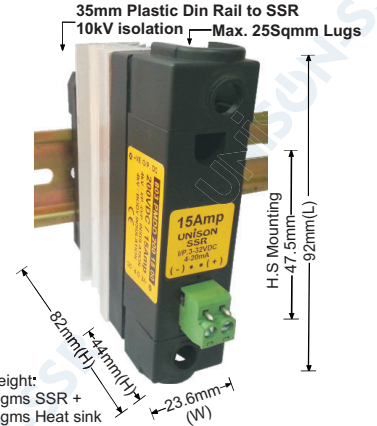
35MM-MODEL 803 PMDD 55 35 00
WITH "V-87" H.S.



Weight:
80gms SSR +
60gms Heat sink

Model 803 - 55VDC/35Amp
Input: 3-32VDC/4-20mA
Input LED Indication : Red
Output : 5-55VDC (MOSFET)
ON State Voltage Drop : $\leq 0.5VDC$
Body isolation : 4kV for 1min
I/P. to O/P. isolation : 4kV for 1min
Load Current : 18Amp @ 55 °C
With Heat Sink V-87+Din
Turn ON time : 2.5 mS, Turn OFF time : 40 μ S

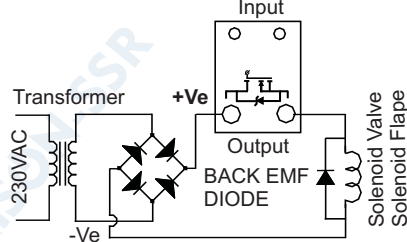
15AMP-MODEL 803 PMDD 200 15 00
WITH "V-87" H.S.



Weight:
80gms SSR +
60gms Heat sink

Model 803 - 200VDC/15Amp
Input: 3-32VDC/4-20mA
Input LED Indication : Red
Output : 5-200VDC (MOSFET)
ON State Voltage Drop : $\leq 1VDC$
Body isolation : 4kV for 1min
I/P. to O/P. isolation : 4kV for 1min
Load Current : 10Amp @ 55 °C
With Heat Sink V-87+Din
Turn ON time : 2.5 mS, Turn OFF time : 40 μ S

Solenoid Valve / DC Load Application



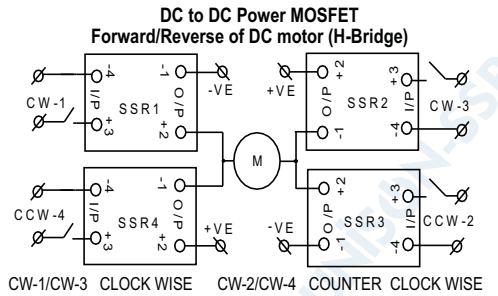
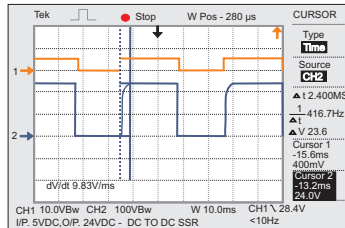
- APPLICATION**
- ⇓ Solenoid Valve Switching
 - ⇓ DC Clutch/Brake Switching
 - ⇓ DC Motor Switching
 - ⇓ Battery Power Switching
 - ⇓ Automobile Vehicle Switching
 - ⇓ DC Motor Forward/Reversed Switching

- ⇓ Power MOSFET works for Unregulated Power Supply (Transistor will not work for Unregulated Power Supply)
- ⇓ Power MOSFET having voltage drop of milli voltage so less heat generation (transistor having voltage drop more than 1.2VDC so higher heat generation)

Difference Between Power MOSFET & Transistor

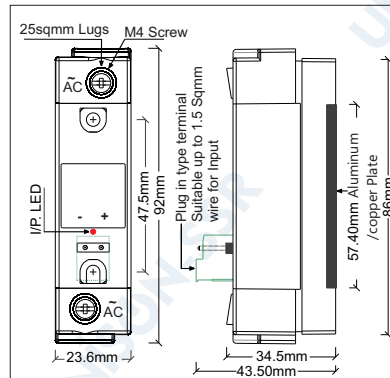
Power MOSFET	Transistor
High Speed ON/OFF (High Frequency)	Low Speed ON/OFF
High Power Capacity	Low Power Capacity
Voltage Drop Across Power MOSFET is Less	Voltage Drop Across Transistor is more
Size of Heat sink less	Size of Heat sink is more

Switching Response Time Waveform of Power MOSFET



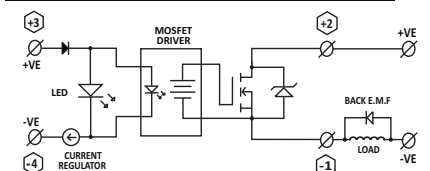
- ⇓ Enable CW-1 & CW-3 for clock-wise rotation
- ⇓ Enable CCW-2 & CCW-4 for counter clock-wise rotation
- ⇓ Provide interlocking between signals CW-1/CW-3 & CCW-2/CCW-4

803 MODEL DIMENSION



POWER MOSFET THERMAL CALCULATION	
I_D	Safe Continuous Current with heat sink
$R_{DS(ON)}$	ON State Drain to Source Resistance
$V_{DS(ON)}$	ON State Drain to Source Voltage Drop
P_D	$V_{DS(ON)} \times I_D \times R_{DS(ON)}$
	POWER DISSIPATION
	$P_D = I_D \times V_{DS(ON)}$
T_J	Junction Temperature (°C)
T_A	Ambient Temperature (°C)
$R_{\theta JC}$	Thermal Resistance Junction to Case (°C/W)
$R_{\theta CS}$	Thermal Resistance of Heat Sink Compound (°C/W)
$R_{\theta SA}$	Thermal Resistance of External Heat Sink (°C/W) Depends on Length, Width, Expose Aluminium
$\Delta T = T_J - T_A$	$P \times (R_{\theta JC} + R_{\theta CS} + R_{\theta SA})$

PMDD- POWER MOSFET DC TO DC



- ⇓ RDS(ON) has Positive Temperature Co-efficient which aids in paralleled Power MOSFET device and Negative Temperature Co-efficient of Trans conductance so less susceptible for Thermal Runaway.
- ⇓ No need to Derate Power Handling Capacity.
- ⇓ Across the Load, Back EMF Diode required for Inductive Load.

Approved By

 EN-60947-5-1