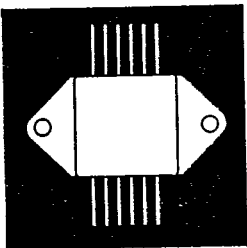


OMNIREL CORP

T-52-13-90

HERMETIC MOSFET POWER MODULE



100V Thru 500V, Up To 35 Amp, Two Isolated N-Channel MOSFETs With Low Power CMOS Gate Drive Circuitry

FEATURES

- Isolated Hermetic Package
- CMOS Gate Drive Circuitry
- Power MOSFET Terminals Accessible
- Low $R_{DS(ON)}$
- Available Screened To OM803
- Logic Similar To Industry Standard TSC4420/4429

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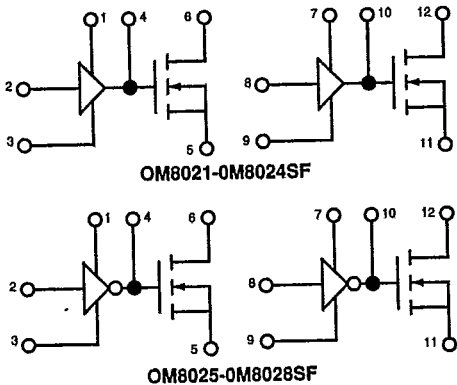
DESCRIPTION

This series of products feature the latest advanced MOSFET devices packaged with CMOS logic drive circuit in a hermetically sealed package. This circuitry enables the power MOSFET to be driven directly from standard logic integrated circuits. This eliminates the need for discrete circuitry between the logic and the MOSFET gate.

MAXIMUM RATINGS (Output MOSFET)

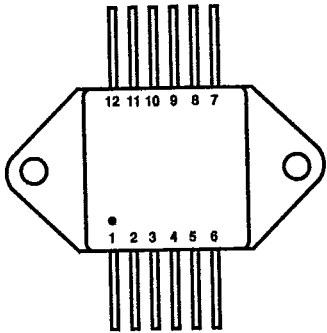
PART NUMBER	V_{DS}	$R_{DS(ON)}$	$I_{D(MAX)}$
OM8021SF, OM8025SF	100V	.065 Ω	35 A
OM8022SF, OM8026SF	200V	.095 Ω	30 A
OM8023SF, OM8027SF	400V	.3 Ω	15 A
OM8024SF, OM8028SF	500V	.4 Ω	13 A

SCHEMATIC



PIN CONNECTIONS

- Pin 1 V_{IN} 1
- Pin 2 Logic Input 1
- Pin 3 Grd 1
- Pin 4 Gate 1
- Pin 5 Source 1
- Pin 6 Drain 1
- Pin 7 V_{IN} 2
- Pin 8 Logic Input 2
- Pin 9 Grd 2
- Pin 10 Gate 2
- Pin 11 Source 2
- Pin 12 Drain 2



OUTPUT MOSFET ABSOLUTE MAXIMUM RATINGS (T_C = 25°C unless otherwise noted)

Parameter	OM8021 OM8025	OM8022 OM8026	OM8023 OM8027	OM8024 OM8028	Units
V _{DS} Drain-Source Voltage	100	200	400	500	V
I _D @ T _C = 25°C Continuous Drain Current	± 35	± 30	± 15	± 13	A
I _D @ T _C = 100°C Continuous Drain Current	± 25	± 19	± 8	± 7	A
V _{GS} Gate-Source Voltage ²	± 20	± 20	± 20	± 20	V
P _D @ T _C = 25°C Max. Power Dissipation	125	125	125	125	W
P _D @ T _C = 100°C Max. Power Dissipation	50	50	50	50	W
Junction To Case Linear Derating Factor ¹	1.0	1.0	1.0	1.0	W/°C
Junction To Ambient Linear Derating Factor	.025	.025	.025	.025	W/°C
T _J Operating and T _{stg} Storage Temperature Range	-55 to 150	-55 to 150	-55 to 150	-55 to 150	°C
Lead Temperature (1/16" from case for 10 secs.)	300	300	300	300	°C

- 1 Pulse Test: Pulse width ≤ 300 μsec. Duty Cycle ≤ 2%.
- 2 For direct drive to MOSFET Gate.

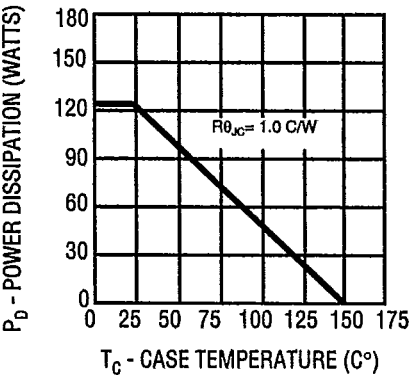
INPUT LOGIC MAXIMUM RATINGS (T_C = 25°C)

Parameter	All Devices	Units
V _C Control Voltage	20	V
V _{LOGIC} Drive Voltage	20	V
I _{INPUT} Input Current	10	μA
f _{OPERATING} Drive Frequency	500	kHz

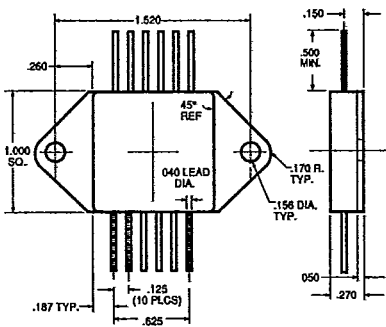
CIRCUIT CHARACTERISTICS

Parameter	Test Conditions	OM8021 OM8025	OM8022 OM8026	OM8023 OM8027	OM8024 OM8028	Units
V _{D(ON) Max.} @ T _C = 25°C	Rated I _{D Max.} , V _C = +10V	2.3	2.9	4.5	5.3	V
V _{D(ON) Max.} @ T _C = 100°C	Rated I _{D Max.} , V _C = +10V	2.9	4.0	5.2	6.5	V
T _{ON Max.} @ T _C = 25°C	V _C = +10V, V _D = 30V, I _D = 25, R _L = 1.2Ω, OM8021, 8025	135	135	135	135	nsec
T _{OFF Max.} @ T _C = 25°C	V _D = 75V, I _D = 19, R _L = 4.0Ω, OM8022, 8026 V _D = 200V, I _D = 8, R _L = 25Ω, OM8023, 8027 V _D = 210V, I _D = 7, R _L = 30Ω, OM8024, 8028	250	250	250	250	nsec

POWER DERATING
(Each MOSFET)



MECHANICAL OUTLINE



Unless otherwise specified, general tolerance is ±.010