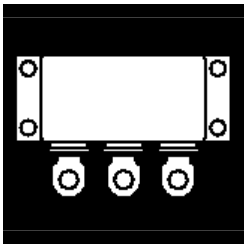
Preliminary Data Sheet

OM6056SB OM6058SB OM6060SB
OM6057SB OM6059SB OM6061SB

POWER MOSFETS IN A HERMETIC ISOLATED POWER BLOCK PACKAGE



High Current, High Voltage 100V Thru 1000V, Up To 190 Amp N-Channel, Size 7 MOSFETs

FEATURES

- Size 7 Die, High Energy
- Rugged Package Design
- Solder Terminals
- Very Low $R_{DS(on)}$
- Fast Switching, Low Drive Current
- Available Screened To MIL-S-19500, TX, TXV And S Levels
- Ceramic Feedthroughs

DESCRIPTION

This series of hermetically packaged products feature the latest advanced MOSFET technology combined with a package designed specifically for high efficiency, high current applications. They are ideally suited for Hi-Rel requirements where small size, high performance and high reliability are required, and in applications such as switching power supplies, motor controls, inverters, choppers, audio amplifiers and high energy pulse circuits. This series also features avalanche high energy capability at elevated temperatures.

MAXIMUM RATINGS @ 25°C

PART NUMBER	V_{DS}	$R_{DS(on)}$	I_D (Continuous)
OM6056SB	100 V	.008 Ω	190 A
OM6057SB	200 V	.018 Ω	105 A
OM6058SB	500 V	.095 Ω	58 A
OM6059SB	600 V	.140 Ω	48 A
OM6060SB	800 V	.300 Ω	34 A
OM6061SB	1000 V	.500 Ω	18 A

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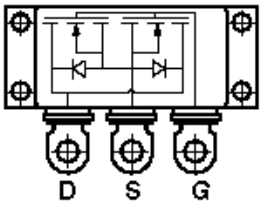
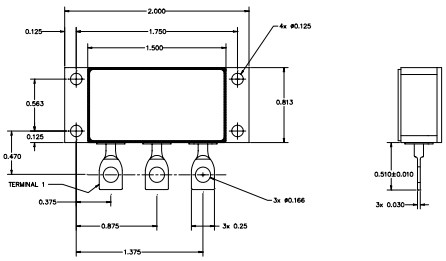
PIN CONNECTION AND SCHEMATIC



MECHANICAL OUTLINE



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

Parameter	Symbol	OM6056SB	OM6057SB	OM6058SB	OM6059SB	OM6060SB	OM6061SB	Unit
Drain Source Voltage	V_{DS}	100	200	500	600	800	1000	V
Drain Gate Voltage (R_{GS} = 1.0 MΩ)	V_{DGR}	100	200	500	600	800	1000	V
Continuous Drain Current @ T_C = 25°C [2]	I_D	190	105	58	48	34	18	A
Continuous Drain Current @ TC = 100°C [2]	I_D	82	44	25	19	15	7.5	A
Pulsed Drain Current[1]	I_{DM}	440	250	130	110	78	42	A
Max. Power Dissipation @ T_C = 25°C	P_D	570						W
Max. Power Dissipation @ T_C = 100°C	P_D	245						W
Linear Derating Factor Junction-to-Case		4.35						W/°C
Linear Derating Factor Junction-to-Ambient		.033						W/°C
Operating and Storage Temp. Range	T_J, T_{stg}	-55 to +150						° C
Lead Temperature (1/16" from case for 10 sec.)		230						° C

Notes: 1. Pulse Test: Pulse Width ≤ 300 µsec, Duty Cycle ≤ 2%. **2. Package Pin Limitation:** 100 Amps @ 125°C.

THERMAL RESISTANCE (MAXIMUM) @ T_A = 25°C

Junction-to-Case	R_{thJC}	.23	° C/W
Junction-to-Ambient (Free Air Operation)	R_{thJA}	30	° C/W

PRELIMINARY ELECTRICAL CHARACTERISTICS (T_C = 25°C unless otherwise noted)

Characteristic	Test Condition		Symbol	Part No.	Min.	Max.	Units
Gate Threshold Voltage	V_{DS} = V_{GS}, I_D = 250µA		$V_{GS(th)}$	All	2.0	4.0	V
Gate-Source Leakage Current	V_{GS} = ±20 V_{DC}		I_{GSS}	All		±100	nA
Off State Drain-Source Leakage	V_{DS} = V_{DSS} x 0.8	T_C = 25°C	I_{DSS}	All		10	µA
	V_{GS} = 0V	T_C = 125°C	I_{DSS}	All		.10	mA
Drain-Source Breakdown Voltage	V_{GS} = 0V, I_D = 250 µA		V_{DSS}	OM6056SB	100		V
				OM6057SB	200		
				OM6058SB	500		
				OM6059SB	600		
				OM6060SB	800		
				OM6061SB	1000		
Static Drain-Source On-Resistance	V_{GS} = 10V, I_D = I_{D25} x 0.5		$R_{DS(on)}$	OM6056SB		.008	Ω
				OM6057SB		.018	
				OM6058SB		.095	
				OM6059SB		.140	
				OM6060SB		.300	
				OM6061SB		.500	

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The above data is preliminary. Please contact factory for additional data and the dynamic and switching characteristics.