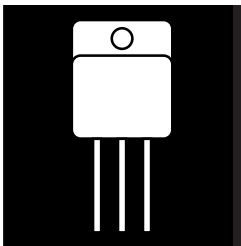


OM6050SJ OM6052SJ OM6054SJ  
OM6051SJ OM6053SJ OM6055SJ

# HIGH CURRENT MOSFET IN ISOLATED, TO-267 HERMETIC PACKAGE, SIZE 7 DIE, LOW $R_{DS(on)}$



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

## FEATURES

- Isolated Hermetic Metal Package
- Size 7 Die, High Energy
- Fast Switching, Low Drive Current
- Ease Of Paralleling For Added Power
- Low  $R_{DS(on)}$
- Available Screened To MIL-S-19500, TX, TXV And S Levels

## DESCRIPTION

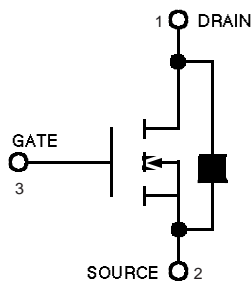
This series of hermetically packaged products feature the latest advanced MOSFET and packaging technology. They are ideally suited for Military requirements where small size, high performance and high reliability are required, and in applications such as switching power supplies, motor controls, inverters, choppers, audio amplifiers and high energy pulse circuits. This series also features avalanche high energy capability at elevated temperatures.

## MAXIMUM RATINGS @ 25°C

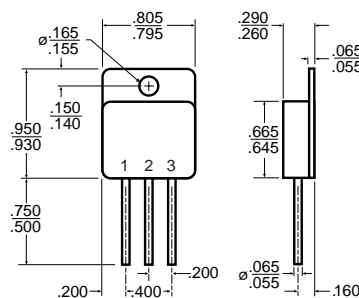
PART NUMBER	$V_{DS}$	$R_{DS(on)}$	$I_D$ (Continuous)
OM6050SJ	100 V	.014	100 A
OM6051SJ	200 V	.030	55 A
OM6052SJ	500 V	.160	30 A
OM6053SJ	600 V	.230	25 A
OM6054SJ	800 V	.500	18 A
OM6055SJ	1000 V	.800	10 A

3.1

## SCHEMATIC



## MECHANICAL OUTLINE



TO-267

## OM6050SJ - OM6055SJ

### ABSOLUTE MAXIMUM RATINGS (T<sub>C</sub> = 25 C unless otherwise noted)

Parameter	Symbol	OM6050SJ	OM6051SJ	OM6052SJ	OM6053SJ	OM6054SJ	OM6055SJ	Unit
Drain Source Voltage	V <sub>DS</sub>	100	200	500	600	800	1000	V
Drain Gate Voltage (R <sub>GS</sub> = 1.0 M )	V <sub>DGR</sub>	100	200	500	600	800	1000	V
Continuous Drain Current @ T <sub>C</sub> = 25°C <sup>2</sup>	I <sub>D</sub>	100	55	30	25	18	10	A
Continuous Drain Current @ TC = 100°C <sup>2</sup>	I <sub>D</sub>	43	23	13	10	7	4	A
Pulsed Drain Current <sup>1</sup>	I <sub>DM</sub>	235	135	80	75	50	30	A
Max. Power Dissipation @ T <sub>C</sub> = 25°C	P <sub>D</sub>	280						W
Max. Power Dissipation @ T <sub>C</sub> = 100°C	P <sub>D</sub>	110						W
Linear Derating Factor Junction-to-Case		2.22						W/°C
Linear Derating Factor Junction-to-Ambient		.025						W/°C
Operating and Storage Temp. Range	T <sub>J</sub> , T <sub>stg</sub>	-55 to +150						°C
Lead Temperature (1/16" from case for 10 sec.)		275						°C

Notes: 1. Pulse Test: Pulse Width ≤ 300 msec, Duty Cycle ≤ 2%. 2. Package Pin Limitation: 35 Amps.

### THERMAL RESISTANCE (MAXIMUM) @ T<sub>A</sub> = 25 C

Junction-to-Case	R <sub>thJC</sub>	.45	°C/W
Junction-to-Ambient (Free Air Operation)	R <sub>thJA</sub>	40	°C/W

### PRELIMINARY ELECTRICAL CHARACTERISTICS (T<sub>C</sub> = 25°C unless otherwise noted)

Characteristic	Test Condition	Symbol	Part No.	Min.	Max.	Units
Gate Threshold Voltage	V <sub>DS</sub> = V <sub>GS</sub> , I <sub>D</sub> = 250μA	V <sub>GS(th)</sub>	All	2.0	4.0	V
Gate Source Leakage Current	V <sub>GS</sub> = ±20 V <sub>DC</sub>	I <sub>GSS</sub>	All		±100	nA
Off State Drain-Source Leakage	V <sub>DS</sub> = V <sub>DSS</sub> × 0.8 V <sub>GS</sub> = 0V	T <sub>C</sub> = 25°C	I <sub>DSS</sub>	All	10	μA
		T <sub>C</sub> = 125°C	I <sub>DSS</sub>	All	.10	mA
Drain-Source Breakdown Voltage	V <sub>GS</sub> = 0V, I <sub>D</sub> = 250 μA	V <sub>DSS</sub>	OM6050SJ	100		V
			OM6051SJ	200		
			OM6052SJ	500		
			OM6053SJ	600		
			OM6054SJ	800		
			OM6055SJ	1000		
Drain-Source Breakdown Voltage	V <sub>GS</sub> = 10V, I <sub>D</sub> = I <sub>D25</sub> × 0.5	R <sub>DS(on)</sub>	OM6050SJ		.014	
			OM6051SJ		.030	
			OM6052SJ		.160	
			OM6053SJ		.230	
			OM6054SJ		.500	
			OM6055SJ		.800	

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