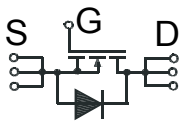
MOSFET Module PSMG 60/08

V_{DSS} = 800 V
I_{D25} = 60 A
$R_{DS(on)}$ = 0.12 Ω
t_{rr} ≤ 250 ns

Preliminary Data Sheet



MOSFET (data related to single chip)

Symbol	Test Conditions		Maximum Ratings	
V_{DSS}	T_J = 25 °C to 150 °C		800	V
V_{DGR}	T_J = 25 °C to 150 °C, R_{GS} = 1 MΩ		800	V
V_{GS}	continuous		±20	V
V_{GSM}	transient		±30	V
I_{D25}	T_{Case} = 25 °C		60	A
I_{DM}	T_{Case} = 25 °C, pulse width limited by T_{JM}		240	A
I_{AR}			60	A
E_{AR}	T_C = 25 °C		64	mJ
E_{AS}	T_C = 25 °C		3	J
dv/dt	$I_S \le I_{DM}$, di/dt ≤ 100A/µs, $V_{DD} \le V_{DSS}$, $T_J \le 150$ °C, R_G = 2 Ω		5	V/ns
P_D	T_{Case} = 25 °C		1200	W
T_J			-55...+150	°C
T_{JM}			+150	°C
T_{stg}			-55...+150	°C
V_{ISOL}	50/60 Hz, RMS	t = 1 min.	2500	V~
V_{ISOL}	$I_{ISOL} \le 1$ mA	t = 1 s	3000	V~
M_d	Mounting torque	(M4)	1.5	Nm
			14	lb.in.
a	max. allowed acceleration		50	m/s^2
Weight			26	g

Symbol	Test Conditions		Characteristic Values (T_J = 25 °C, unless otherwise specified)	
V_{DSS}	V_{GS} = 0 V, I_D = 3 mA	min.	800	V
	V_{DSS} temperature coefficient	typ.	0.096	%/K
$V_{GS(th)}$	$V_{GS} = V_{DS}$, I_D = 8 mA	min.	3.0	V
		max.	5.0	V
	$V_{GS(th)}$ temperature coefficient	typ.	-0.214	%/K
I_{GSS}	V_{DS} = 0 V, V_{GS} = ± 20 V	max.	± 200	nA
I_{DSS}	$V_{DS} = V_{DSS}$, T_J = 25 °C	max.	100	µA
	V_{GS} = 0 V, T_J = 125 °C	max.	2	mA
$R_{DS(on)}$	V_{GS} = 10 V, $I_D = 0.5 \cdot I_{D25}$ pulse test, t ≤ 300 µs, duty cycle d ≤ 2 %	max.	0.12	Ω

ATTENTION: All given data are derived from similar modules or estimated from chip data.

Typical picture; changes of the pin configuration is reserved.

Features

- Package with DCB ceramic base plate
- Isolation voltage 3000 V~
- Planar glass passivated chips
- Low forward voltage drop
- Leads suitable for PC board soldering
- Low $R_{DS(on)}$ HDMOS™ process
- Fast intrinsic Rectifier
- UL registerd, E 148688

Applications

- DC-DC converters
- Battery chargers
- Switched-mode and resonant-mode power supplies
- DC choppers
- Temperature and lighting controls

Advantages

- Easy to mount with two screws
- Space and weight savings
- Improved temperature and power cycling capability
- High power density
- Small and light weight

Caution: These devices are sensitive to electrostatic discharge. Users should observe proper ESD handling precautions.

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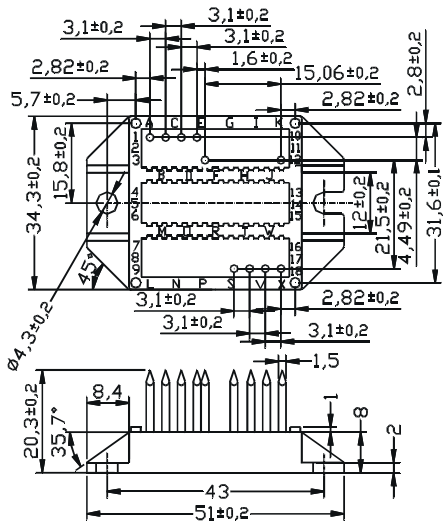
Symbol	Test Conditions		Characteristic Values	
		(T_J = 25 °C, unless otherwise specified)		
C_{iss}	V_{GS} = 0 V,	typ.	15000	pF
C_{oss}	V_{DS} = 25 V,	typ.	1840	pF
C_{rss}	f = 1 MHz	typ.	440	pF
$t_{d(on)}$	V_{GS} = 10 V,	typ.	45	ns
t_r	V_{DS} = 0.5 · V_{DSS},	typ.	45	ns
$t_{d(off)}$	I_D = 0.5 · I_{D25}	typ.	100	ns
t_f	R_G = 1 Ω (External)	typ.	40	ns
R_{thJC}			0.45	K/W
R_{thCK}			0.60	K/W

Source-Drain Diode

Symbol	Test Conditions		Characteristic Values	
		(T_J = 25 °C, unless otherwise specified)		
I_S	V_{GS} = 0 V	max.	34	A
I_{SM}	repetitive	max.	136	A
	pulse width limited by T_{JM}			
V_{SD}	I_F = I_S, V_{GS} = 0 V	max.	1.5	V
	pulse test, t ≤ 300 µs, duty cycle d ≤ 2 %			
t_{rr}	I_F = I_S, T_J= 25 °C	max.	250	ns
	T_J=125 °C	max.	400	ns
Q_{RM}	-di/dt = 100 A/µs, T_J= 25 °C	typ.	1.4	µC
I_{RM}	V_R = 100 V	typ.	10	A

Package style and preliminary outline

Dimensions in mm (1mm = 0.0394“)



Characteristic pin configuration; changes of the pin configuration is reserved.

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