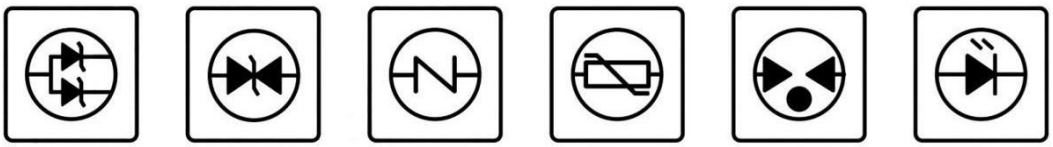
MSKSEMI 美森科
SEMICONDUCTOR



AO4884-MS

Product specification

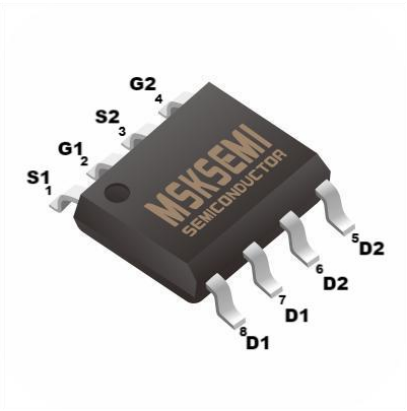
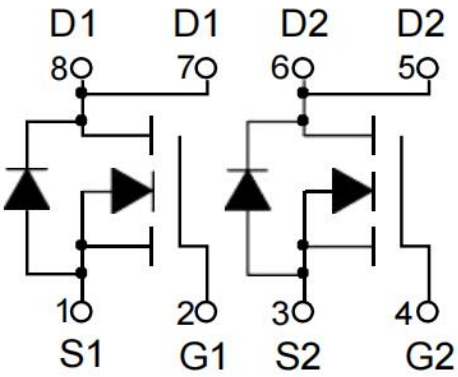
General Features

- VDS = 40V ID =10A
- RDS(ON) < 19m Ω @ VGS=10V

Application

- Battery protection
- Load switch
- Uninterruptible power supply

Reference News

PACKAGE OUTLINE	Pin Configuration	Marking
		MSKSEMI 4884 3SKJ84
SOP-8	N-Channel MOSFET	

Absolute Maximum Ratings (TA=25unless otherwise noted)

Parameter	Symbol	Limit	Unit
Drain- Source Voltage	V_{DS}	40	V
Gate- Source Voltage	V_{GS}	±20	V
Drain Current- Continuous	I_D	10	A
Drain Current- Continuous(T_C= 1 0 0 ℃)	I_D (100℃)	6.4	A
Pulsed Drain Current	I_{DM}	40	A
Maximum Power Dissipation	I_D	2	W
Operating Junction and Storage Temperature Range	T_J ,T_{STG}	-55 To 150	℃
Thermal Resistance, Junction- to- Ambient (Note 2)	$R_{\theta JA}$	62.5	W

N-CH Electrical Characteristics (TA=25℃unless otherwise noted)

Parameter	Symbol	Condition	Min	Typ	Max	Unit
Drain- Source Breakdown Voltage	BV_{DSS}	V_{GS}=0V I_D=250μA	40	-	-	V
Zero Gate Voltage Drain Current	I_{DSS}	V_{DS}=40V, V_{GS}=0V	-	-	1	μA
Gate- Body Leakage Current	I_{GSS}	V_{GS}=±20V, V_{DS}=0V	-	-	± 100	nA
Gate Threshold Voltage	$V_{GS(th)}$	V_{DS}=V_{GS} , I_D=250μA	1	1.5	2.0	V
Drain- Source On- State Resistance	$R_{DS(ON)}$	V_{GS}=10V, I_D=8A	-	15	20	mΩ
		V_{GS}=4.5V, I_D=4A	-	20	30	mΩ
Forward Transconductance	g_{FS}	V_{DS}=5V, I_D=8A	33	-	-	S
Input Capacitance	C_{lss}	V_{DS}=20V, V_{GS}=0V, F=1.0MHz	-	964	-	pF
Output Capacitance	C_{oss}		-	109	-	pF
Reverse Transfer Capacitance	C_{rss}		-	96	-	pF
Turn- on Delay Time	$t_{d(on)}$	V_{DD}=20V, R_L=2.5Ω V_{GS}=10V, R_{GEN}=3Ω	-	5.5	-	nS
Turn- on Rise Time	t_r		-	14	-	nS
Turn- Off Delay Time	$t_{d(off)}$		-	24	-	nS
Turn- Off Fall Time	t_f		-	12	-	nS
Total Gate Charge	Q_g	V_{DS}=20V, I_D=8A, V_{GS}=10V	-	22.9	-	nC
Gate- Source Charge	Q_{gs}		-	3.5	-	nC
Gate- Drain Charge	Q_{gd}		-	5.3	-	nC
Diode Forward Voltage (Note 3)	V_{SD}	V_{GS}=0V, I_S=9A	-	0.8	1.2	V

Typical Characteristics

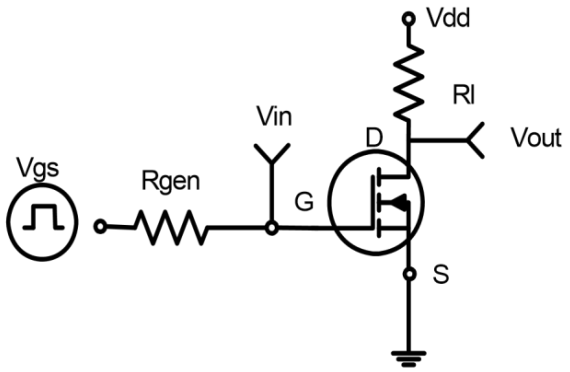


Figure 1:Switching Test Circuit

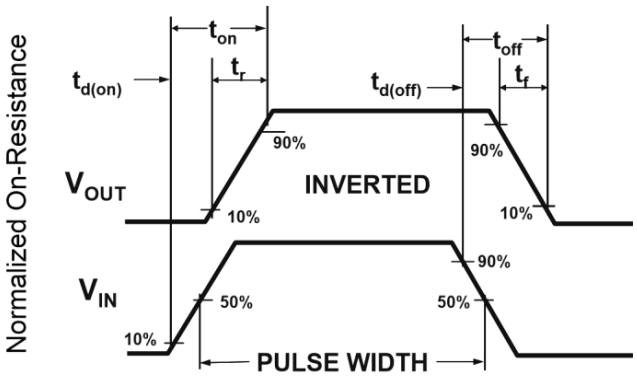


Figure 2:Switching Waveforms

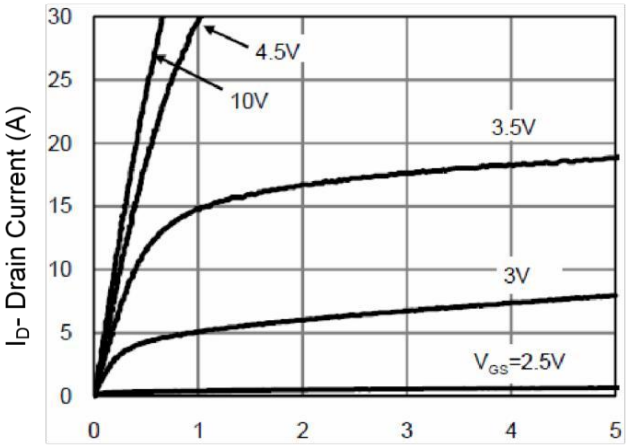


Figure 3 Output Characteristics

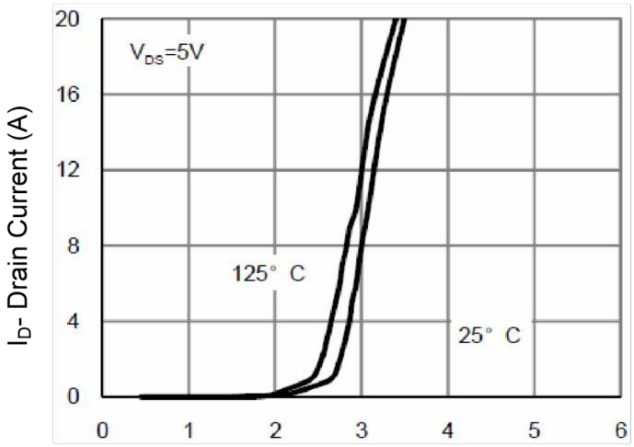


Figure 4 Transfer Characteristics

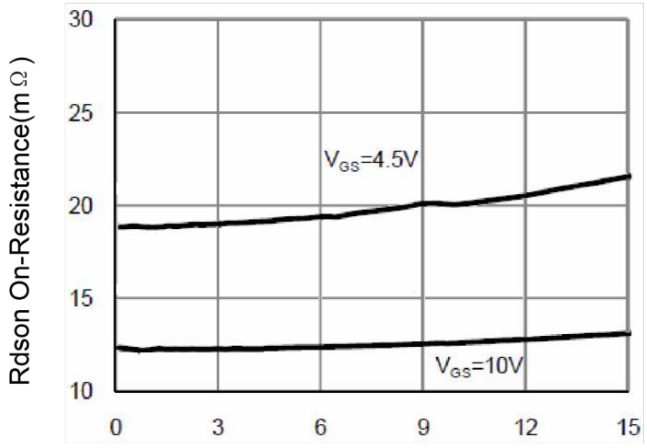


Figure 5 Drain-Source On-Resistance

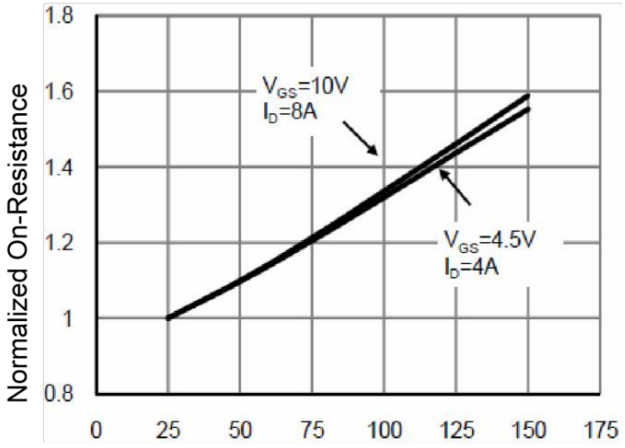


Figure 6 Drain-Source On-Resistance

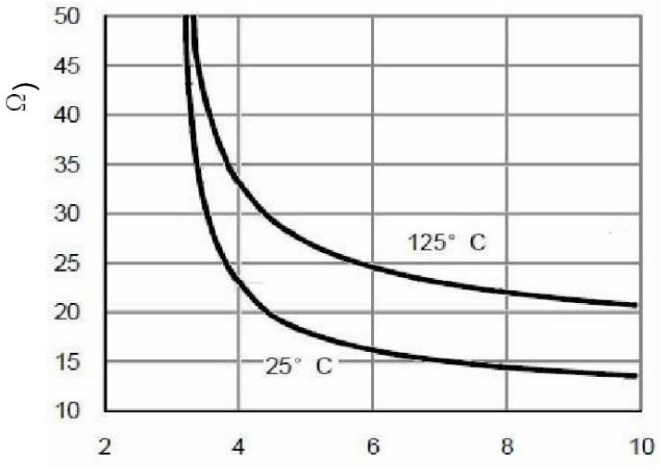


Figure7 Rdson vs Vgs

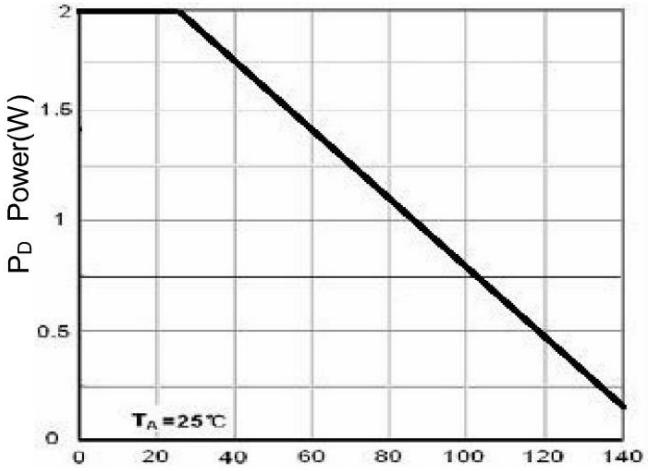


Figure 8 Power Dissipation

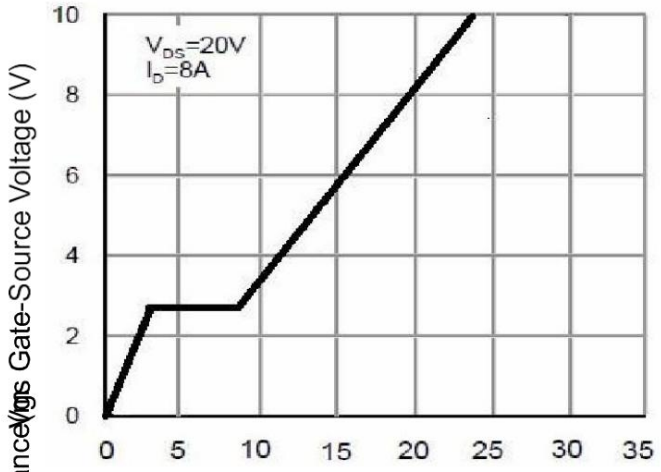


Figure 9 Gate Charge

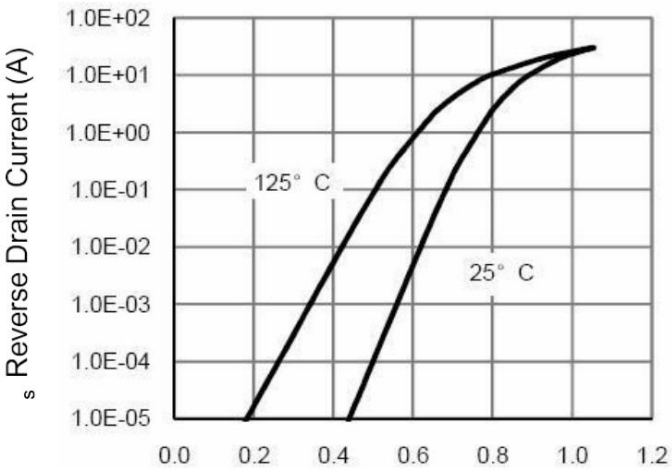


Figure 10 Source- Drain Diode Forward

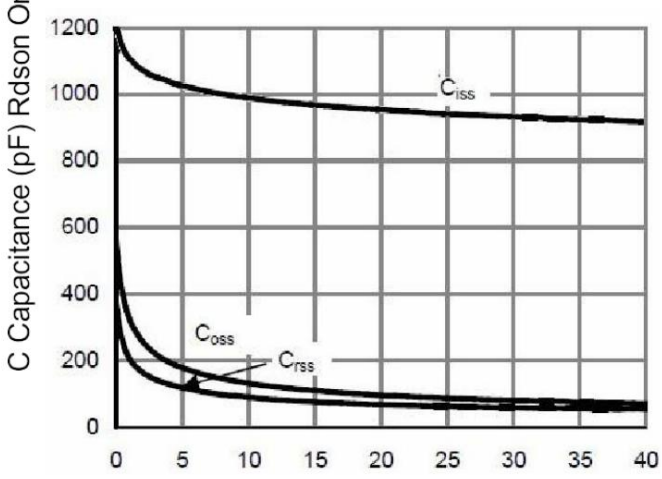


Figure 11 Capacitance vs Vds

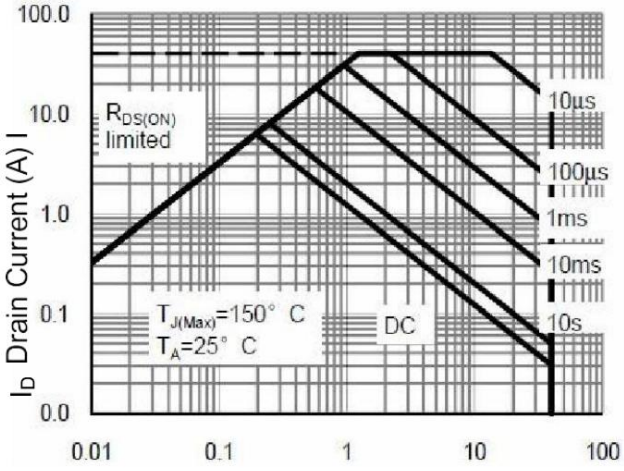
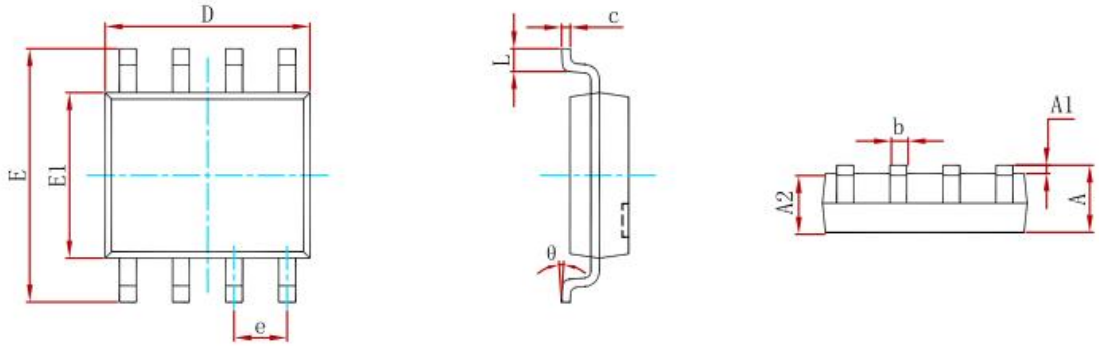


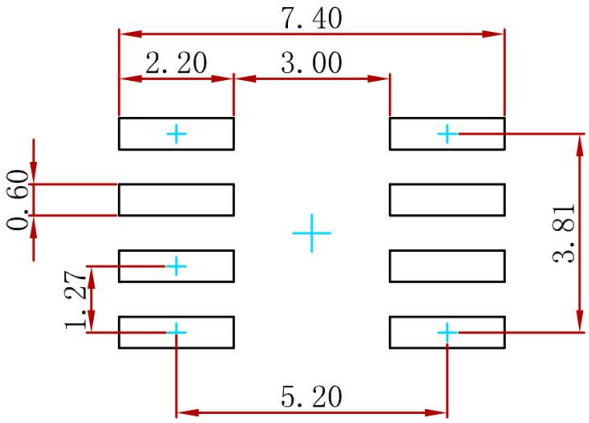
Figure 12 Safe Operation Area

PACKAGE MECHANICAL DATA



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min	Max	Min	Max
A	1.350	1.750	0.053	0.069
A1	0.100	0.250	0.004	0.010
A2	1.350	1.550	0.053	0.061
b	0.330	0.510	0.013	0.020
c	0.170	0.250	0.007	0.010
D	4.800	5.000	0.189	0.197
e	1.270 (BSC)		0.050 (BSC)	
E	5.800	6.200	0.228	0.244
E1	3.800	4.000	0.150	0.157
L	0.400	1.270	0.016	0.050
θ	0°	8°	0°	8°

Suggested Pad Layout



Note:

1.Controlling dimension:in millimeters.

2.General tolerance:±0.05mm.

3.The pad layout is for reference purposes only

REEL SPECIFICATION

P/N	PKG	QTY
AO4884-MS	SOP--8	4000

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