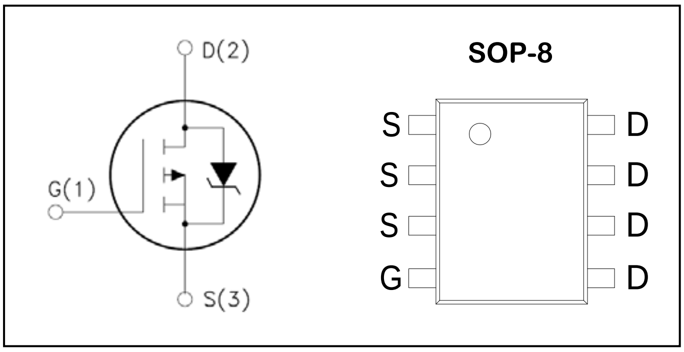
ADV

ADM8P03S

P-Channel Logic Level Enhancement Mode Field Effect Transistor



PRODUCT SUMMARY

V_{DSS}	I_D	$R_{DS(ON)}$ (mΩ)
-30V	-9.1A	20mΩ

Absolute Maximum Ratings (T_A = 25°C unless otherwise specified)

Symbol	Parameter		Ratings	Unit
Common Ratings				
V_{DSS}	Drain-Source Voltage		-30	V
V_{GSS}	Gate-Source Voltage		±20	
T_J	Maximum Junction Temperature		150	°C
T_{STG}	Storage Temperature Range		-55 to 150	°C
I_S	Diode Continuous Forward Current	T_C=25°C	-2.1	A
Mounted on Large Heat Sink				
I_{DM}	300µs Pulse Drain Current Tested⑴	T_C=25°C	-50	A
I_D	Continuous Drain Current	T_C=25°C	-9.1	A
		T_C=75°C	-4.5	A
P_D	Maximum Power Dissipation	T_C=25°C	2.5	W
		T_C=75°C	1.6	W

Thermal Characteristics

Symbol	Parameter	Ratings	Unit
R_{thJC}	Thermal resistance junction-case max	3	°C/W
R_{thJA}	Thermal resistance junction-ambient max(PCB mounted) ⑵	62.5	°C/W

1. Pulse width limited by maximum junction temperature.
2. 1-in^2 2oz Cu PCB board

Electrical Characteristics (T$_A$=25°C Unless Otherwise Noted)

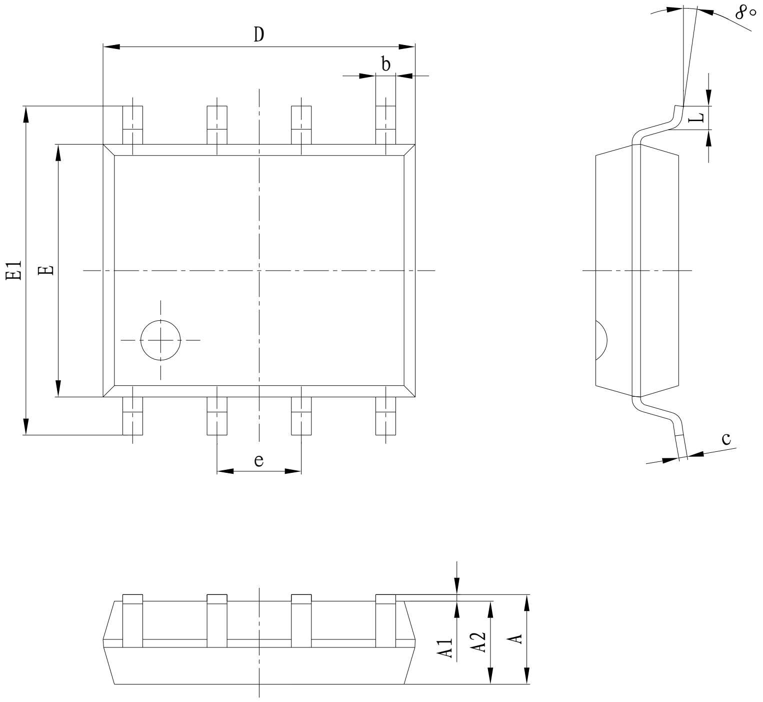
Symbol	Parameter	Test conditions	Min.	Typ.	Max.	Unit
On/off Characteristics						
BV_{DSS}	Drain-Source Breakdown Voltage	V_{GS}=0V, I_{DS}=-250uA	-30	--	--	V
I_{DSS}	Zero Gate Voltage Drain Current	V_{DS}= -30V, V_{GS}=0V	--	--	1	uA
		V_{DS}=-30V,V_{GS}=0V T_J=125°C	--	--	10	
$V_{GS(th)}$	Gate Threshold Voltage	V_{DS}=V_{GS}, I_{DS}=-250uA	-1	-1.3	-3	V
I_{GSS}	Gate Leakage Current	V_{GS}=±20V, V_{DS}=0V	--	--	±100	nA
$R_{DS(ON)}$	Drain-SourceOn-stateResistance⑵	V_{GS}= -10V, I_{DS}=-9.1A	--	15	20	mΩ
		V_{GS}= -4.5V, I_{DS}=-6.9A	--	20	35	
Dynamic Characteristics						
C_{iss}	Input Capacitance	V_{GS}=0V, V_{DS}= -8V, Frequency=1.0MHz	--	1837.3	--	pF
C_{oss}	Output Capacitance		--	225.93	--	
C_{rss}	Reverse Transfer Capacitance		--	151.23	--	
Switching Characteristics						
$t_{d(ON)}$	Turn-on Delay Time⑴	V_{DS} =-15V, I_D= -1A, V_{GS}= -10V, R_{GEN}=6 Ω	--	15.44	--	ns
t_r	Turn-on Rise Time⑴		--	5.04	--	
$t_{d(OFF)}$	Turn-off Delay Time⑴		--	71.04	--	
t_f	Turn-off Fall Time⑴		--	16.8	--	
Q_g	Total Gate Charge⑴	V_{DS}=15V, V_{GS}= -10V, I_{DS}=-9.1A	--	33.82	--	nC
Q_{gs}	Gate-Source Charge⑴		--	4.93	--	
Q_{gd}	Gate-Drain Charge⑴		--	5.2	--	
Diode Characteristics						
V_{SD}	Diode Forward Voltage⑵	I_{SD} = -2.1A, V_{GS} = 0	--	--	-1.2	V

NOTES:

1. Independent of operating temperature.
2. Pulse Test : Pulse width ≤ 300μs, Duty cycle ≤ 2%

PACKAGE MECHANICAL DATA

SOP-8 Package Dimension



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	0.006	0.010
D	4.700	5.100	0.185	0.200
E1	5.800	6.200	0.228	0.244
E	3.800	4.000	0.150	0.157
e	1.270TYP		0.050TYP	
e1	4.500	4.700	0.177	0.185
L	0.400	1.270	0.016	0.050