

N-Channel 30-V (D-S) MOSFET
FEATURES

- Advance Trench Process Technology
- High Density Cell Design for Ultra Low On-resistance

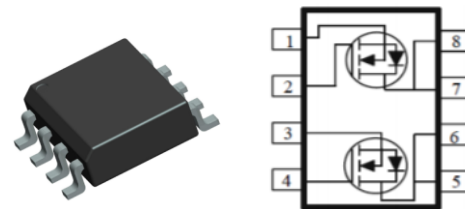
Application

- Portable Devices
- Consumer Electronics
- Consumer Electronics

Mechanical

- Case: SOP-8-Dual Package

PRODUCTY SUMMARY			
V_{DS}	$R_{DS(on)}$ m(Ω)		I_D (A)
30	30	Rdson @10V	6.4
	50	Rdson @4.5V	5.0

SOP-8-Dual

Packing Information

Package	Packing
SOP-8-Dual	3K/13" Reel

Maximum Ratings ($T_A=25^\circ\text{C}$ unless otherwise specified)			
Parameter	Symbol	Limit	Unit
Drain-Source Voltage	V_{DS}	30	V
Gate-Source Voltage	V_{GS}	± 20	V
Continuous Drain Current ¹⁾	I_D	5	A
Maximum Power Dissipation	P_D	1.2	W
Pulsed Drain Current ²⁾	I_{DM}	20	A
Operating Junction and Storage Temperature Range	T_J, T_{STG}	-55 to 150	$^\circ\text{C}$

Typical Thermal Resistance			
Parameter	Symbol	Limit	Unit
Junction-to-Ambient Thermal Resistance	$R_{\theta JA}$	110	$^\circ\text{C/W}$

Note:

$R_{\theta JA}$ is the sum of the junction-to-case and case-to-ambient thermal resistance where the case thermal reference is defined as the solder mounting surface of the drain pins mounted on a 1 inch FR-4 with 2oz. square pad of copper

Electrical Characteristics (T _A = 25°C UNLESS OTHERWISE NOTED)						
Characteristics	Symbol	Test Condition	Limits			Unit
			Min	Typ	Max	
Static						
Drain-Source Breakdown Voltage	B _V DSS	VGS = 0V, ID =250uA	30	-	-	V
Gate Threshold Voltage	VGS(th)	VDS=VGS, ID=250uA	1	-	2.5	V
Drain-Source On-State Resistance	RDS(on)	VGS=10.0V, ID=6.4A		21	30	mΩ
		VGS=4.5V, ID=5.0A		35	50	mΩ
Zero Gate Voltage Drain Current	IDSS	VDS=30V, VGS=0V			1.0	uA
Gate-Source Leakage Current	IGSS	VGS=±20V, VDS=0V			± 100	nA
Dynamic ³⁾						
Total Gate Charge	Qg	VDS=-15V, ID=4.5A, VGS=10V (Note 1,2)	-	4	-	nC
Gate-Source Charge	Qgs	VDS=-15V, ID=4.5A, VGS=4.5V (Note 1,2)	-	1.4	-	nC
Gate-Drain Charge	Qgd	VDS=-15V, ID=4.5A, VGS=4.5V (Note 1,2)	-	2.1	-	nC
Input Capacitance	Ciss	VDS=15V, VGS=0V, f=1.0MHZ	-	360	-	pF
Output Capacitance	Coss		-	56	-	pF
Reverse Transfer Capacitance	Crss		-	46	-	pF
Switching						
Turn-On Delay Time	td(on)	VDD=15V, ID=2.25A, VGS=-10V,RG=10Ω (Note 1,2)	-	3	-	ns
Turn-On Rise Time	tr		-	6	-	ns
Turn-Off Delay Time	td(off)		-	17	-	ns
Turn-Off Fall Time	tf		-	5	-	ns
Drain-Source Diode						
Diode Forward Voltage	VSD	IS=-0.8A, VGS=0V	-	-	1.2	V

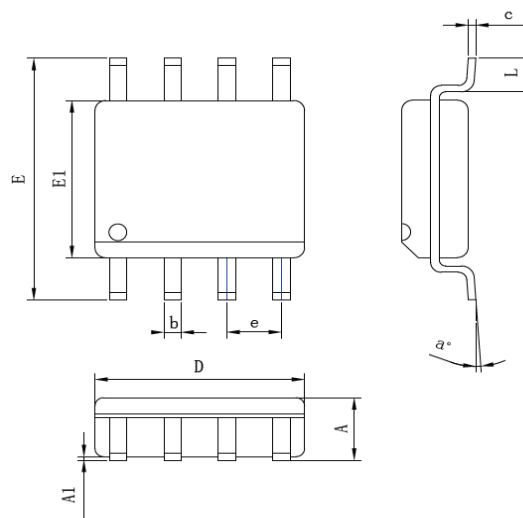
Note:

1. Pulse width<300us, Duty cycle<2%
2. Fused current that based on wire numbers and diameter
3. Guaranteed by design, not subject to production testing.

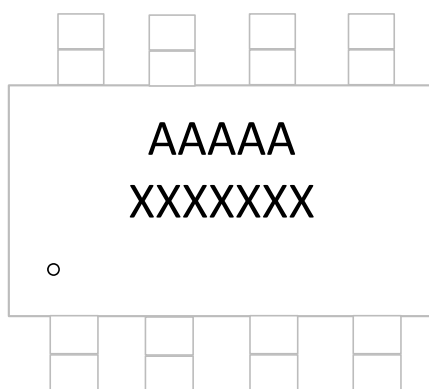
Package Outline Dimensions (inches and millimeters)

SOP-8

SYMBOL	Dimensions			
	Millimeters		Inches	
	Min	Max	Min	Max
A	-	1.75		0.069
A1	0.10	0.23	0.004	0.009
b	0.35	0.48	0.014	0.019
c	0.19	0.25	0.007	0.010
D	4.70	5.10	0.185	0.201
E	5.80	6.20	0.228	0.244
E1	3.70	4.10	0.146	0.161
e	1.27bsc			
L	0.50	0.80	0.020	0.031
a°	0°	8°	0°	8°



Marking Information



First line:

AAAAAA = Product number

XXXXXXX = Tracking number

Third line: Gate Pin Point

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