

N+P-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

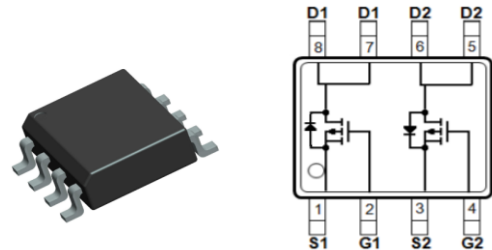
Mechanical

- Case: SOP-8-Dual Package

Packing Information

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

PRODUCTY SUMMARY			
V_{DS}	$R_{DS(on)}$ m(Ω)		I_D (A)
30	30	Rdson @10V	6.0
	50	Rdson @4.5V	5.0
-30	50	Rdson @-10V	-5.0
	70	Rdson @-4.5V	-4.1


Maximum Ratings ($T_A=25^\circ\text{C}$ unless otherwise specified)

Parameter	Symbol	Limit		Unit
		N-Channel	P-Channel	
Drain-Source Voltage	V_{DS}	30	-30	V
Gate-Source Voltage	V_{GS}	± 20	± 20	V
Continuous Drain Current ¹⁾	I_D	6	-5	A
Maximum Power Dissipation	P_D	1.2	1.1	W
Pulsed Drain Current ²⁾	I_{DM}	24	-20	A
Junction and Storage Temperature	T_J, T_{STG}	-55 to 150	-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	
N-Channel Static						
Drain-Source Breakdown Voltage	B _{VDSS}	V _{GS} = 0V, I _D =-250uA	30			V
Gate Threshold Voltage	V _{GS(th)}	V _{DS} =V _{GS} , I _D =-250uA	1	-	2.5	V
Drain-Source On-State Resistance	R _{DS(on)}	V _{GS} =10.0V, I _D =6.0A	-	21	30	mΩ
		V _{GS} =4.5V, I _D =5.0A	-	35	50	mΩ
Zero Gate Voltage Drain Current	I _{DSS}	V _{DS} =30V, V _{GS} =0V	-	-	1.0	uA
Gate-Source Leakage Current	I _{GSS}	V _{GS} =±20V, V _{DS} =0V	-	-	±100	nA
Drain-Source Diode						
Diode Forward Voltage	V _{SD}	I _S =0.8A, V _{GS} =0V	-	-	1.2	V

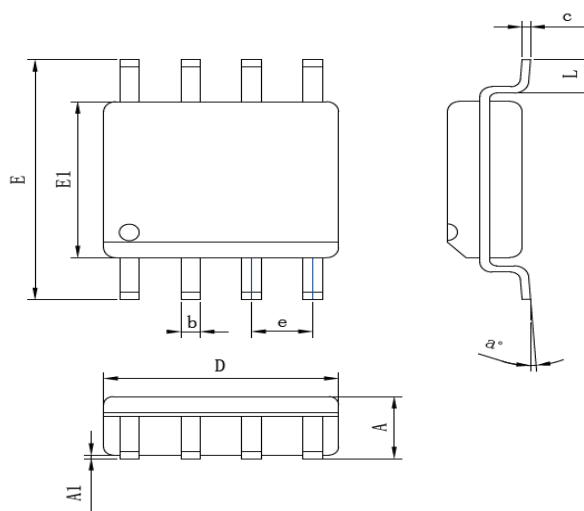
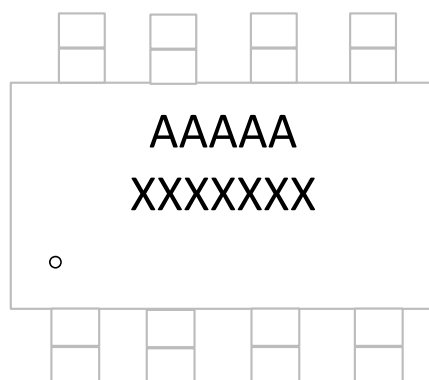
Electrical Characteristics (T _A = 25°C UNLESS OTHERWISE NOTED)						
Characteristics	Symbol	Test Condition	Limits			Unit
			Min	Typ	Max	
P-Channel Static						
Drain-Source Breakdown Voltage	B _{VDSS}	V _{GS} = 0V, I _D =-250uA	-30			V
Gate Threshold Voltage	V _{GS(th)}	V _{DS} =V _{GS} , I _D =-250uA	-1.00	-	-2.50	V
Drain-Source On-State Resistance	R _{DS(on)}	V _{GS} =-10.0V, I _D =-5.0A	-	38	50	mΩ
		V _{GS} =-4.5V, I _D =-4.1A	-	54	70	mΩ
Zero Gate Voltage Drain Current	I _{DSS}	V _{DS} =-30V, V _{GS} =0V	-	-	-1.0	uA
Gate-Source Leakage Current	I _{GSS}	V _{GS} =±20V, V _{DS} =0V	-	-	±100	nA
Drain-Source Diode						
Diode Forward Voltage	V _{SD}	I _S =-0.8A, V _{GS} =0V	-	-	-1.2	V

NOTES :

1. Pulse width<300us, Duty cycle<2%
2. Essentially independent of operating temperature typical characteristics.
3. R_{QJA} 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
4. The maximum current rating is package limited
5. 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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