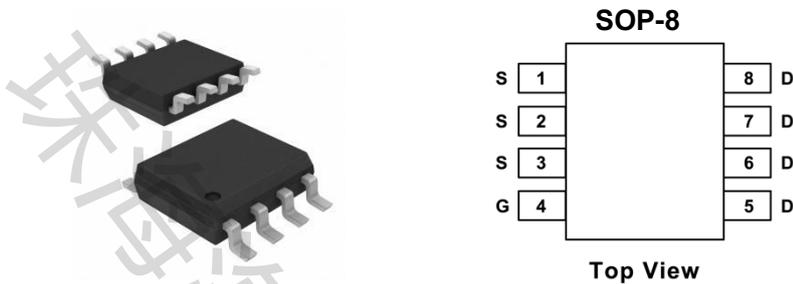


AO4435-HX P-Channel 30-V (D-S) MOSFET

PRODUCT		SUMMARY	
V _{DS} (V)	R _{DS(on)} (Ω)	I _D (A) _d	Q _g (Typ.)
- 30	0.018 at V _{GS} = - 10 V	- 9.0	13 nC
	0.024 at V _{GS} = - 4.5 V	- 7.8	



FEATURES

- TrenchFET[®] Power MOSFET
- 100 % R_g Tested

APPLICATIONS

- Load Switch
- Battery Switch

Maximum Ratings and Thermal Characteristics (TA = 25°C unless otherwise noted)

Parameter		Symbol	Limit	Unit
Drain-Source Voltage		V _{DS}	-30	V
Gate-Source Voltage		V _{GS}	± 20	
Continuous Drain Current		I _D	- 8.0	A
Pulsed Drain Current		I _{DM}	- 50	
Maximum Power Dissipation	TA = 25°C	PD	2.5	W
	TA = 70°C		1.6	
Operating Junction and Storage Temperature Range		T _J , T _{stg}	-55 to 150	°C
Maximum Junction-to-Ambient Thermal Resistance(1)		R _{θJA}	50	°C/W

Notes: (1) Surface Mounted on FR4 Board, t ≤ 10 sec.

Electrical Characteristics(T _J = 25. C unless otherwise noted)						
Parameter	Symbol	Test Condition	Min	Typ	Max	Unit
Static						
Gate Threshold Voltage	V _{GS(th)}	V _{DS} = V _{GS} , I _D = - 250μA	- 1.0	-	- 3.0	V
Gate-Body Leakage	I _{GSS}	V _{DS} = 0V, V _{GS} = ± 20V	-	-	± 100	nA
Zero Gate Voltage Drain Current	I _{DSS}	V _{DS} = - 30V, V _{GS} = 0V	-	-	- 1.0	μ A
On-State Drain Current(1)	I _{D(on)}	V _{DS} ≥ -5V, V _{GS} = - 10V	-40	-	-	A
Drain-Source Breakdown Voltage	BV _{DSS}	V _{GS} = 0V, I _D = - 250μA	- 30	-	-	V
Drain-Source On-State Resistance(1)	R _{DS(on)}	V _{GS} = - 10V, I _D = -8.0A	-	15.3	20	m Ω
		V _{GS} = -4.5V, I _D = -5.0A	-	25.3	35	
Forward Transconductance(1)	g _{fs}	V _{DS} = - 15V, I _D = -8.0A	-	22	-	S
Dynamic						
Total Gate Charge	Q _g	V _{DS} = - 15V, V _{GS} = - 10V, I _D = -4.6A	-	54	60	nC
Gate-Source Charge	Q _{gs}		-	8.5	-	
Gate-Drain Charge	Q _{gd}		-	10.3	-	
Turn-On Delay Time	t _{d(on)}	V _{DD} = - 15V, R _L = 15Ω I _D ≈ - 1A, V _{GEN} = - 10V R _G = 6Ω	-	24	30	ns
Rise Time	t _r		-	12	30	
Turn-Off Delay Time	t _{d(off)}		-	78	120	
Fall Time	t _f		-	37	80	
Input Capacitance	C _{iss}	V _{GS} = 0V V _{DS} = - 15V f = 1.0MHZ	-	2520	-	pF
Output Capacitance	C _{oss}		-	490	-	
Reverse Transfer Capacitance	C _{rss}		-	335	-	
bSource-Drain Diode						
Maximum Diode Forward Current	I _S		-	-	- 2.1	A
Diode Forward Voltage	V _{SD}	I _S = -2.1A, V _{GS} = 0V	-	- 0.75	- 1.2	V

Notes:(1) Pulse test; pulse width ≤ 300 μs, duty cycle ≤ 2%

TYPICAL CHARACTERISTICS 25 °C, unless otherwise noted

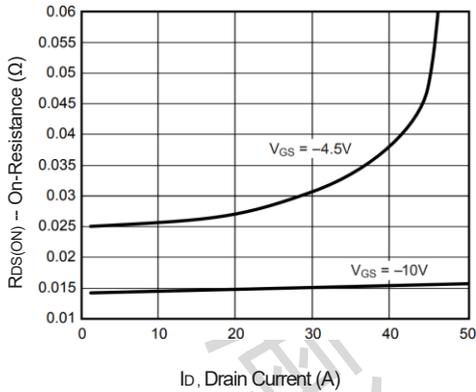


Fig 1. On-Resistance vs. Drain Current

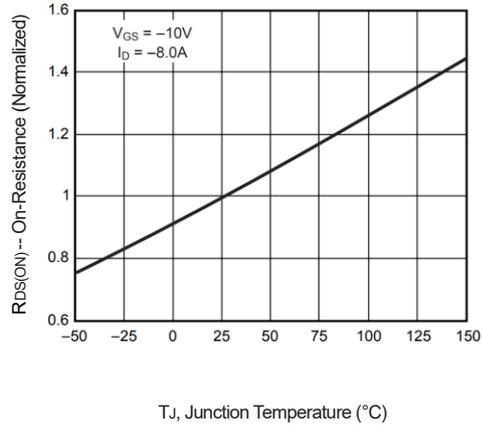


Fig 2. On-Resistance vs. Junction Temperature

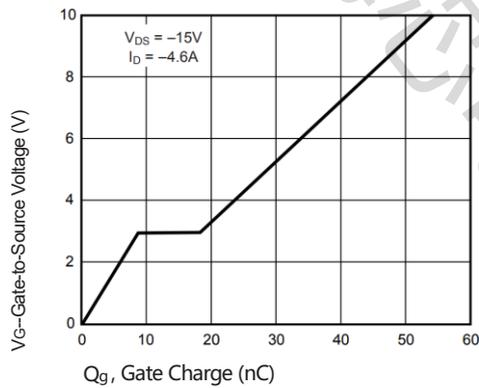


Fig 3. Gate Charge

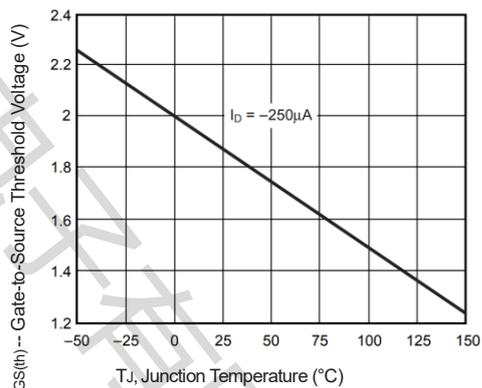


Fig 4. Threshold Voltage vs. Temperature

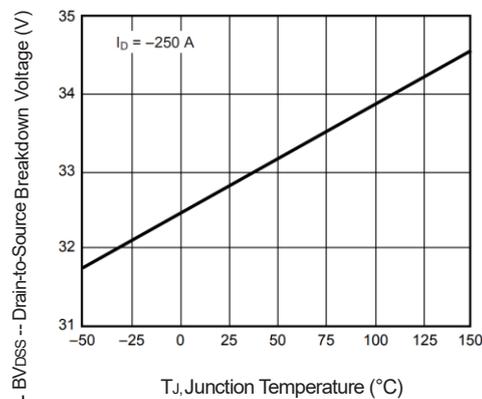


Fig 5. Breakdown Voltage vs. Junction Temperature

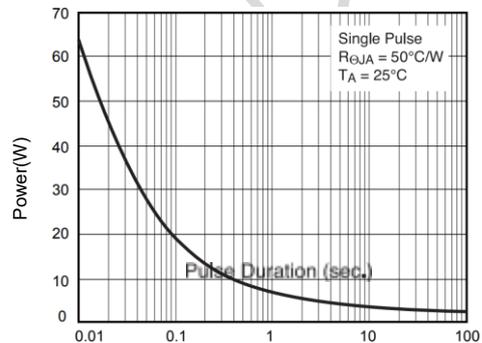


Fig 6. Power vs. Pulse Duration

TYPICAL CHARACTERISTICS 25 °C, unless otherwise noted

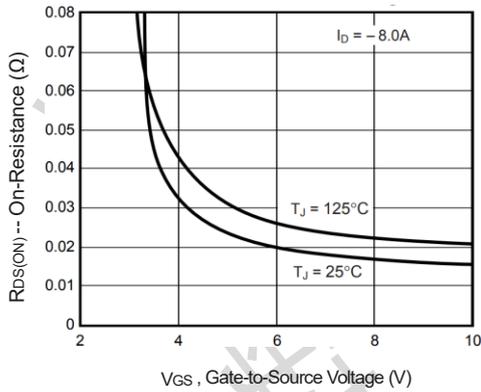


Fig 7. On-Resistance vs. Gate-to-Source Voltage

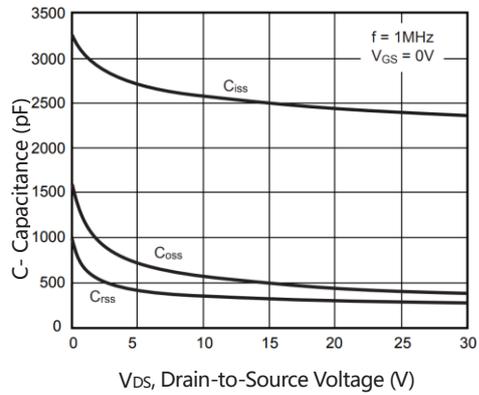


Fig 8. Capacitance

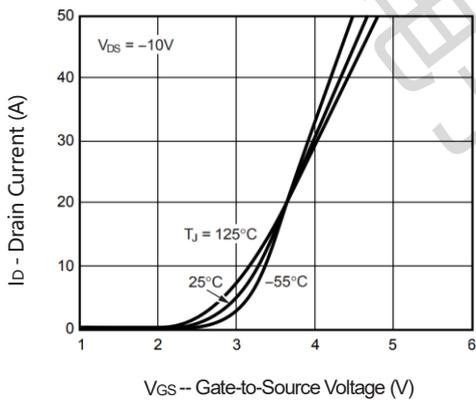


Fig 9. Transfer Characteristics

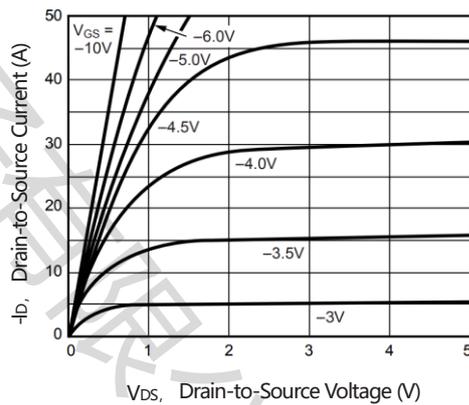


Fig 10. Output Characteristics

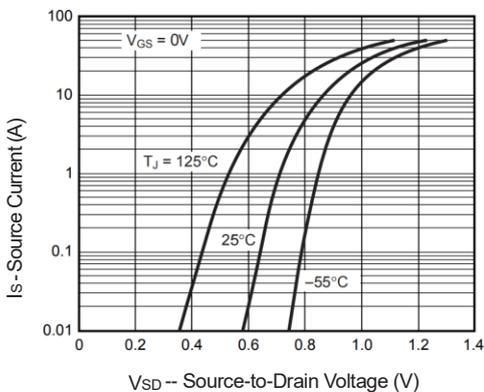


Fig 11. Source-Drain Diode Forward Voltage

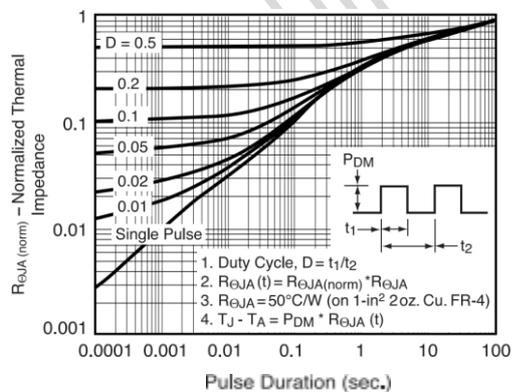


Fig 12. Transient Thermal Impedance

TYPICAL CHARACTERISTICS 25 °C, unless otherwise noted

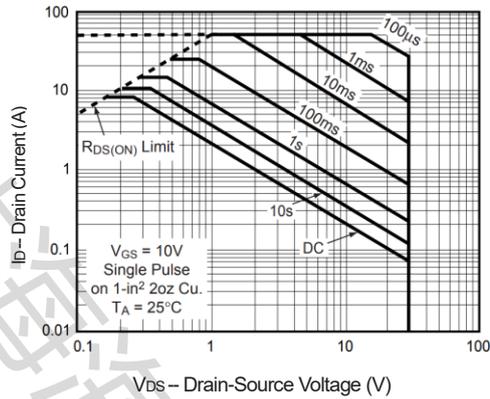
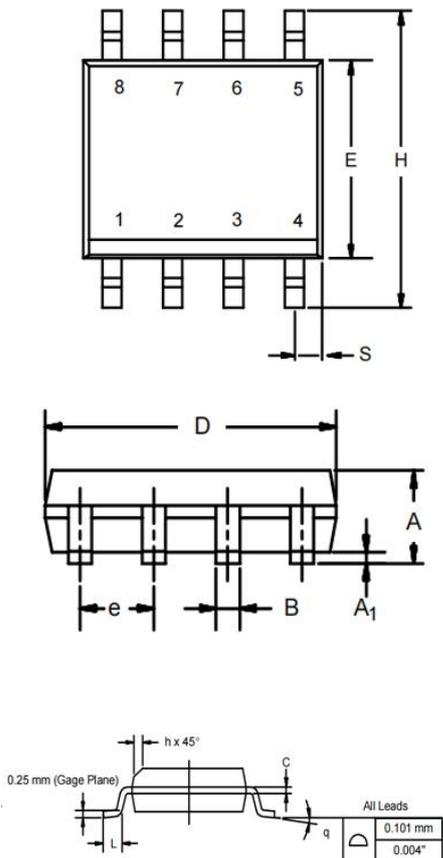


Fig 13. Maximum Safe Operating Area

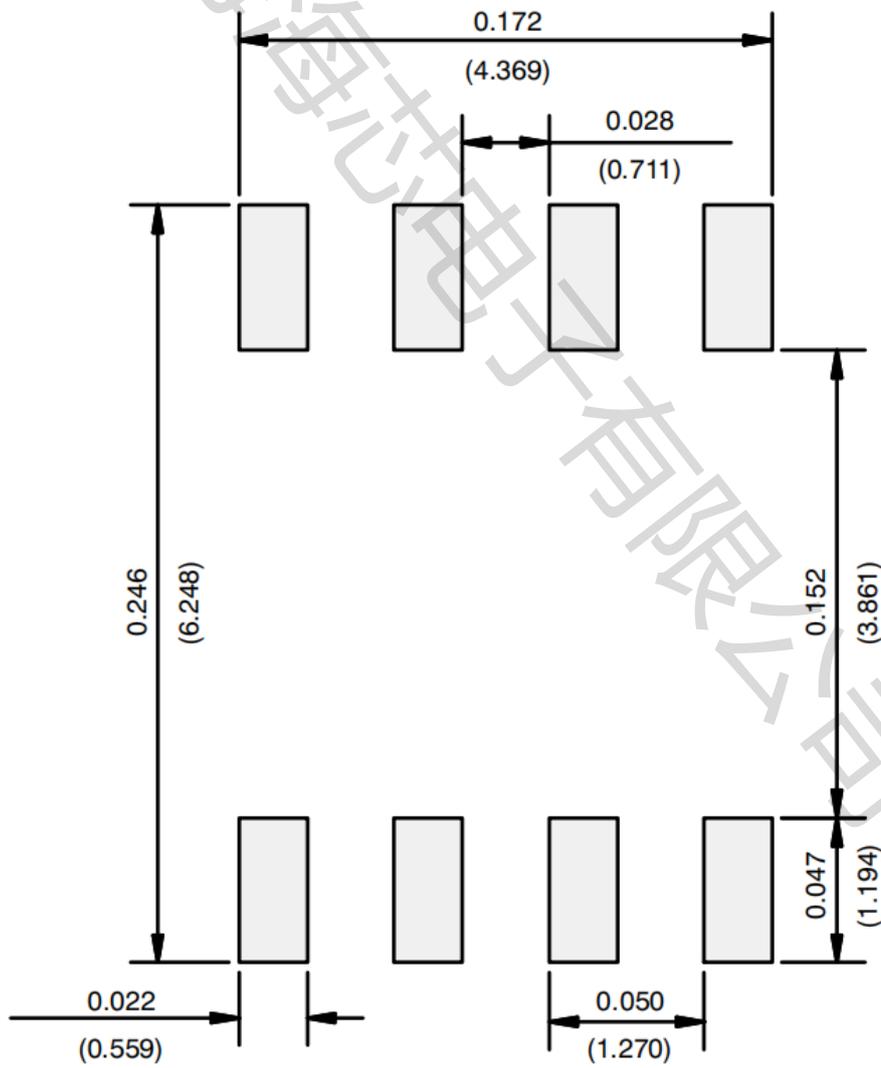
SOP-8 Package Outline

Dimensions are shown in millimeters (inches)



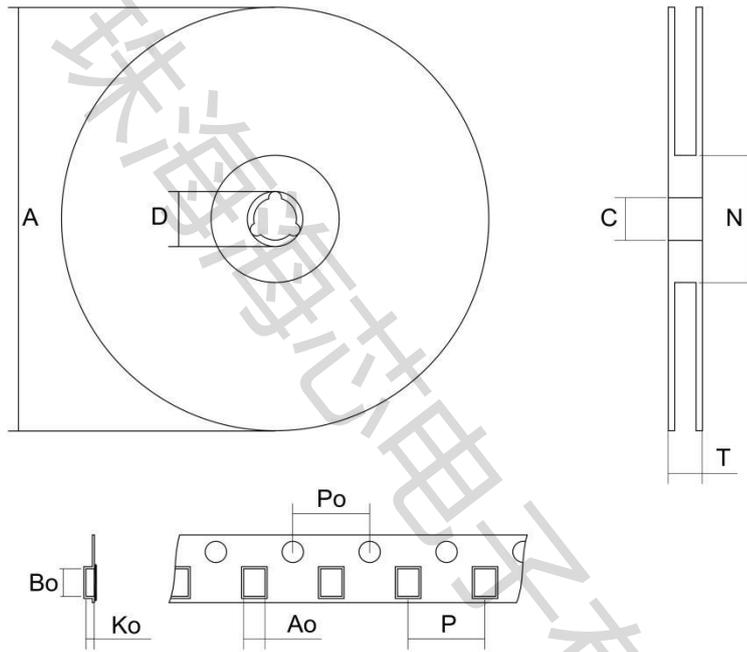
DIM	MILLIMETERS		INCHES	
	Min	Max	Min	Max
A	1.35	1.75	0.053	0.069
A1	0.10	0.20	0.004	0.008
B	0.35	0.51	0.014	0.020
C	0.19	0.25	0.0075	0.010
D	4.80	5.00	0.189	0.196
E	3.80	4.00	0.150	0.157
e	1.27 BSC		0.050 BSC	
H	5.80	6.20	0.228	0.244
h	0.25	0.50	0.010	0.020
L	0.50	0.93	0.020	0.037
q	0°	8°	0°	8°
S	0.44	0.64	0.018	0.026

RECOMMENDED MINIMUM PADS FOR SOP-8

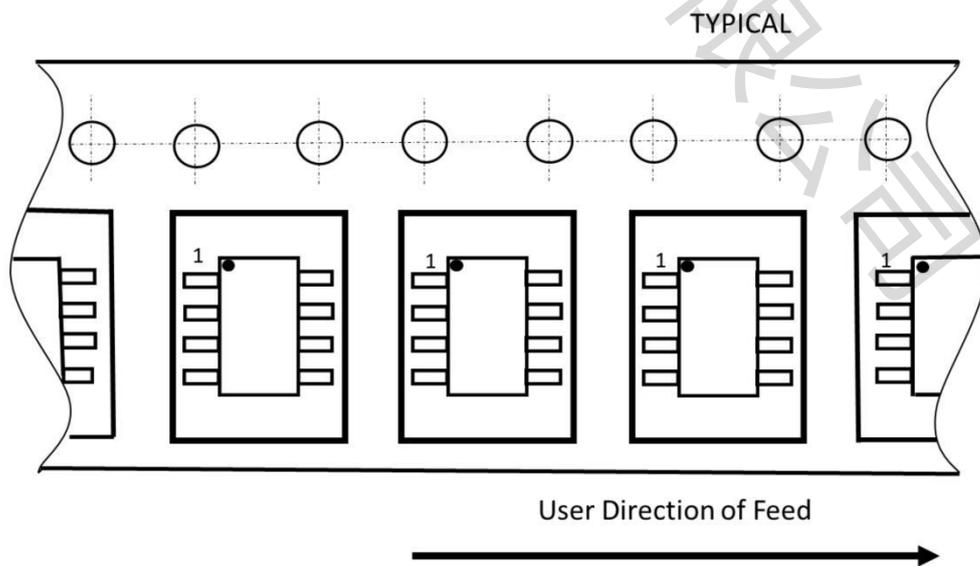


SOP-8 packing information

SOP-8 tape and reel



Tape orientation



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