

## -30V/-7A P-Channel MOSFET

### Features

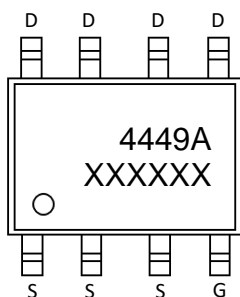
- Trench Power LV MOSFET technology
- High density cell design for Low  $R_{DS(ON)}$
- High Speed switching

### Product Summary

$V_{DS}$	$R_{DS(ON)}$ MAX	$I_D$ MAX
-30V	34mΩ@10V	-7A
	54mΩ@4.5V	

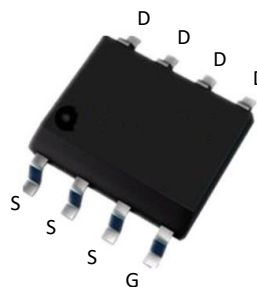
### Application

- Battery protection
- Power management
- Load switch

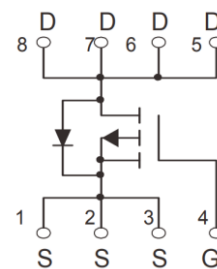


4449A : Device code  
XXXXXX : Code

Marking and pin assignment



SOP-8 top view



Schematic diagram

### Absolute Maximum Ratings (TA=25°C unless otherwise noted)

Symbol	Parameter	Rating	Unit
--------	-----------	--------	------

### Common Ratings (TC=25°C Unless Otherwise Noted)

$V_{DS}$	Drain-Source Breakdown Voltage	-30	V
$V_{GS}$	Gate-Source Voltage	±20	V
$T_J$	Maximum Junction Temperature	150	°C
$T_{STG}$	Storage Temperature Range	-50 to 155	°C
$I_S$	Diode Continuous Forward Current	Tc=25°C -7	A

### Mounted on Large Heat Sink

$I_{DM}$	Pulse Drain Current Tested	Tc=25°C -30	A
$I_D$	Continuous Drain Current@GS=10V	Tc=25°C -7	A
$P_D$	Maximum Power Dissipation	Tc=25°C 3	W
$R_{θJA}$	Thermal Resistance Junction-Ambient>(*1 in2 Pad of 2-oz Copper), Max.)	30	°C/W

<b>Electrical Characteristics (T<sub>J</sub>=25°C unless otherwise noted)</b>						
<b>Symbol</b>	<b>Parameter</b>	<b>Condition</b>	<b>Min</b>	<b>Typ</b>	<b>Max</b>	<b>Unit</b>
<b>Static Electrical Characteristics @ T<sub>J</sub> = 25°C (unless otherwise stated)</b>						
BV <sub>(BR)DSS</sub>	Drain-Source Breakdown Voltage	VGS=0V, ID=-250μA	-30	--	--	V
I <sub>DSS</sub>	Zero Gate Voltage Drain Current	VDS=-30V, VGS=0V	--	--	-1	uA
I <sub>GSS</sub>	Gate-Body Leakage Current	VGS=±20V, VDS=0V	--	--	±100	nA
V <sub>GS(th)</sub>	Gate Threshold Voltage	VDS=VGS, ID=-250μA	-1	-1.8	-3	V
R <sub>DS(on)</sub>	Drain-Source On-State Resistance	VGS=-10V, ID=-7A	--	28	34	mΩ
		VGS=-4.5V, ID=-5A	--	47	54	
<b>Dynamic Electrical Characteristics @ T<sub>J</sub> = 25°C (unless otherwise stated)</b>						
C <sub>ISS</sub>	Input Capacitance	VDS=-15V, VGS=0V, f=1MHz	--	660	--	pF
C <sub>OSS</sub>	Output Capacitance		--	100	--	pF
C <sub>RSS</sub>	Reverse Transfer Capacitance		--	64	--	pF
<b>Switching Characteristics</b>						
Q <sub>g</sub>	Total Gate Charge	VDS=-15V, ID=-7A, VGS=-10V	--	9.3	--	nC
Q <sub>gs</sub>	Gate Source Charge		--	1.5	--	nC
Q <sub>gd</sub>	Gate Drain Charge		--	2.2	--	nC
t <sub>d(on)</sub>	Turn-on Delay Time	VDD=-15V, ID=-7A, VGS=-10V, RG=3Ω	--	7.5	--	nS
t <sub>r</sub>	Turn-on Rise Time		--	5.5	--	nS
t <sub>d(off)</sub>	Turn-Off Delay Time		--	20	--	nS
t <sub>f</sub>	Turn-Off Fall Time		--	8	--	nS
<b>Source- Drain Diode Characteristics</b>						
V <sub>SD</sub>	Forward on voltage	T <sub>J</sub> =25°C, I <sub>s</sub> =-7A,	--	-0.8	-1.2	V

## Typical Operating Characteristics

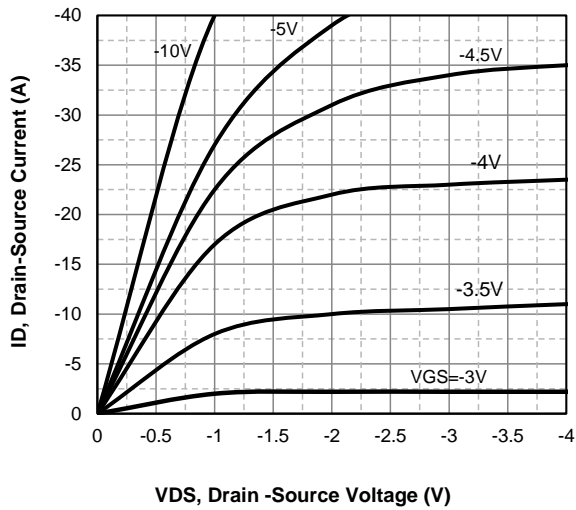


Fig1. Typical Output Characteristics

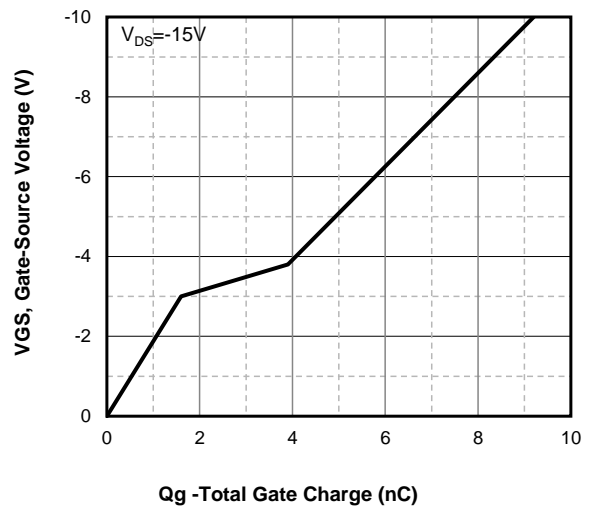


Fig2. Typical Gate Charge Vs. Gate-Source Voltage

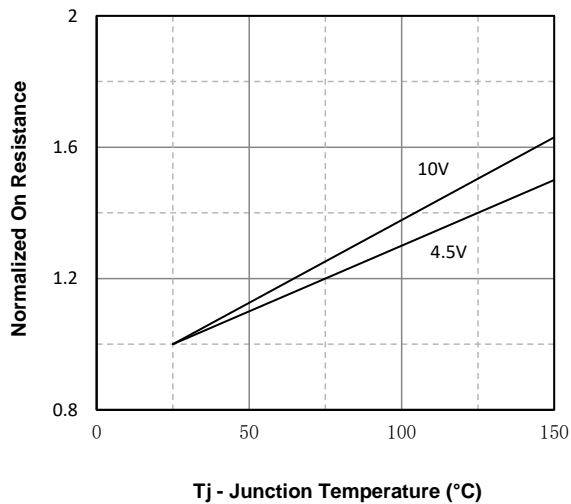


Fig3. Normalized On-Resistance Vs. Temperature

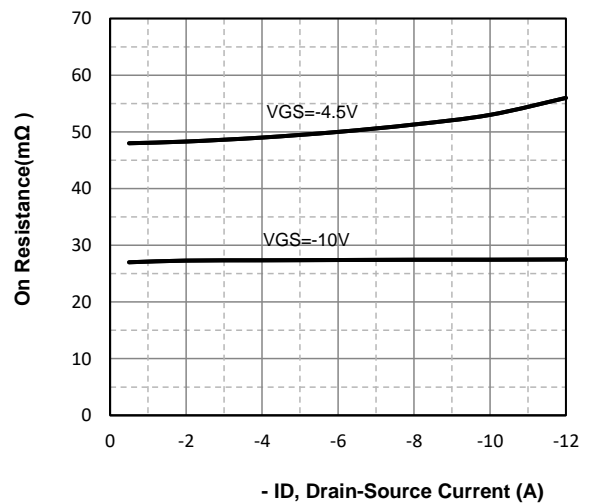


Fig4. On-Resistance Vs. Drain-Source Current

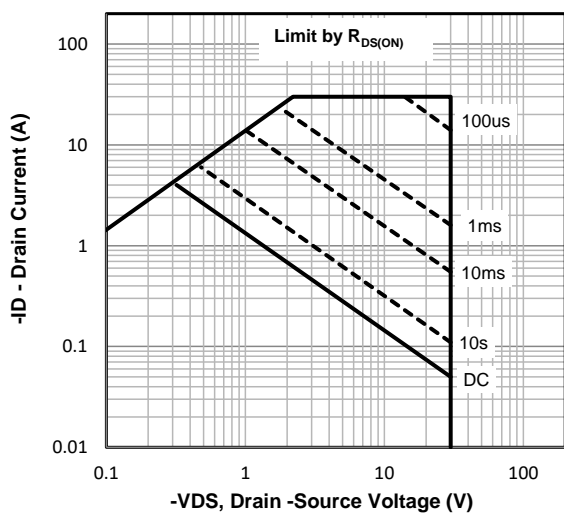


Fig5. Maximum Safe Operating Area

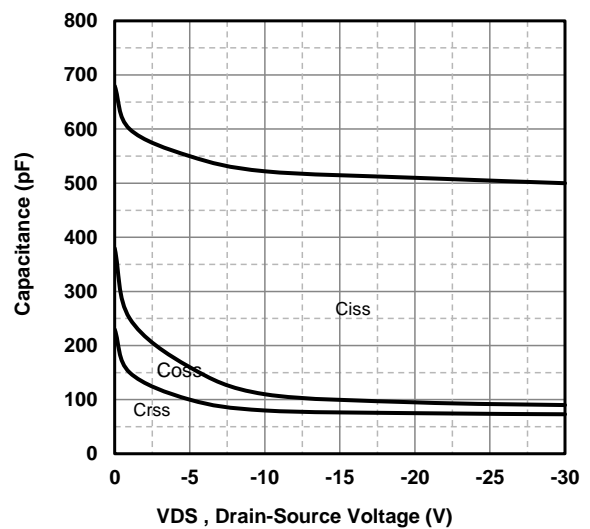
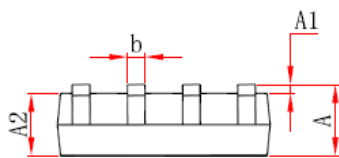
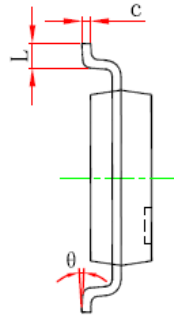
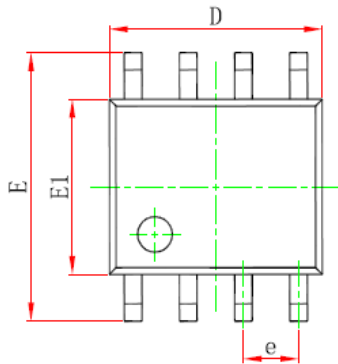


Fig6 Typical Capacitance Vs. Drain-Source Voltage

## SOP-8 Package information



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min	Max	Min	Max
A	1.450	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	4.700	5.100	0.185	0.201
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°

## X-ON Electronics

Largest Supplier of Electrical and Electronic Components

*Click to view similar products for [MOSFET](#) category:*

*Click to view products by [SLKORMICRO](#) manufacturer:*

Other Similar products are found below :

[614233C](#) [648584F](#) [MCH3443-TL-E](#) [MCH6422-TL-E](#) [NTNS3A92PZT5G](#) [IRFD120](#) [IRFF430](#) [JANTX2N5237](#) [2N7000](#) [AOD464](#)  
[2SK2267\(Q\)](#) [2SK2545\(Q,T\)](#) [405094E](#) [423220D](#) [MIC4420CM-TR](#) [VN1206L](#) [614234A](#) [715780A](#) [SSM6J414TU,LF\(T](#) [751625C](#)  
[IPS70R2K0CEAKMA1](#) [BSF024N03LT3 G](#) [PSMN4R2-30MLD](#) [TK31J60W5,S1VQ\(O](#) [2SK2614\(TE16L1,Q\)](#) [DMN1017UCP3-7](#)  
[EFC2J004NUZTDG](#) [FCAB21350L1](#) [P85W28HP2F-7071](#) [DMN1053UCP4-7](#) [NTE2384](#) [NTE2969](#) [NTE6400A](#) [DMC2700UDMQ-7](#)  
[DMN2080UCB4-7](#) [DMN61D9UWQ-13](#) [US6M2GTR](#) [DMN31D5UDJ-7](#) [SSM6P54TU,LF](#) [DMP22D4UFO-7B](#) [IPS60R3K4CEAKMA1](#)  
[DMN1006UCA6-7](#) [DMN16M9UCA6-7](#) [STF5N65M6](#) [IRF40H233XTMA1](#) [IPSA70R950CEAKMA1](#) [IPSA70R2K0CEAKMA1](#) [STU5N65M6](#)  
[C3M0021120D](#) [DMN6022SSD-13](#)