

-30V/-5.0A P-Channel MOSFET

Features

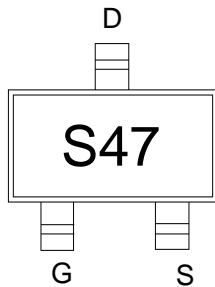
- Trench Power LV MOSFET technology
- High density cell design for Low $R_{DS(ON)}$
- High Speed switching

Application

- Battery protection
- Load switch
- Power management

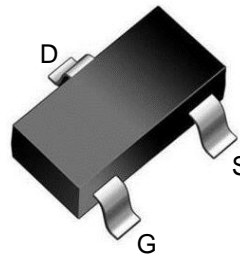
Product Summary

V_{DS}	$R_{DS(ON)}$ MAX	I_D MAX
-30V	45m Ω @-10V	-5.0A
	70m Ω @-4.5V	

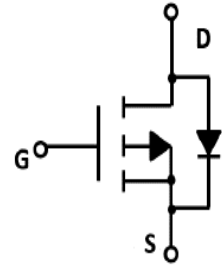


S47: Device code

Marking and pin assignment



SOT-23 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	$^{\circ}\text{C}$
T_{STG}	Storage Temperature Range	-50 to 155	$^{\circ}\text{C}$
I_S	Diode Continuous Forward Current	$T_C=25^{\circ}\text{C}$ -5	A
Mounted on Large Heat Sink			
I_{DM}	Pulse Drain Current Tested	$T_C=25^{\circ}\text{C}$ -21	A
I_D	Continuous Drain Current@GS=10V	$T_C=25^{\circ}\text{C}$ -5	A
P_D	Maximum Power Dissipation	$T_C=25^{\circ}\text{C}$ 1.25	W
$R_{\theta JA}$	Thermal Resistance Junction-Ambient(($\ast 1$ in2 Pad of 2-oz Copper), Max.)	113	$^{\circ}\text{C}/\text{W}$

Electrical Characteristics (T_J=25°C unless otherwise noted)						
Symbol	Parameter	Condition	Min	Typ	Max	Unit
Static Electrical Characteristics @ T_J = 25°C (unless otherwise stated)						
BV _{(BR)DSS}	Drain-Source Breakdown Voltage	VGS=0V, ID=-250μA	-30	--	--	V
I _{DSS}	Zero Gate Voltage Drain Current	VDS=-30V, VGS=0V	--	--	-1	uA
I _{GSS}	Gate-Body Leakage Current	VGS=±20V, VDS=0V	--	--	±100	nA
V _{GS(th)}	Gate Threshold Voltage	VDS=VGS, ID=-250μA	-1	-1.5	-2.5	V
R _{DS(on)}	Drain-Source On-State Resistance	VGS=-10V, ID=-3A	--	35	45	mΩ
		VGS=-4.5V, ID=-2A	--	48	70	mΩ
Dynamic Electrical Characteristics @ T_J = 25°C (unless otherwise stated)						
C _{ISS}	Input Capacitance	VDS=-10V, VGS=0V, f=1MHz	--	366	--	pF
C _{OSS}	Output Capacitance		--	60	--	pF
C _{RSS}	Reverse Transfer Capacitance		--	45	--	pF
Q _g	Total Gate Charge	VDS=-15V, ID=-3A, VGS=-10V	--	7.5	--	nC
Q _{gs}	Gate Source Charge		--	1.65	--	nC
Q _{gd}	Gate Drain Charge		--	1.2	--	nC
Switching Characteristics						
t _{d(on)}	Turn-on Delay Time	VDS=-15V, ID=-1A, VGS=-10V, RG=2.5Ω	--	3.3	--	nS
t _r	Turn-on Rise Time		--	17.5	--	nS
t _{d(off)}	Turn-Off Delay Time		--	18	--	nS
t _f	Turn-Off Fall Time		--	23	--	nS
Source- Drain Diode Characteristics						
V _{SD}	Forward on voltage	T _J =25°C, I _S =-3A,	--	-0.85	-1.2	V

Typical Operating Characteristics

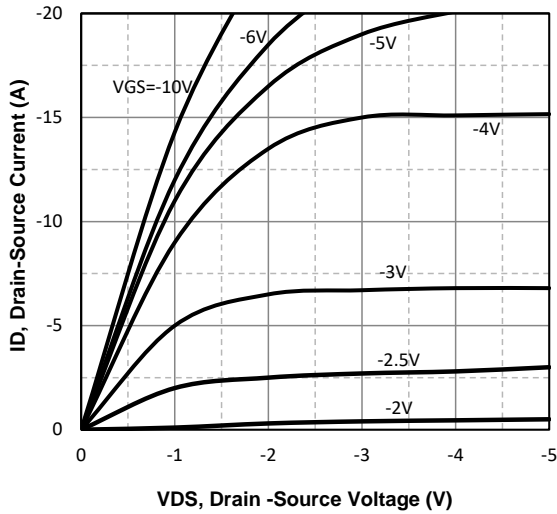


Fig1. Typical Output Characteristics

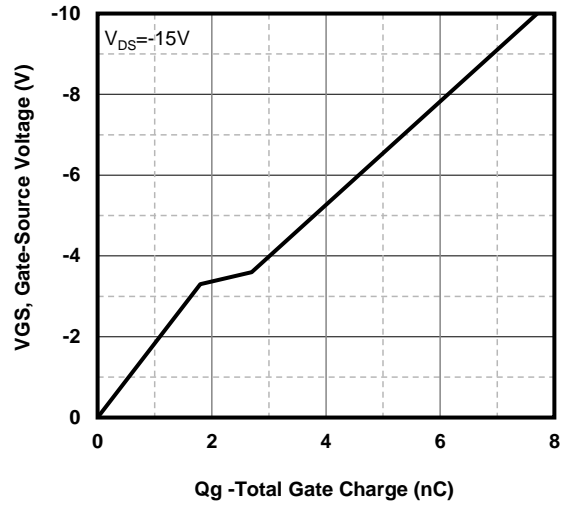


Fig2. Typical Gate Charge Vs. Gate-Source Voltage

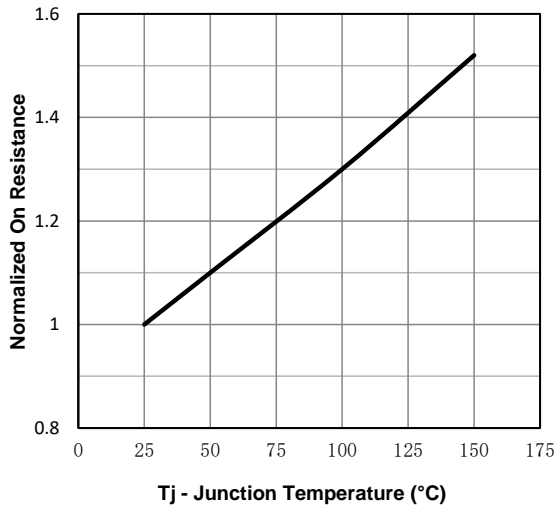


Fig3. Normalized On-Resistance Vs. Temperature

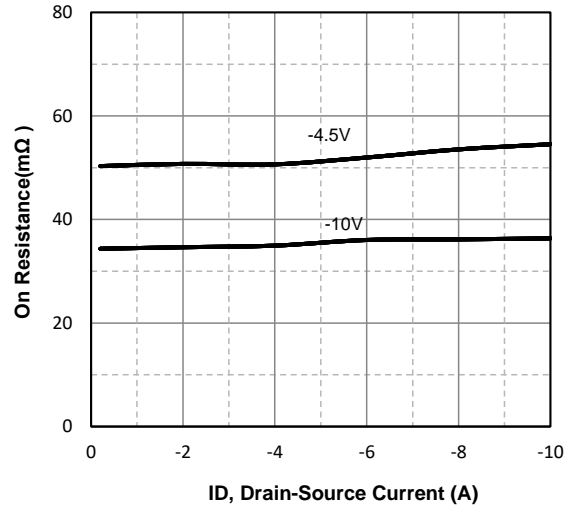


Fig4. On-Resistance Vs. Drain-Source Current

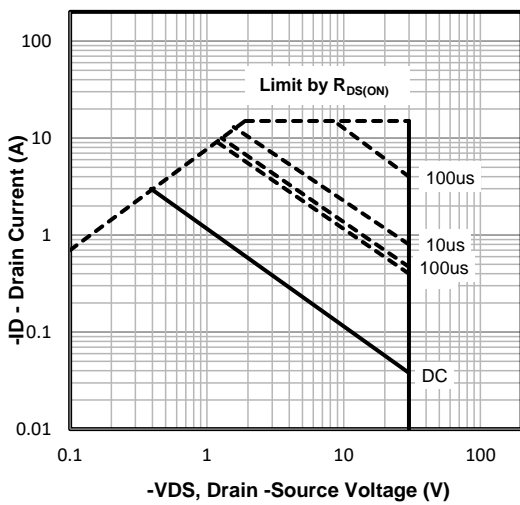


Fig5. Maximum Safe Operating Area

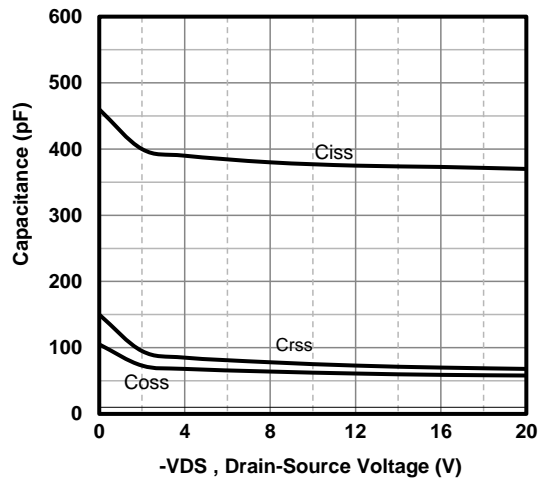
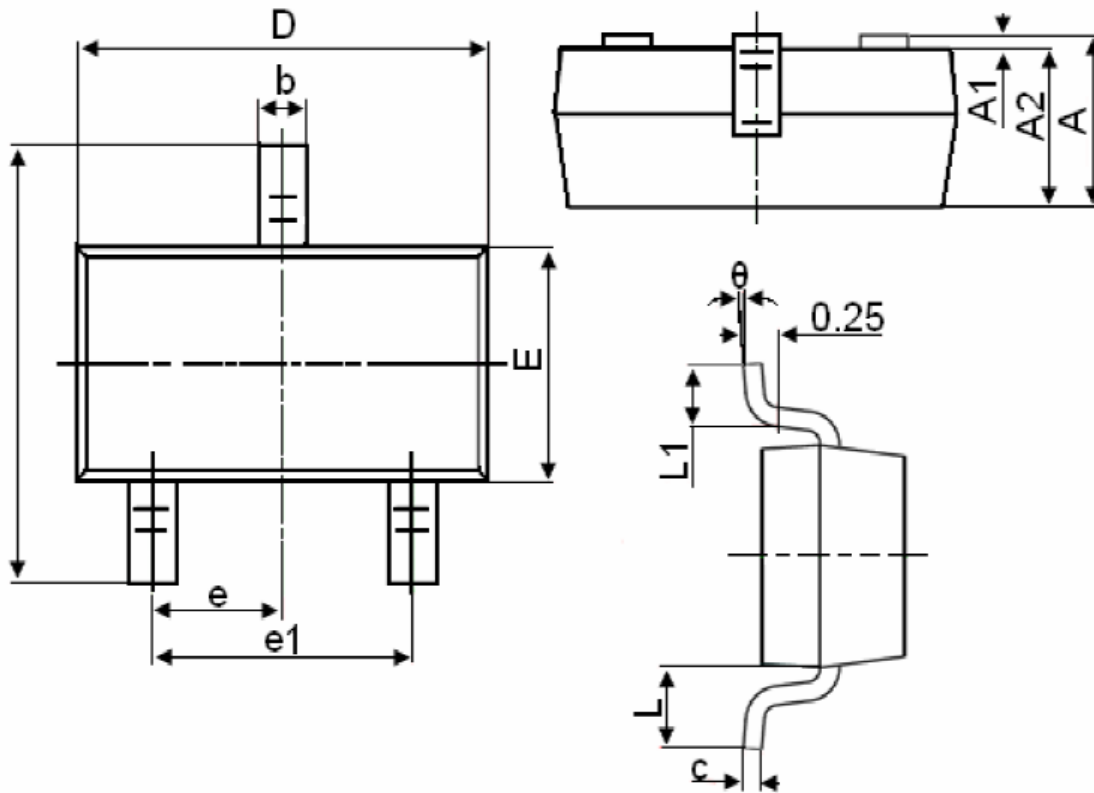


Fig6 Typical Capacitance Vs. Drain-Source

SOT-23 Package information


Symbol	Dimensions in Millimeters(mm)		Dimensions In Inches	
	Min	Max	Min	Max
A	0.900	1.150	0.035	0.045
A1	0.000	0.100	0.000	0.004
A2	0.900	1.050	0.035	0.041
b	0.300	0.500	0.012	0.020
c	0.080	0.150	0.003	0.006
D	2.800	3.000	0.110	0.118
E	1.200	1.400	0.047	0.055
E1	2.250	2.550	0.089	0.100
e	0.950TYP		0.037TYP	
e1	1.800	2.000	0.071	0.079
L	0.550REF		0.022REF	
L1	0.300	0.500	0.012	0.020
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](#) [FDPF9N50NZ](#) [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](#)