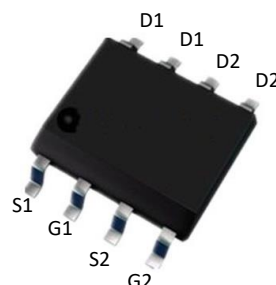# N-Channel MOSFET

Features

• Advanced high cell density Trench technology

• Super Low Gate Charge

• Excellent CdV/dt effect decline

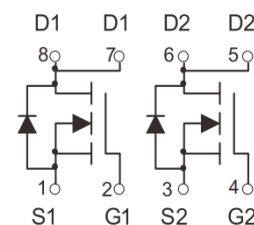• Green Device Available

Application

• High Frequency Point-of-Load Synchronous Buck Converter for MB/NB/UMPC/VGA

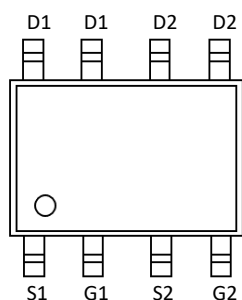• Networking DC-DC Power System

• Load Switch

Product Summary

V_{DS}	$R_{DS(ON)}$ MAX	I_D MAX
30V	16mΩ@10V	8.5A
	23mΩ@4.5V	

SOP-8 top view

Schematic diagram

Marking and pin assignment

Halogen-Free

Pb-Free

RoHS

Absolute Maximum Ratings (TA=25℃ 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	-55 to 150	°C
I_S	Diode Continuous Forward Current Tc=25°C	8	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	8.5	A
P_D	Maximum Power Dissipation Tc=25°C	1.4	W
$R_{\theta JA}$	Thermal Resistance Junction-Ambient((*1 in2 Pad of 2-oz Copper), Max.)	89	°C/W

Electrical Characteristics (TJ=25℃ unless otherwise noted)

Symbol	Parameter	Condition	Min	Typ	Max	Unit
Static Electrical Characteristics @ TJ = 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=8A	--	11.5	16	mΩ
		VGS=4.5V，ID=6A	--	18	23	
Dynamic Electrical Characteristics @ TJ = 25°C (unless otherwise stated)						
C_{ISS}	Input Capacitance	VDS=15V，VGS=0V, f=1MHz	--	--	1250	pF
C_{OSS}	Output Capacitance		--	180	--	pF
C_{RSS}	Reverse Transfer Capacitance		--	110	--	pF
Switching Characteristics						
Q_g	Total Gate Charge	VDS=15V，ID=8A, VGS=10V	--	15	--	nC
Q_{gs}	Gate Source Charge		--	2.5	--	nC
Q_{gd}	Gate Drain Charge		--	3	--	nC
$t_{d(on)}$	Turn-on Delay Time	VDS=15V，RL=1.8Ω, VGS=10V，RG=3Ω	--	5	--	nS
t_r	Turn-on Rise Time		--	3.5	--	nS
$t_{d(off)}$	Turn-Off Delay Time		--	19	--	nS
t_f	Turn-Off Fall Time		--	3.5	--	nS
Source- Drain Diode Characteristics						
V_{SD}	Forward on voltage	Tj=25℃，Is=1A，	--	--	1.2	V

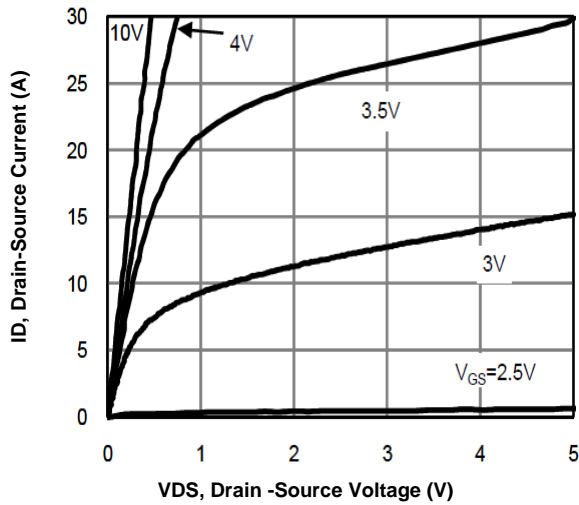## Typical Operating Characteristics

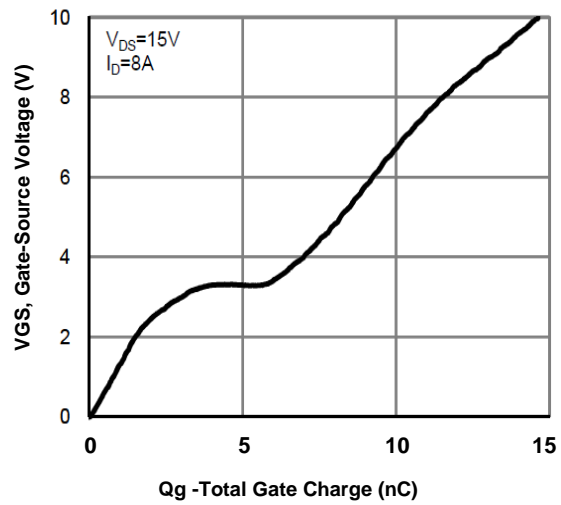**Fig1. Typical Output Characteristics**

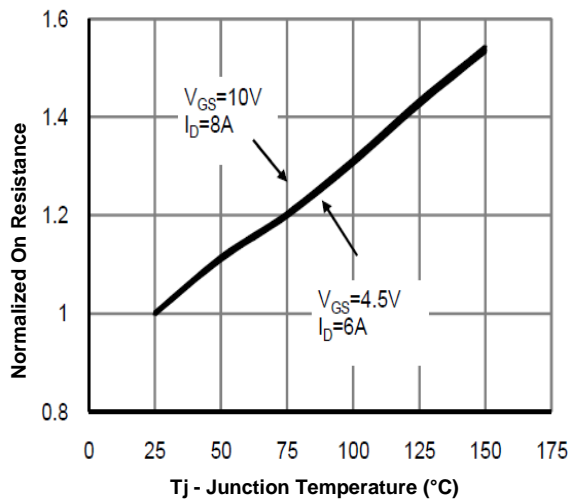**Fig2. Typical Gate Charge Vs.Gate-Source Voltage**

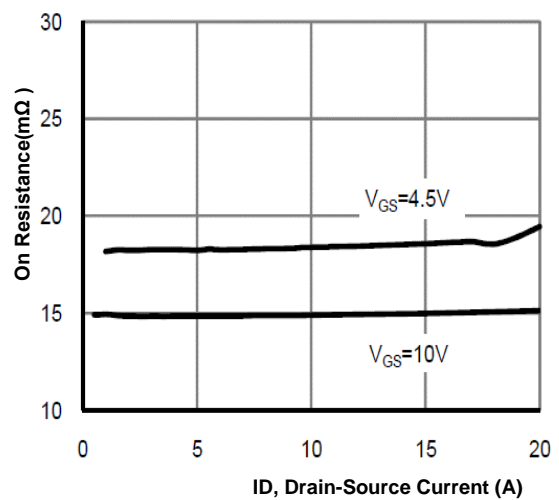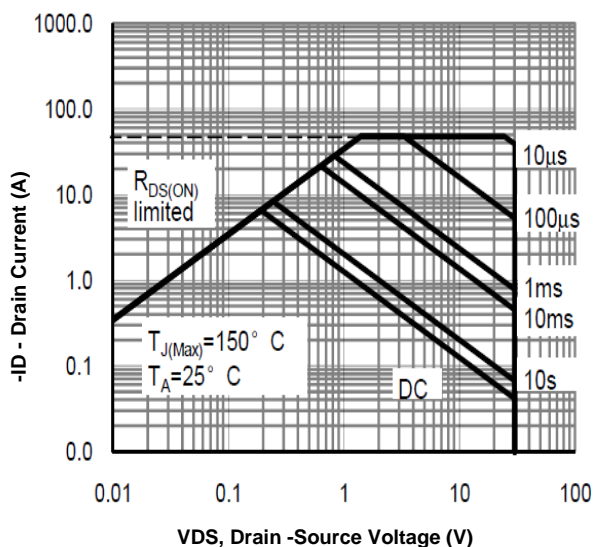**Fig3. Normalized On-Resistance Vs. Temperature**

Fig4. On-Resistance Vs. Drain-Source Current
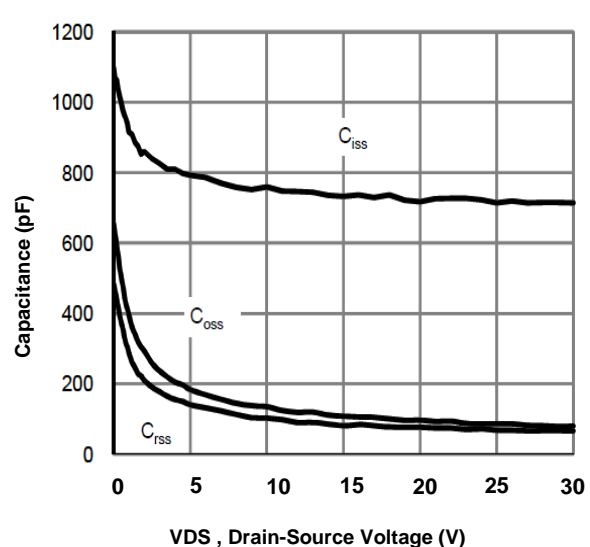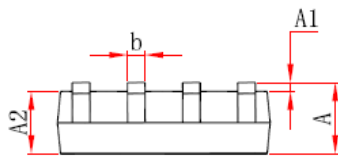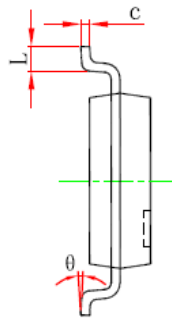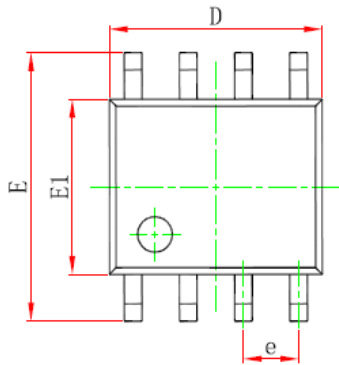

Fig7. Maximum Safe Operating Area

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