

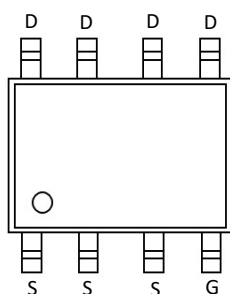
-30V/-20A P-Channel MOSFET

Features

- Lower Conduction Losses
- Multi-Vendor Compatibility
- 100% avalanche tested
- Environmentally Friendlier

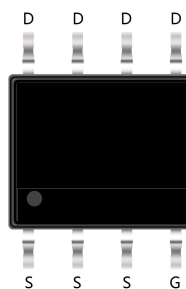
Application

- Switch Mode Power Supply (SMPS)
- Motor Controls

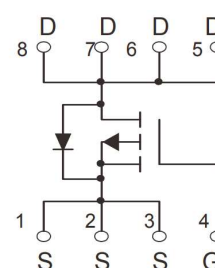


Product Summary

V_{DS}	$R_{DS(ON)}$ MAX	I_D MAX
-30	4.6mΩ@-10V	-20
	6.8mΩ@-4.5V	



SOP-8 top view



Schematic diagram



Halogen-Free

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

Symbol	Parameter	Rating	Unit
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Common Ratings (TC=25°C Unless Otherwise Noted)

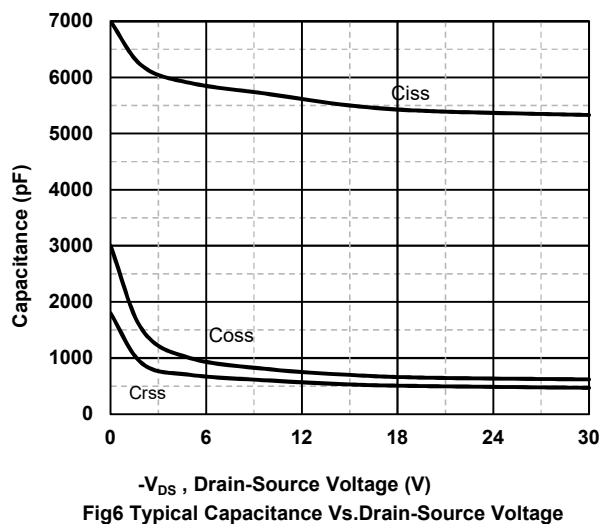
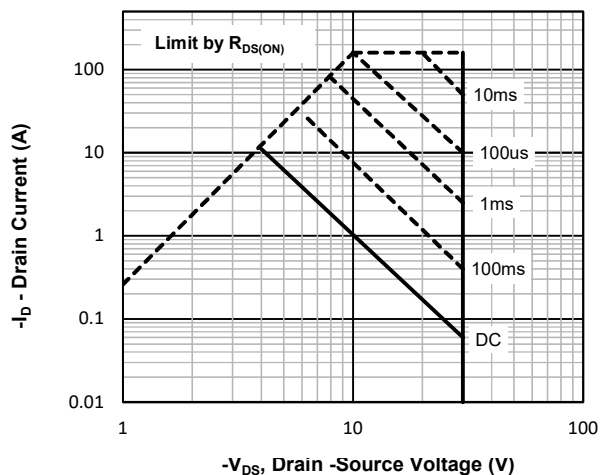
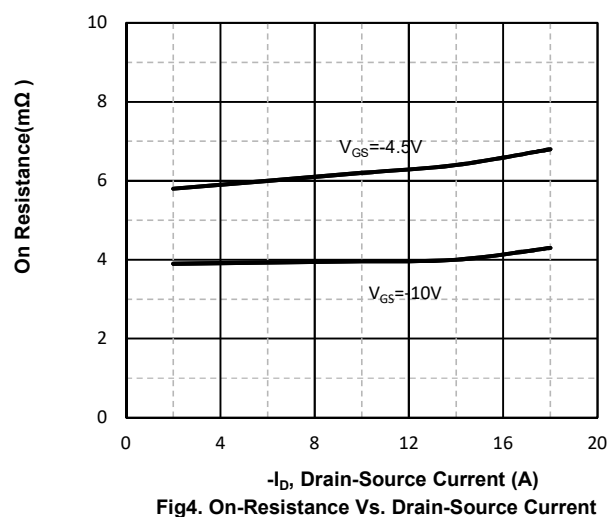
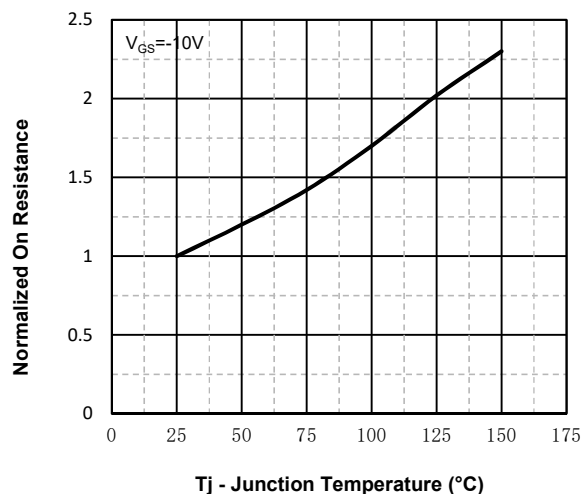
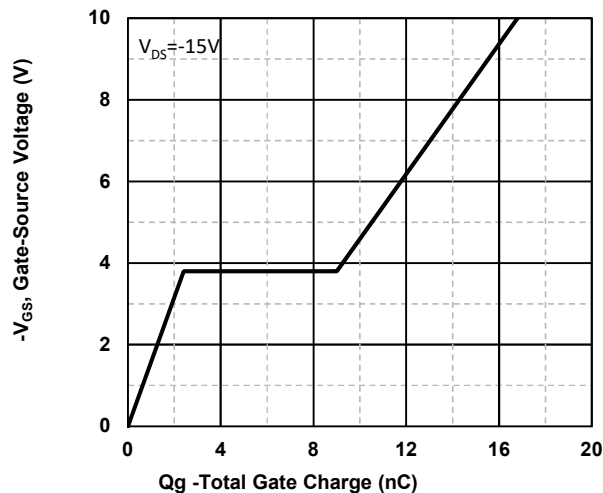
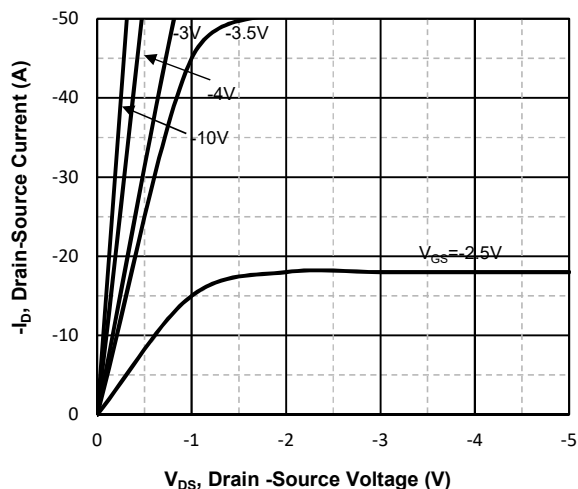
V _{DS}	Drain-Source Breakdown Voltage		-30	V
V _{GS}	Gate-Source Voltage		±20	V
T _J	Maximum Junction Temperature		150	°C
T _{STG}	Storage Temperature Range		-50 to 155	°C
I _S	Diode Continuous Forward Current	Tc=25°C	-20	A

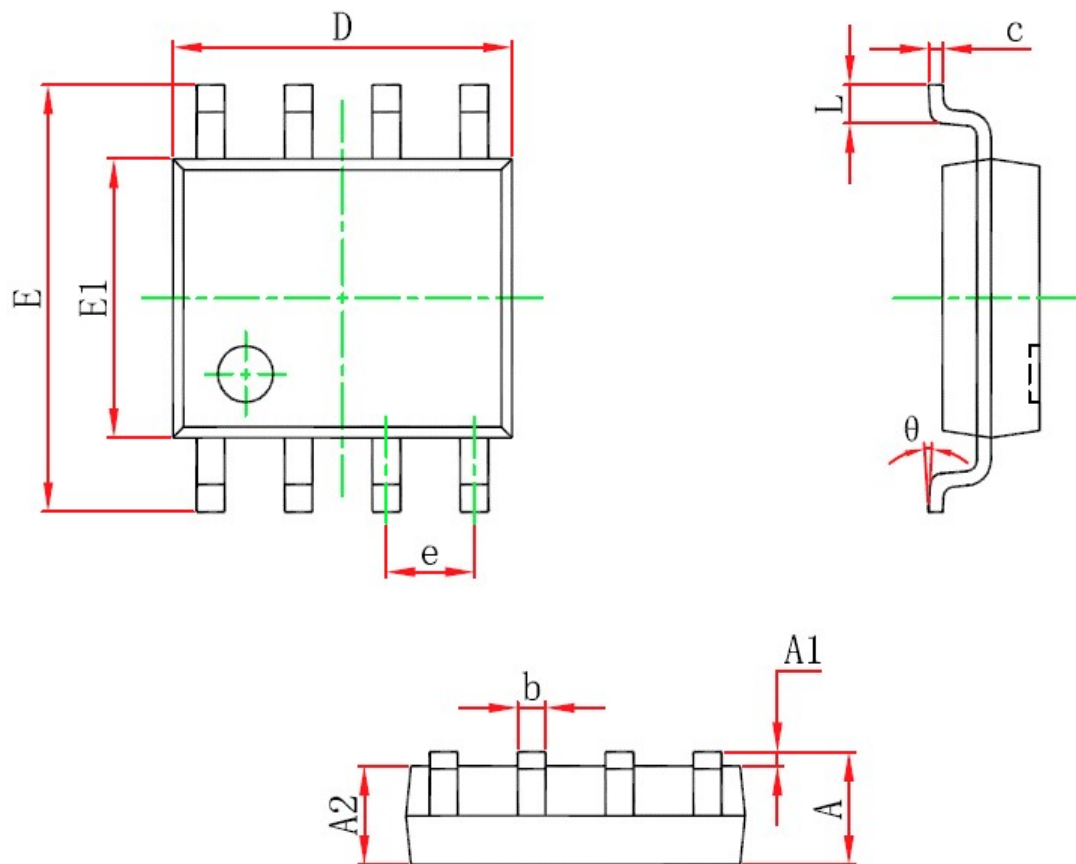
Mounted on Large Heat Sink

I_{DM}	Pulse Drain Current Tested	$T_C=25^\circ\text{C}$	-160	A
I_D	Continuous Drain Current	$T_C=25^\circ\text{C}$	-20	A
P_D	Maximum Power Dissipation	$T_C=25^\circ\text{C}$	2.5	W
$R_{\theta JA}$	Thermal Resistance Junction-to-Ambient		83	°C/W

Electrical Characteristics (TJ=25°C 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	V _{GS} =0V, I _D =250μA	-30	--	--	V
I _{DSS}	Zero Gate Voltage Drain Current	V _{DS} =-30V, V _{GS} =0V	--	--	-1	μA
I _{GSS}	Gate-Body Leakage Current	V _{GS} =±20V, V _{DS} =0V	--	--	±100	nA
V _{GS(th)}	Gate Threshold Voltage	V _{DS} =V _{GS} , I _D =-250μA	-1.3	-1.8	-2.4	V
R _{DS(on)}	Drain-Source On-State Resistance	V _{GS} =-10V, I _D =-20A	--	3.9	4.6	mΩ
		V _{GS} =-4.5V, I _D =-16A	--	5.8	6.8	mΩ
Dynamic Electrical Characteristics @ TJ = 25°C (unless otherwise stated)						
C _{ISS}	Input Capacitance	V _{DS} =-15V, V _{GS} =0V, f=1MHz	--	5500	--	pF
C _{OSS}	Output Capacitance		--	720	--	pF
C _{RSS}	Reverse Transfer Capacitance		--	500	--	pF
Switching Characteristics						
Q _g	Total Gate Charge	V _{DS} =-10V, I _D =-20A, V _{GS} =-15V	--	30	--	nC
Q _{gs}	Gate Source Charge		--	5.5	--	nC
Q _{gd}	Gate Drain Charge		--	7.5	--	nC
t _{d(on)}	Turn-on Delay Time	V _{DD} =-15V, I _D =-20A, V _{GS} =-10V, R _G =25Ω	--	13	--	nS
t _r	Turn-on Rise Time		--	20	--	nS
t _{d(off)}	Turn-Off Delay Time		--	90	--	nS
t _f	Turn-Off Fall Time		--	65	--	nS
Source- Drain Diode Characteristics						
V _{SD}	Forward on voltage	Tj=25°C, Is=-20A	--	--	1.2	V

Typical Operating Characteristics



SOP-8 Package information


Symbol	Dimensions in Millimeters(mm)		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	0.028	0.035
E1	3.800	4.000	0.057	0.069
L	0.400	1.270	0.016	0.050
θ	0°	8°	0°	8°