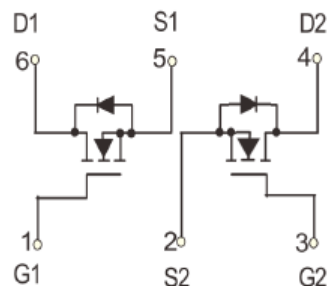
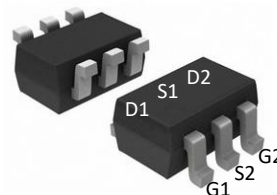


## N-Channel Power Mosfet

### Product Summary

$V_{DS}$	30	V
$R_{DS(ON)}@10V,MAX$	90	m $\Omega$
$I_D$	2	A



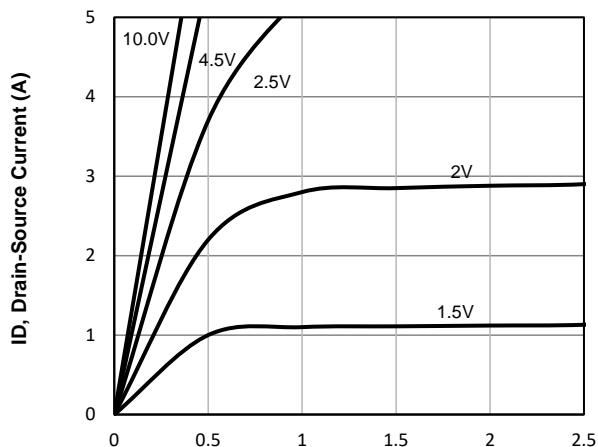
### FEATURES

- Dual N-Channel
- TrenchFET Power MOSFET
- Low Gate Charge
- Low On-resistance
- Surface Mount Package

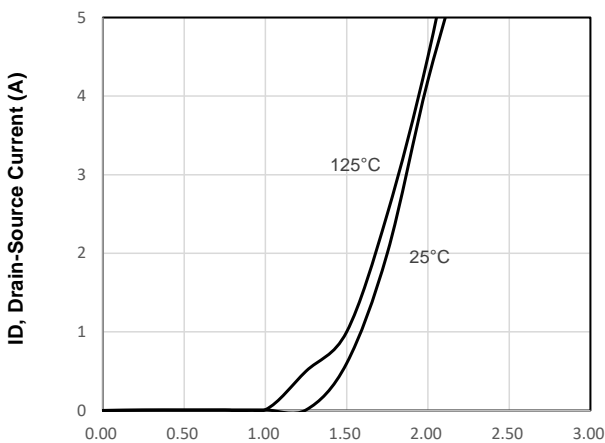
Absolute Maximum Ratings (TA=25°C unless otherwise noted)				
Symbol	Parameter	Rating	Unit	
<b>Common Ratings (TC=25°C Unless Otherwise Noted)</b>				
$V_{GS}$	Gate-Source Voltage	$\pm 20$	V	
$V_{(br)DSS}$	Drain-Source Breakdown Voltage	30	V	
$T_J$	Maximum Junction Temperature	150	°C	
$T_{STG}$	Storage Temperature Range	-50 to 155	°C	
$I_S$	Diode Continuous Forward Current	$T_C=25^\circ C$	2	A
<b>Mounted on Large Heat Sink</b>				
$I_{DM}$	Pulse Drain Current Tested	$T_C=25^\circ C$	8.4	A
$I_D$	Continuous Drain Current@GS=10V	$T_C=25^\circ C$	2	A
$P_D$	Maximum Power Dissipation	$T_C=25^\circ C$	1.1	W
$R_{\theta JA}$	Thermal Resistance Junction-Ambient>(*1 in2 Pad of 2-oz Copper), Max.)		114	°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	0.5	0.9	1.5	V
R <sub>DS(on)</sub>	Drain-Source On-State Resistance	VGS=10V, ID=2A	--	70	90	mΩ
		VGS=4.5V, ID=1A	--	76	106	
<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	--	176	--	pF
C <sub>OSS</sub>	Output Capacitance		--	22.3	--	pF
C <sub>RSS</sub>	Reverse Transfer Capacitance		--	14.3	--	pF
<b>Switching Characteristics</b>						
Q <sub>g</sub>	Total Gate Charge	VDS=15V, ID=1A, VGS=4.5V	--	1.5	--	nC
Q <sub>gs</sub>	Gate Source Charge		--	0.3	--	nC
Q <sub>gd</sub>	Gate Drain Charge		--	0.5	--	nC
t <sub>d(on)</sub>	Turn-on Delay Time	VDD=15V, ID=2A, VGS=4.5V, RG=3Ω	--	9	--	nS
t <sub>r</sub>	Turn-on Rise Time		--	35	--	nS
t <sub>d(off)</sub>	Turn-Off Delay Time		--	16	--	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> =2A,	--	0.86	1.2	V

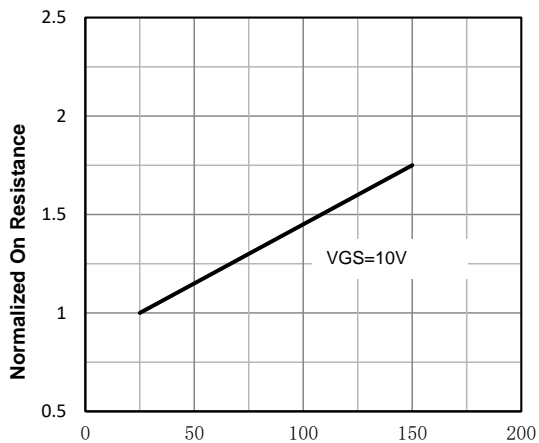
## Typical Operating Characteristics



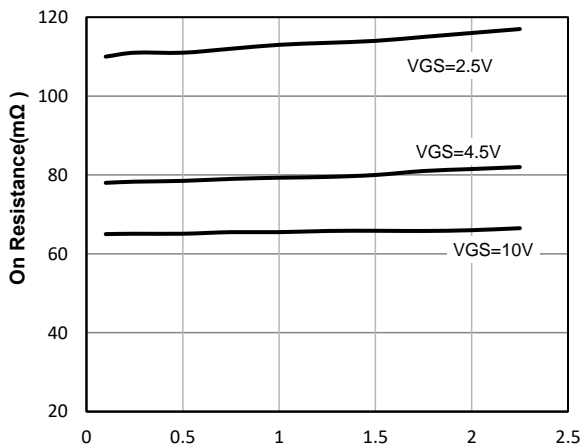
VDS, Drain -Source Voltage (V)  
Fig1. Typical Output Characteristics



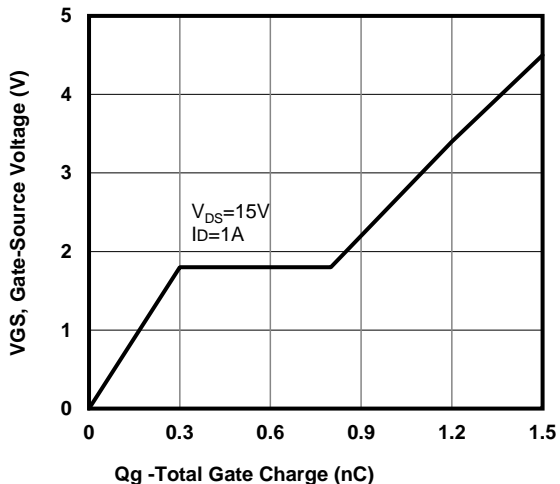
VGS, Gate -Source Voltage (V)  
Fig2. Typical Transfer Characteristic



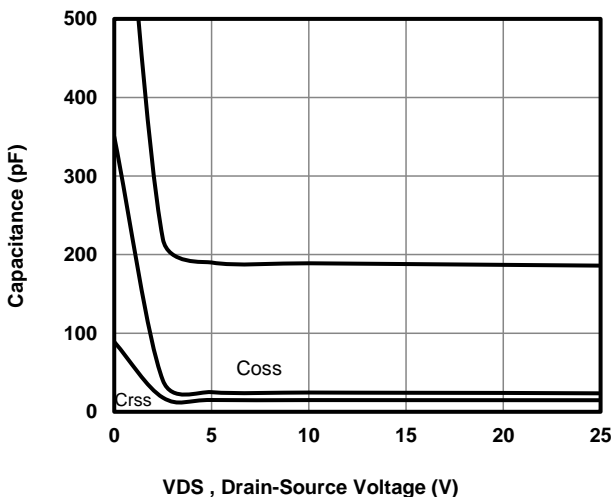
Tj - Junction Temperature (°C)  
Fig3. Normalized On-Resistance Vs. Temperature



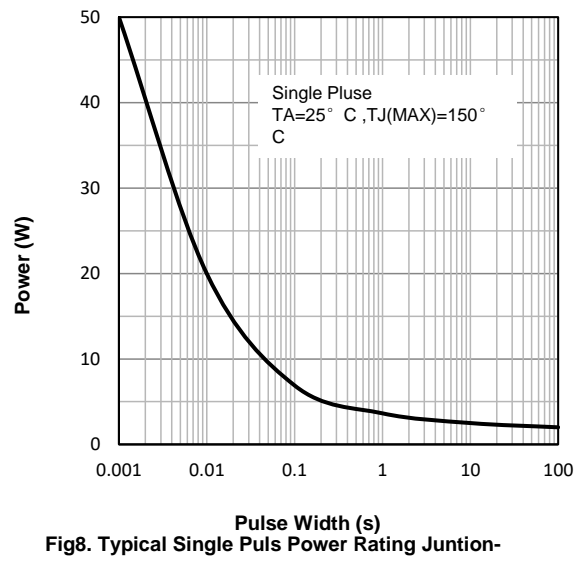
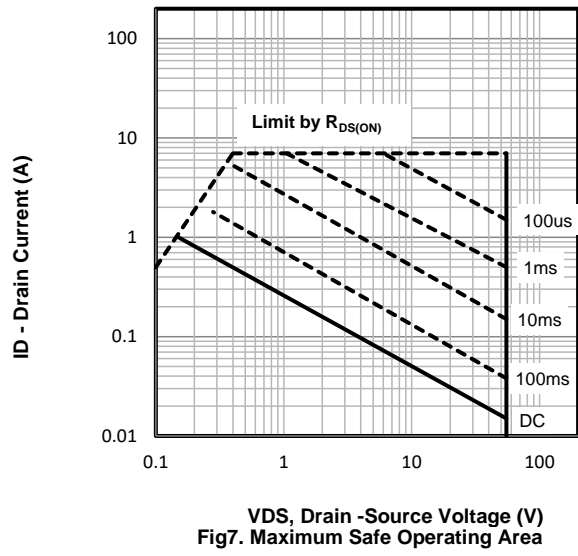
ID, Drain-Source Current (A)  
Fig4. On-Resistance Vs. Drain-Source Current

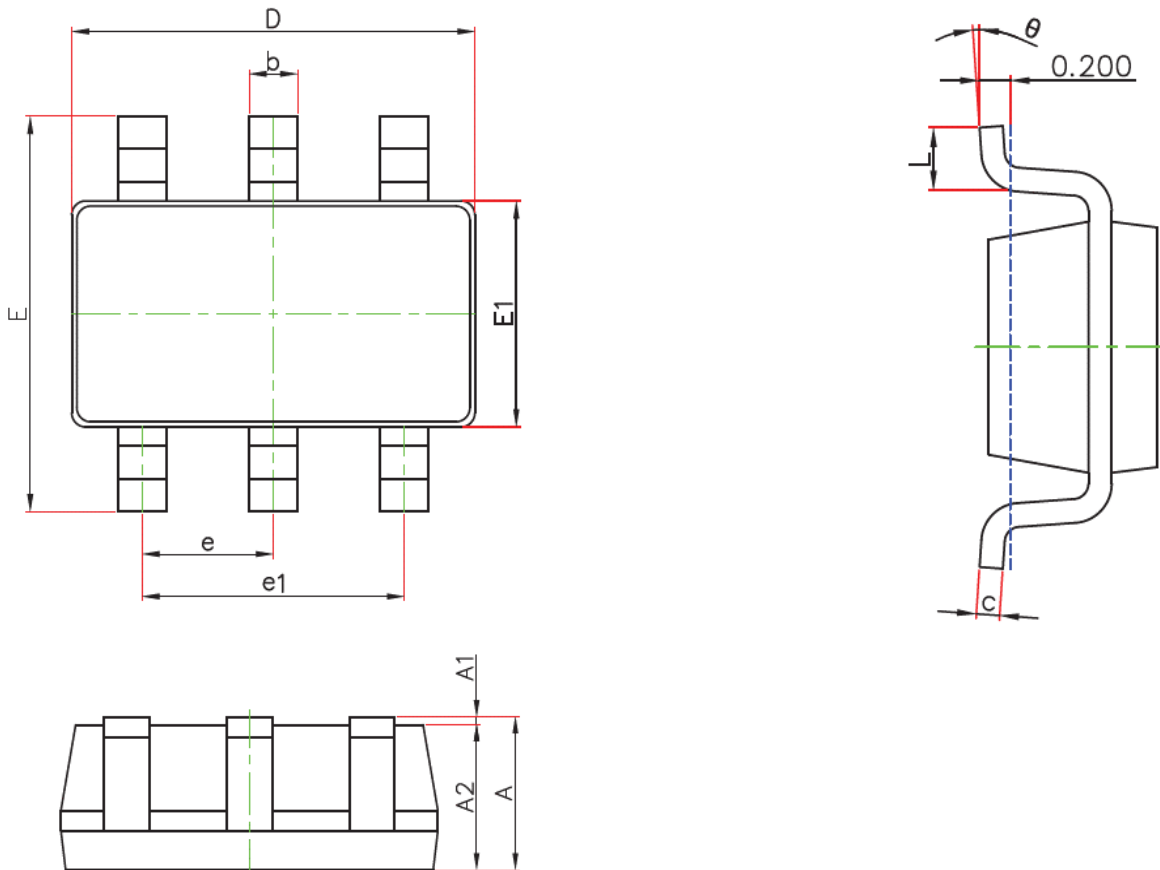


Qg -Total Gate Charge (nC)  
Fig5. Typical Gate Charge Vs. Gate-Source Voltage



VDS, Drain-Source Voltage (V)  
Fig6 Typical Capacitance Vs. Drain-Source



**SOT-23-6L Package information**


Symbol	Dimensions In Millimeters	
	Min.	Max.
A	1.050	1.200
A1	0.000	0.100
A2	1.000	1.200
b	0.300	0.500
c	0.100	0.150
D	2.800	3.000
E1	1.500	1.700
E	2.600	3.000
e	0.950(BSC)	
e1	1.800	2.000
L	0.300	0.600
K	0°	8°

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