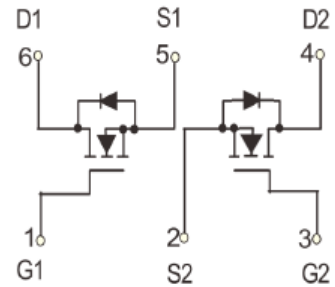
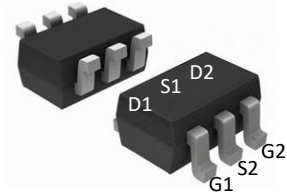


## N-Channel Power Mosfet

### Product Summary

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



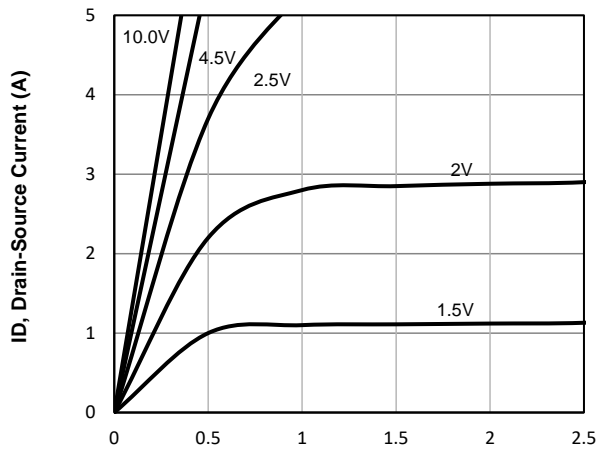
### FEATURES

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

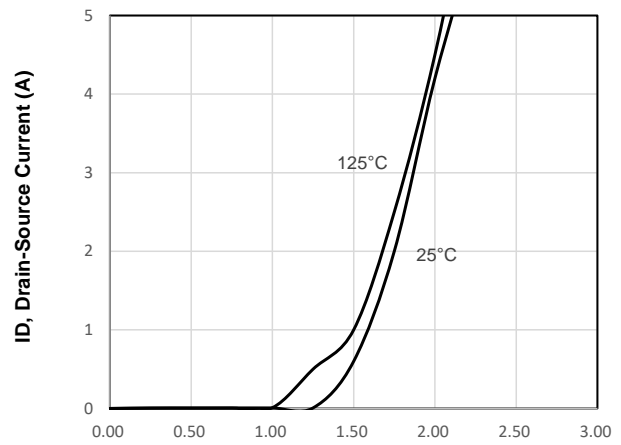
Absolute Maximum Ratings (TA=25°C unless otherwise noted)				
Symbol	Parameter		Rating	Unit
<b>Common Ratings (TC=25°C Unless Otherwise Noted)</b>				
$V_{GS}$	Gate-Source Voltage		$\pm 20$	V
$V_{(br)DSS}$	Drain-Source Breakdown Voltage		30	V
$T_J$	Maximum Junction Temperature		150	°C
$T_{STG}$	Storage 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>						
B <sub>V(BR)DSS</sub>	Drain-Source Breakdown Voltage	V <sub>GS</sub> =0V I <sub>D</sub> =250μA	30	--	--	V
I <sub>DSS</sub>	Zero Gate Voltage Drain Current	V <sub>DS</sub> =30V, V <sub>GS</sub> =0V	--	--	1	μA
I <sub>GSS</sub>	Gate-Body Leakage Current	V <sub>GS</sub> =±20V, V <sub>DS</sub> =0V	--	--	±100	nA
V <sub>GS(th)</sub>	Gate Threshold Voltage	V <sub>DS</sub> =V <sub>GS</sub> , I <sub>D</sub> =250μA	0.5	0.9	1.5	V
R <sub>DS(on)</sub>	Drain-Source On-State Resistance	V <sub>GS</sub> =10V, I <sub>D</sub> =2A	--	70	90	mΩ
		V <sub>GS</sub> =4.5V, I <sub>D</sub> =1A	--	76	106	
<b>Dynamic Electrical Characteristics @ T<sub>J</sub> = 25°C (unless otherwise stated)</b>						
C <sub>ISS</sub>	Input Capacitance	V <sub>DS</sub> =15V, V <sub>GS</sub> =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	V <sub>DS</sub> =15V, I <sub>D</sub> =1A, V <sub>GS</sub> =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	V <sub>DD</sub> =15V, I <sub>D</sub> =2A, V <sub>GS</sub> =4.5V, R <sub>G</sub> =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

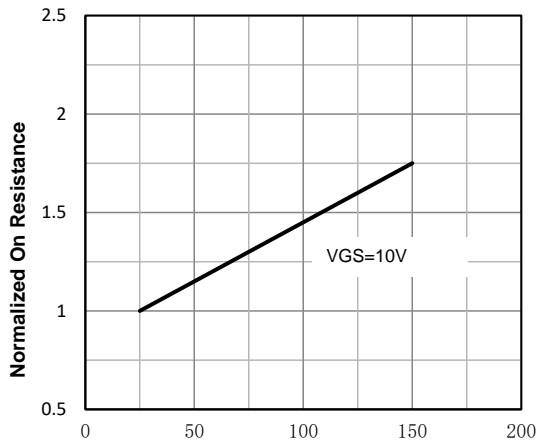
## Typical Operating Characteristics



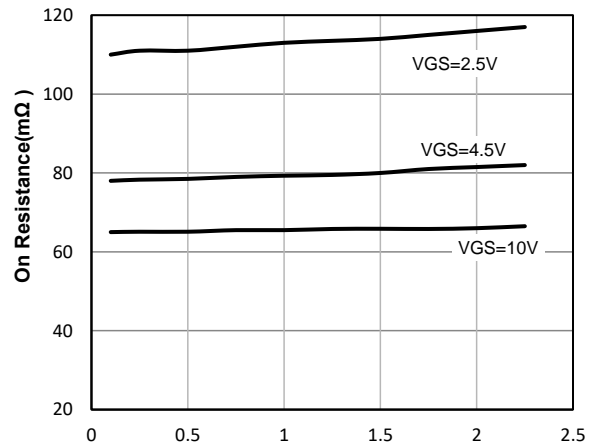
**VDS, Drain -Source Voltage (V)**  
**Fig1. Typical Output Characteristics**



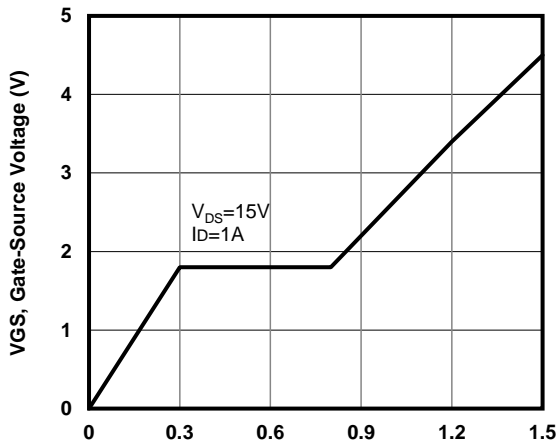
**VGS, Gate -Source Voltage (V)**  
**Fig2. Typical Transfer Characteristic**



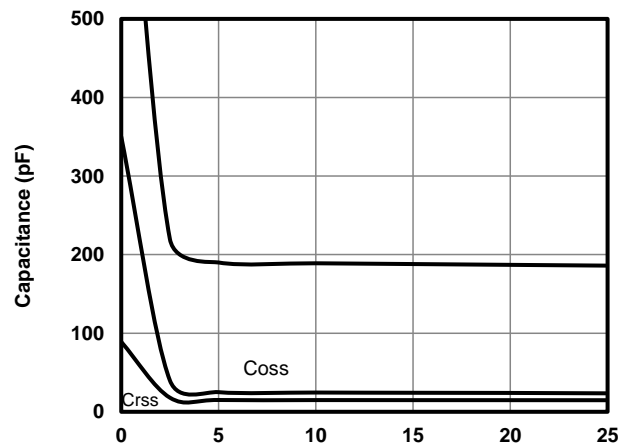
**Tj - Junction Temperature (°C)**  
**Fig3. Normalized On-Resistance Vs. Temperature**



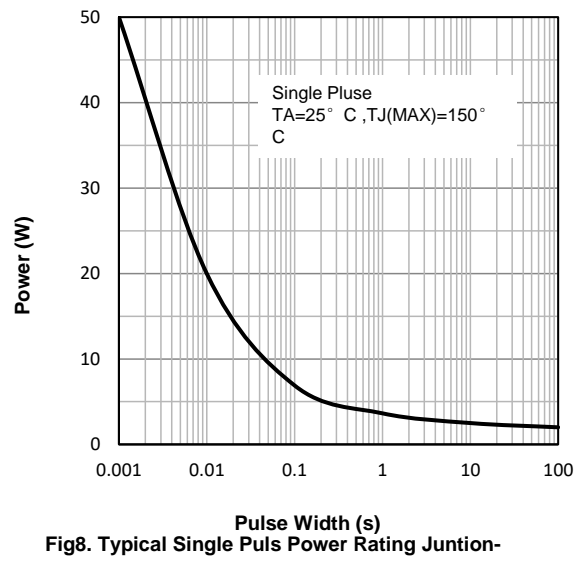
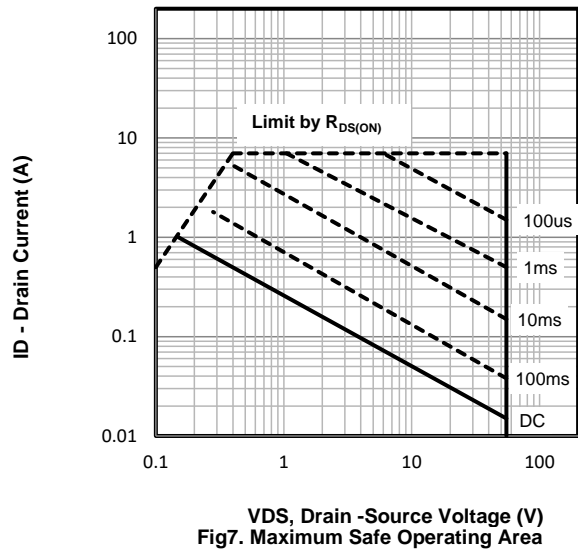
**ID, Drain-Source Current (A)**  
**Fig4. On-Resistance Vs. Drain-Source Current**

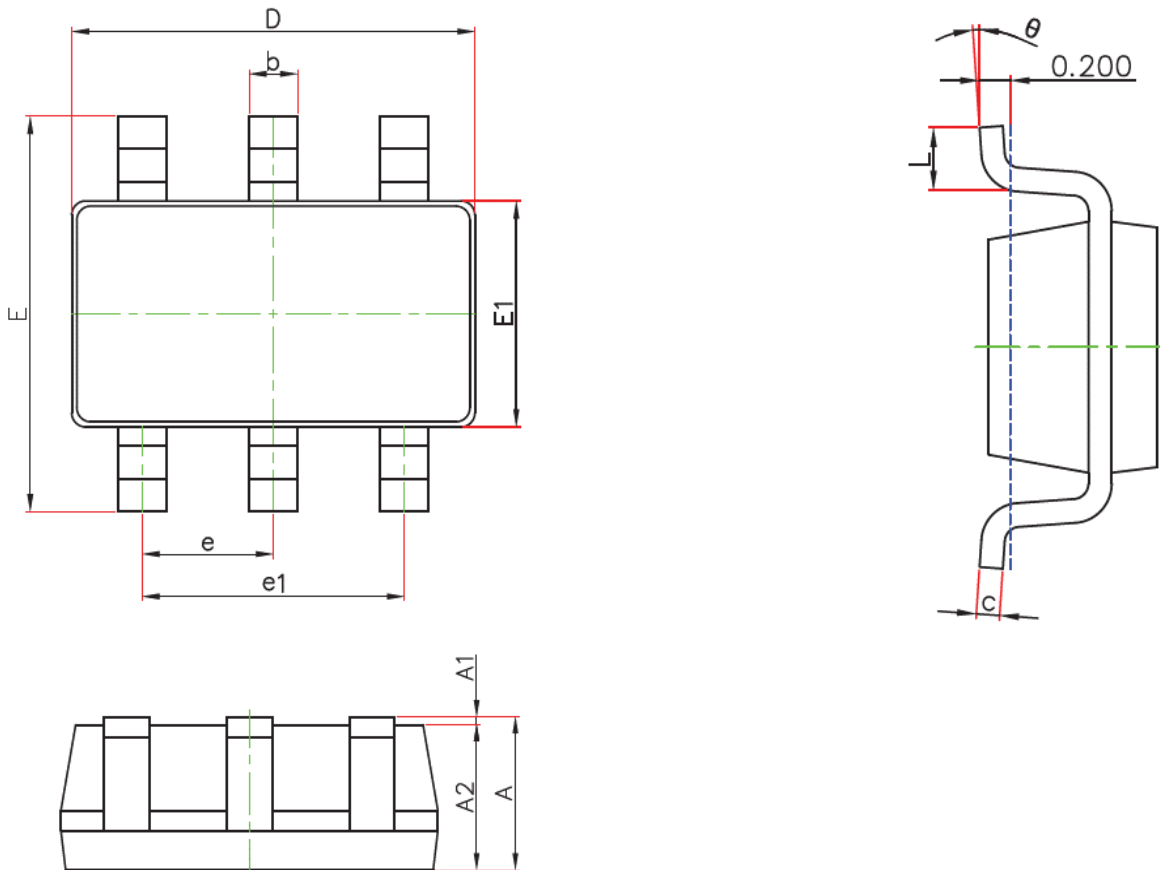


**Qg -Total Gate Charge (nC)**  
**Fig5. Typical Gate Charge Vs. Gate-Source Voltage**



**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°