

## Product Summary

$V_{(BR)DSS}$	$R_{DS(on)TYP}$	$I_D$
-30V	45mΩ@-10V	-4.1A
	65mΩ@-4.5V	

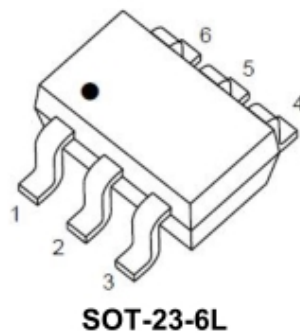
## Feature

- TrenchFET Power MOSFET
- Excellent  $R_{DS(on)}$  and Low Gate Charge

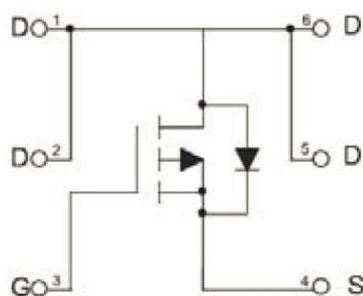
## Applications

- DC/DC Converter
- Load Switch for Portable Devices
- Battery Switch

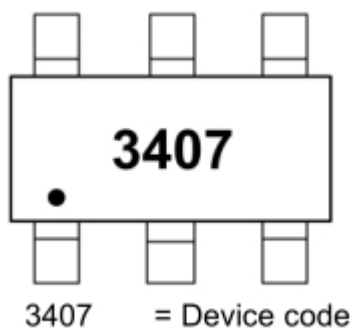
## Package



## Circuit diagram



## Marking



## Absolute maximum ratings

( $T_a=25^{\circ}\text{C}$  unless otherwise noted)

Parameter	Symbol	Value	Unit
Drain-Source Voltage	$V_{DS}$	-30	V
Gate-Source Voltage	$V_{GS}$	$\pm 20$	V
Continuous Drain Current	$I_D$	-4.1	A
Power Dissipation	$P_D$	1.5	W
Thermal Resistance from Junction to Ambient	$R_{\theta JA}$	83.3	$^{\circ}\text{C}/\text{W}$
Junction Temperature	$T_J$	150	
Storage Temperature	$T_{STG}$	-55~ +150	$^{\circ}\text{C}$

## Electrical characteristics

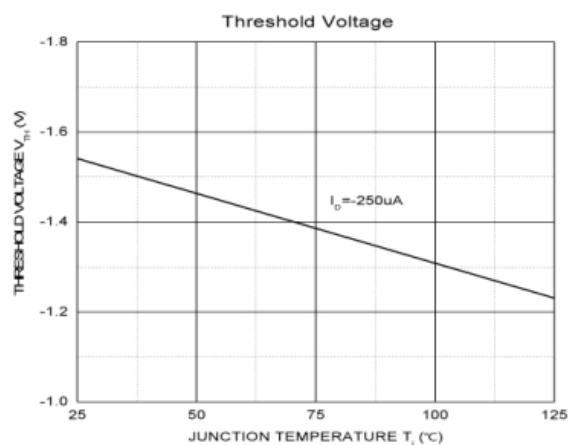
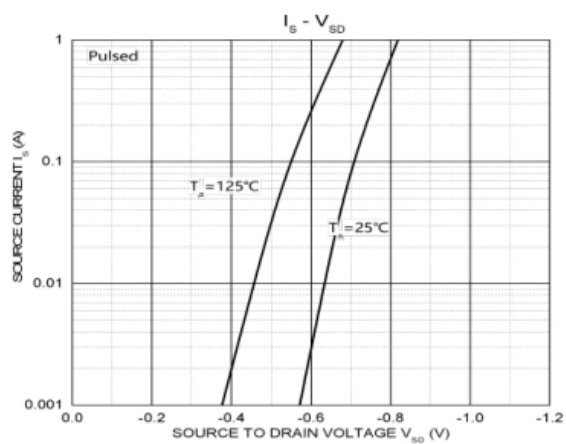
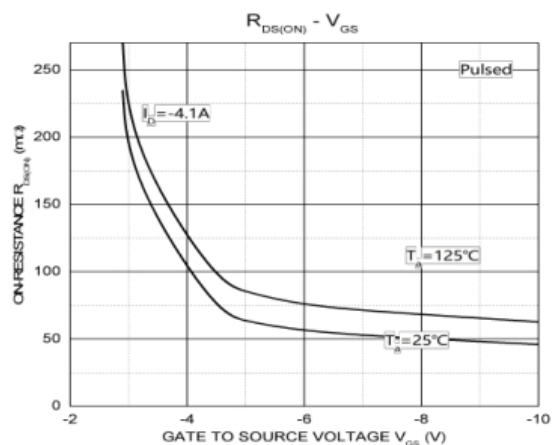
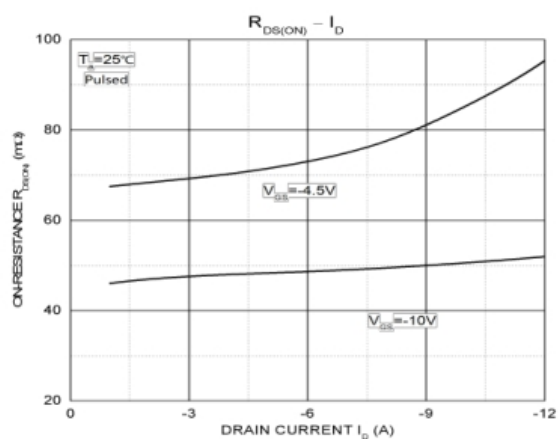
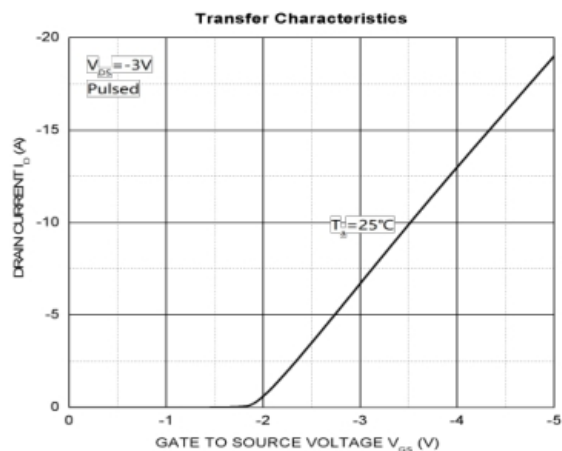
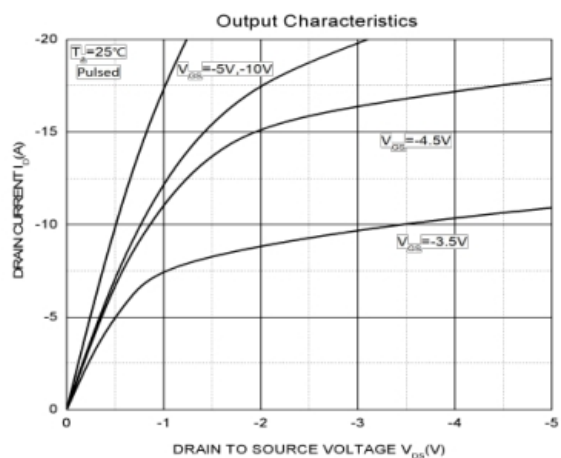
( $T_A=25^{\circ}\text{C}$ , unless otherwise noted)

Parameter	Symbol	Test Condition	Min.	Typ.	Max.	Unit
Static Characteristics						
Drain-source breakdown voltage	BV (BR)DSS	V <sub>GS</sub> = 0V, I <sub>D</sub> = -250μA	-30			V
Zero gate voltage drain current	I <sub>DSS</sub>	V <sub>DS</sub> = -24V, V <sub>GS</sub> = 0V			-1	uA
Gate-body leakage current	I <sub>GSS</sub>	V <sub>GS</sub> = ±20V, V <sub>DS</sub> = 0V			±100	uA
Gate threshold voltage <sup>1)</sup>	V <sub>GS(th)</sub>	V <sub>DS</sub> =V <sub>GS</sub> , I <sub>D</sub> = -250μA	-1	-1.6	-3	V
Drain-source on-resistance <sup>1)</sup>	R <sub>DS(on)</sub>	V <sub>GS</sub> = -10V, I <sub>D</sub> = -4.1A		45	56	mΩ
		V <sub>GS</sub> = -4.5V, I <sub>D</sub> = -3A		65	87	
Forward transconductance <sup>1)</sup>	g <sub>FS</sub>	V <sub>DS</sub> = -5V, I <sub>D</sub> = -4A	5.5			S
Dynamic Characteristics <sup>2)</sup>						
Input capacitance	C <sub>iSS</sub>	V <sub>DS</sub> = -15V, V <sub>GS</sub> =0V, f=1MHz		700		pF
Output capacitance	C <sub>oss</sub>			120		
Reverse transfer capacitance	C <sub>rSS</sub>			75		
Turn-on Delay Time	T <sub>d(on)</sub>	V <sub>DS</sub> = -15V, V <sub>GS</sub> = -10V, R <sub>L</sub> = 3.6Ω, R <sub>GEN</sub> = 3Ω		8.6		nS
Turn-on Rise Time	T <sub>r</sub>			5.0		
Turn-Off Delay Time	T <sub>d(off)</sub>			28.2		
Turn-Off Fall Time	t <sub>f</sub>			13.5		
Source-Drain Diode Characteristics						
Diode Forward voltage	V <sub>DS</sub>	I <sub>S</sub> = -1A, V <sub>GS</sub> = 0V			-1	V

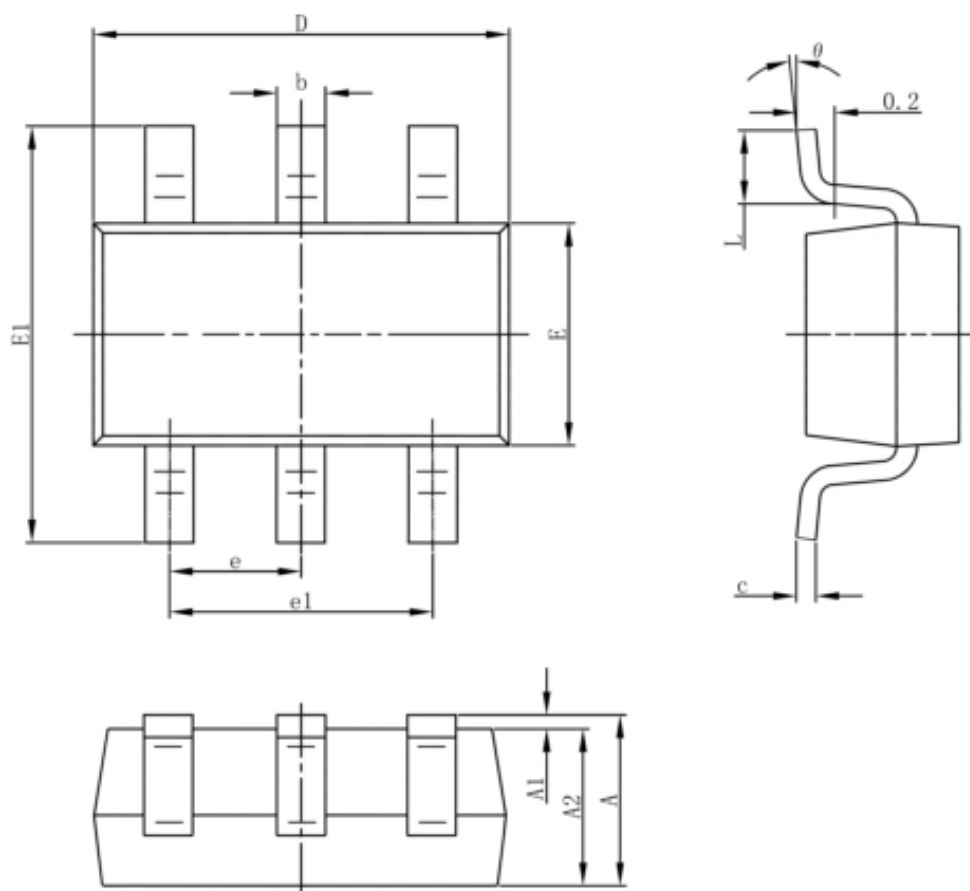
### Notes:

1. Pulse test: pulse width  $\leq 300\mu s$ , duty cycle  $\leq 2\%$ .
2. These parameters have no way to verify.

## Typical Characteristics



## SOT-23-6L Package Information



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min	Max	Min	Max
A	1.050	1.250	0.041	0.049
A1	0.000	0.100	0.000	0.004
A2	1.050	1.150	0.041	0.045
b	0.300	0.500	0.012	0.020
c	0.100	0.200	0.004	0.008
D	2.820	3.020	0.111	0.119
E	1.500	1.700	0.059	0.067
E1	2.650	2.950	0.104	0.116
e	0.950(BSC)		0.037(BSC)	
e1	1.800	2.000	0.071	0.079
L	0.300	0.600	0.012	0.024
θ	0°	8°	0°	8°