

SOT-23-6L Plastic-Encapsulate MOSFET P -Channel MOSFET

Product Summary

$V_{(BR)DSS}$	$R_{DS(on)TYP}$	I_D
-30V	47mΩ@-10V	-4.2A
	62mΩ@-4.5V	

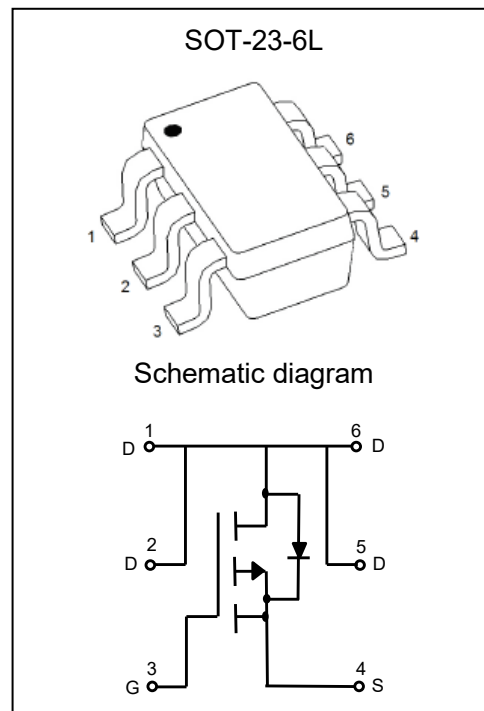
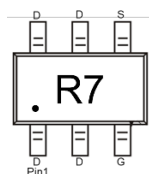
Feature

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

Application

- Load Switch
- PWM Application

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}	± 20	V
Continuous Drain Current	I_D	-4.2	A
Power Dissipation	P_D	0.35	W
Thermal Resistance from Junction to Ambient	$R_{\theta JA}$	357	$^{\circ}\text{C/W}$
Junction Temperature	T_J	150	$^{\circ}\text{C}$
Storage Temperature	T_{STG}	-55~ +150	$^{\circ}\text{C}$

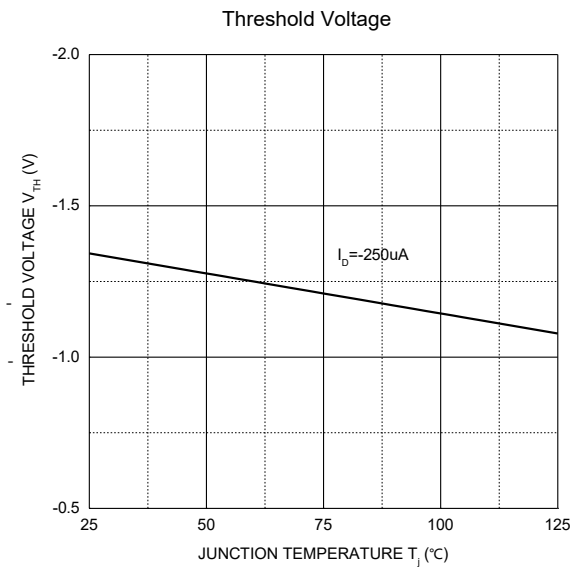
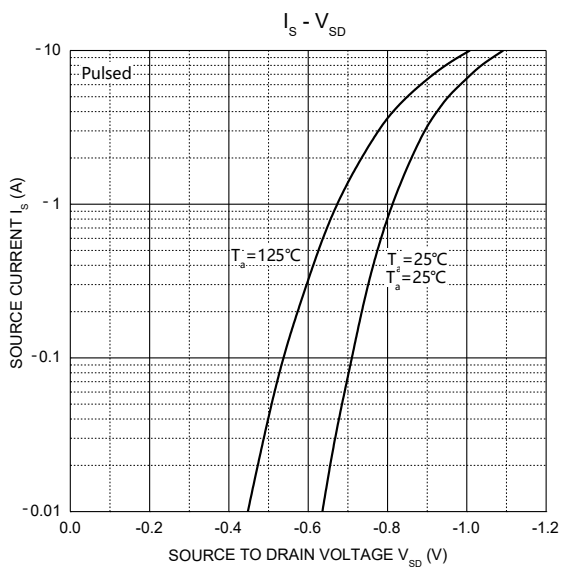
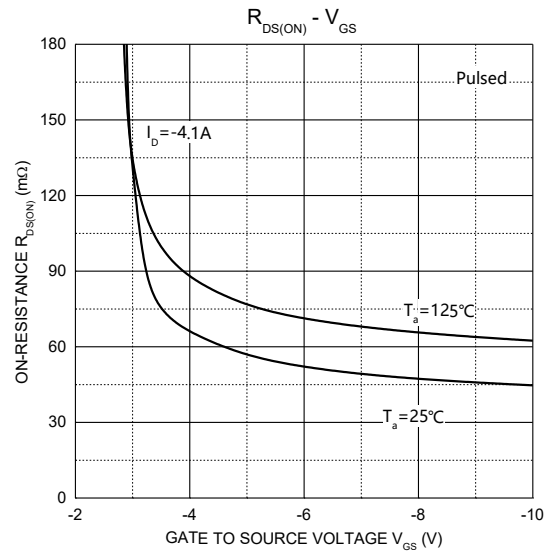
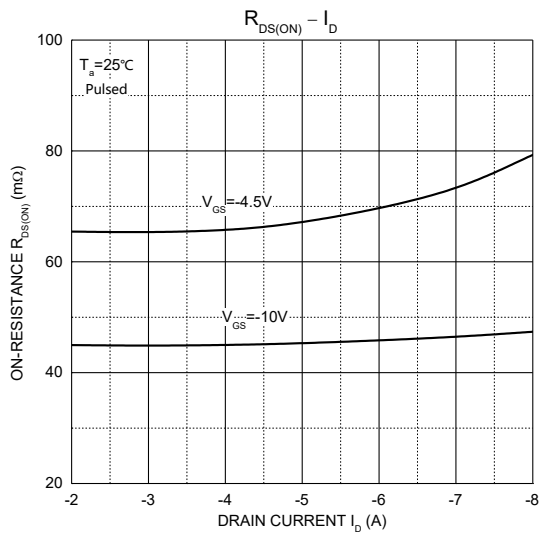
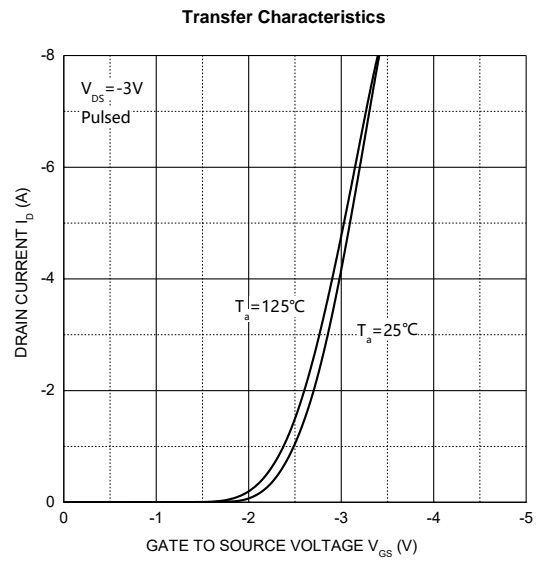
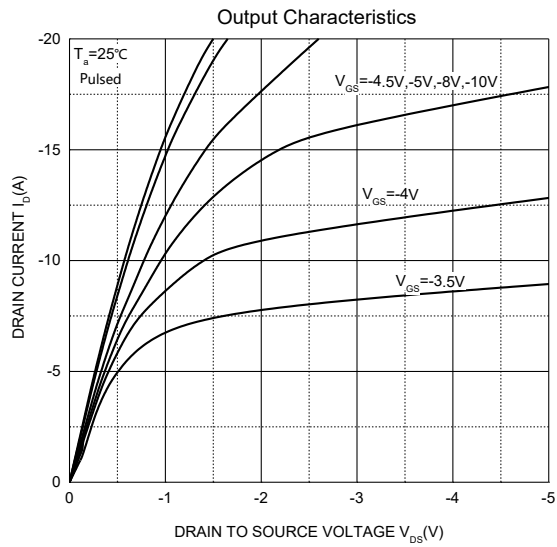
Electrical Characteristics ($T_A=25^\circ\text{C}$ unless otherwise noted)

Parameter	Symbol	Test Condition	Min	Type	Max	Unit
Static Characteristics						
Drain-source breakdown voltage	$V_{(BR)DSS}$	$V_{GS} = 0V, I_D = -250\mu A$	-30			V
Zero gate voltage drain current	I_{DSS}	$V_{DS} = -24V, V_{GS} = 0V$			-1	μA
Gate-body leakage current	I_{GSS}	$V_{GS} = \pm 20V, V_{DS} = 0V$			± 100	nA
Gate threshold voltage ⁽¹⁾	$V_{GS(th)}$	$V_{DS} = V_{GS}, I_D = -250\mu A$	-1	-1.5	-3	V
Drain-source on-resistance ⁽¹⁾	$R_{DS(on)}$	$V_{GS} = -10V, I_D = -4.1A$		47	60	m Ω
		$V_{GS} = -4.5V, I_D = -3A$		62	87	
Forward transconductance ⁽¹⁾	g_{FS}	$V_{DS} = -5V, I_D = -4A$	5.5			S
Diode Forward voltage ⁽¹⁾	V_{DS}	$V_{GS} = 0V, I_S = -1.0A$			-	V
Dynamic characteristics						
Input Capacitance	C_{iss}	$V_{DS} = -15V, V_{GS} = 0V, f = 1MHz$		550		pF
Output Capacitance	C_{oss}			70		
Reverse Transfer Capacitance	C_{rss}			60		
Total Gate Charge	Q_g	$V_{DS} = -15V, V_{GS} = -4.5V, I_D = -3A$		6		nC
Gate-Source Charge	Q_{gs}			2		
Gate-Drain Charge	Q_{gd}			1.7		
Turn-on delay time	$t_{d(on)}$	$V_{DD} = -15V, V_{GS} = -10V, R_G = 3.3\Omega, I_D = -3A$		2.7		ns
Turn-on rise time	t_r			8.2		
Turn-off delay time	$t_{d(off)}$			35		
Turn-off fall time	t_f			5		

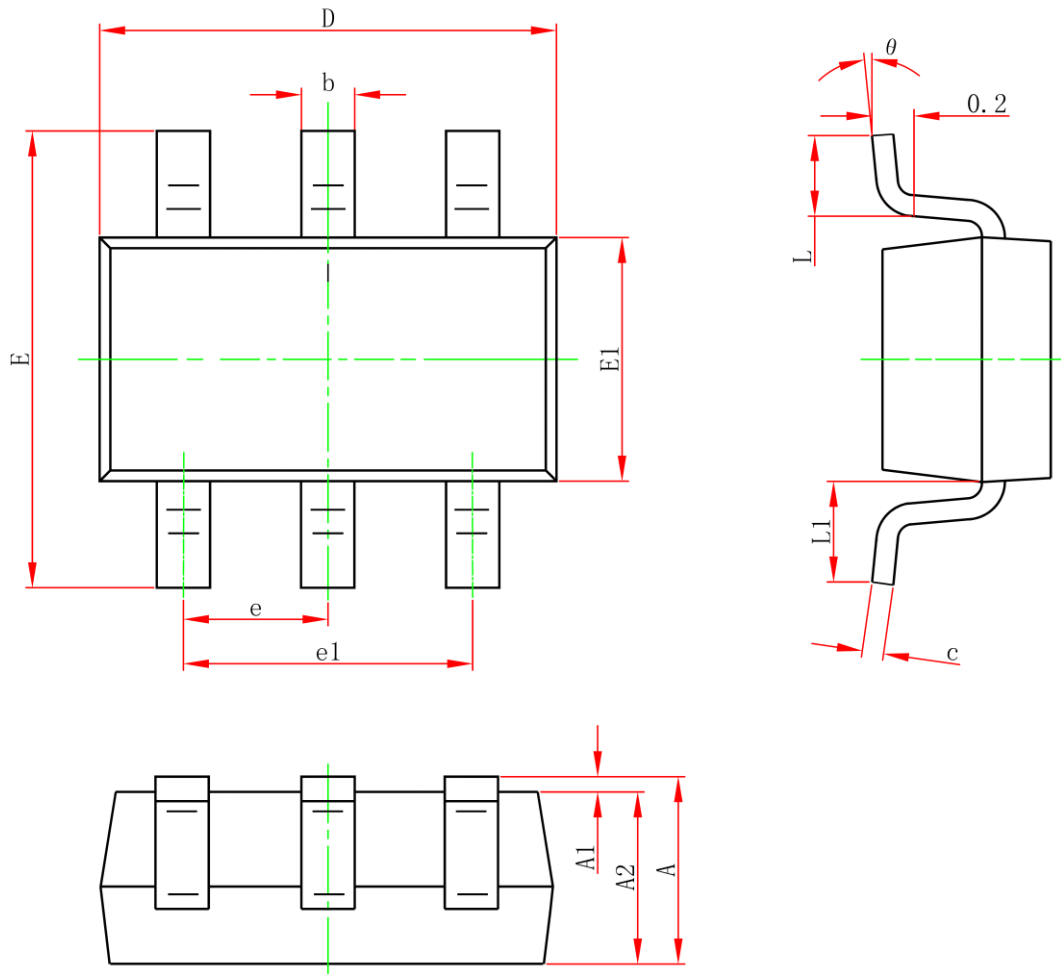
Notes:

1. Pulse test; pulse width $\leq 300\mu s$, duty cycle $\leq 2\%$

Typical Characteristics



SOT-23-6L Package Outline Dimensions



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min.	Max.	Min.	Max.
A	1.050	1.250	0.041	0.049
A1	0	0.150	0.000	0.006
A2	1.050	1.250	0.041	0.049
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	2.650	2.950	0.104	0.116
E1	1.500	1.700	0.059	0.067
e	0.950TYP		0.037TYP	
e1	1.800	2.000	0.071	0.079
L	0.300	0.600	0.012	0.024
L1	0.600REF		0.024REF	
θ	0°	8°	0°	8°

NOTICE

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