

**-30V,-4.2A
P-Channel Mosfet**

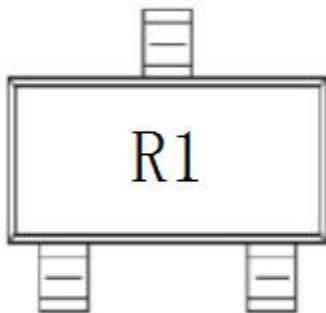
FEATURES

- RDS(ON) ≤ 63mΩ @VGS=-10V
- RDS(ON) ≤ 67mΩ @VGS=-4.5V
- RDS(ON) ≤ 85mΩ @VGS=-2.5V

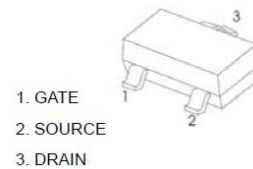
APPLICATIONS

- Load/Power Switching
- Interfacing Switching

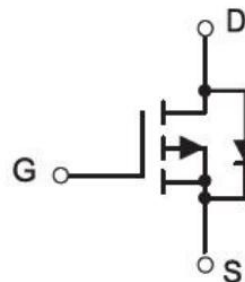
MARKING



SOT-23



P-CHANNEL MOSFET



Maximum ratings (T_a=25°C unless otherwise noted)

Parameter	Symbol	Value	Unit
Drain-Source Voltage	V _{DS}	-30	V
Gate-Source Voltage	V _{GS}	±12	
Continuous Drain Current	I _D	-4.2	A
Pulsed Drain Current	I _{DM}	-12	
Maximum Power Dissipation	P _D	0.4	W
Thermal Resistance from Junction to Ambient(t ≤5s)	R _{θJA}	313	°C/W
Junction Temperature	T _J	150	°C
Storage Temperature	T _{stg}	-55 ~ +150	

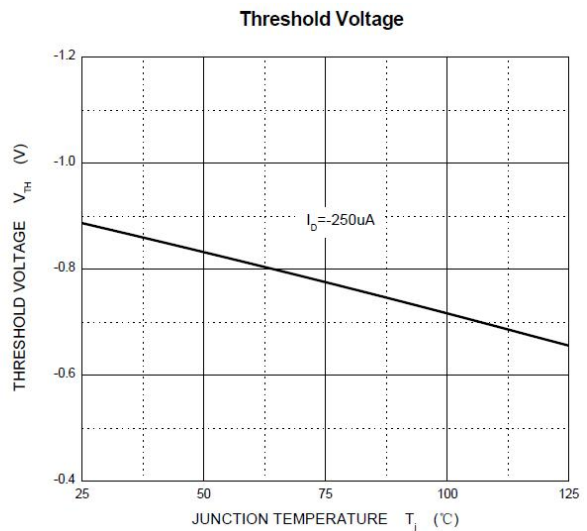
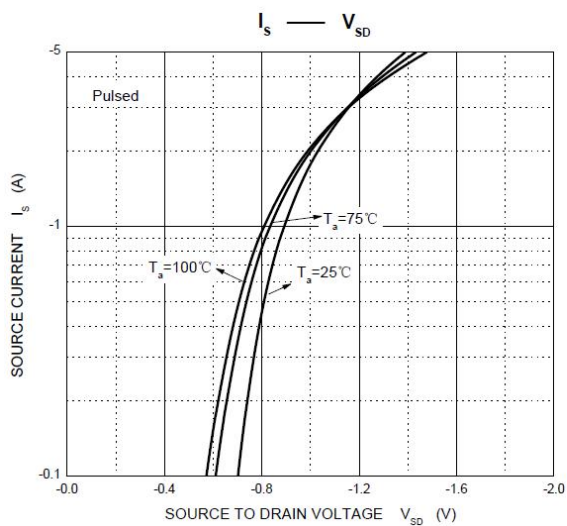
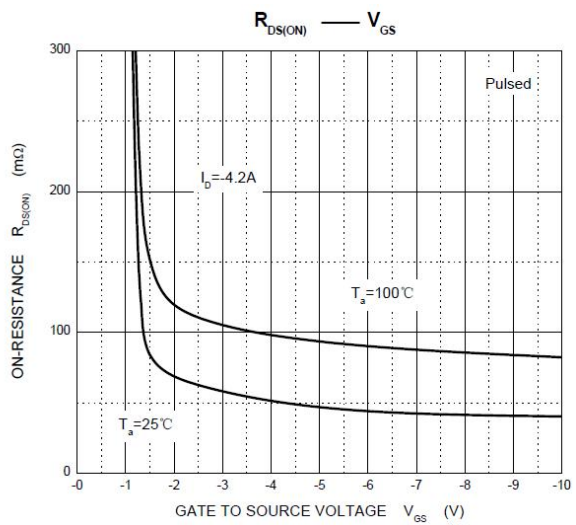
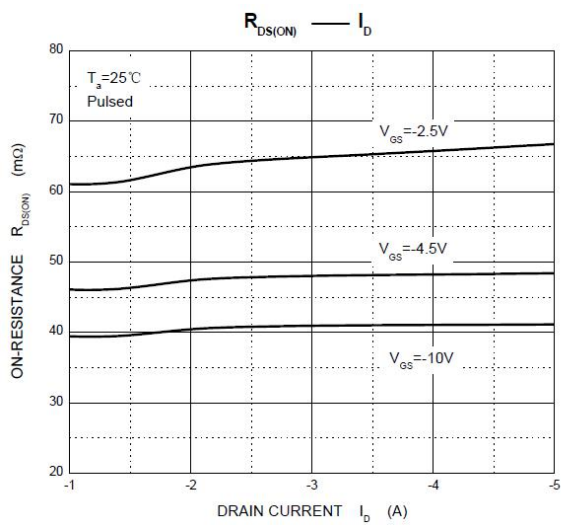
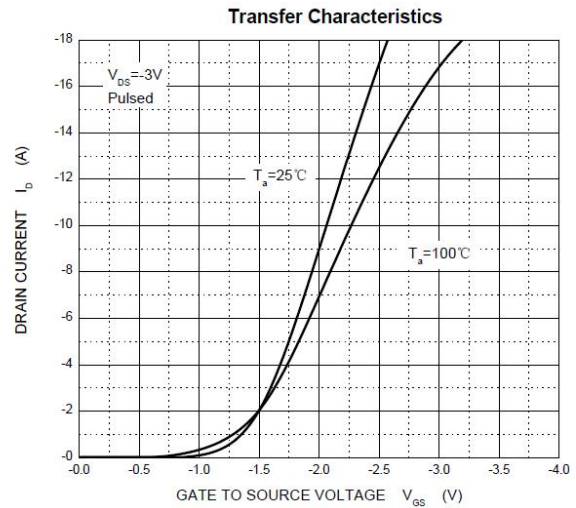
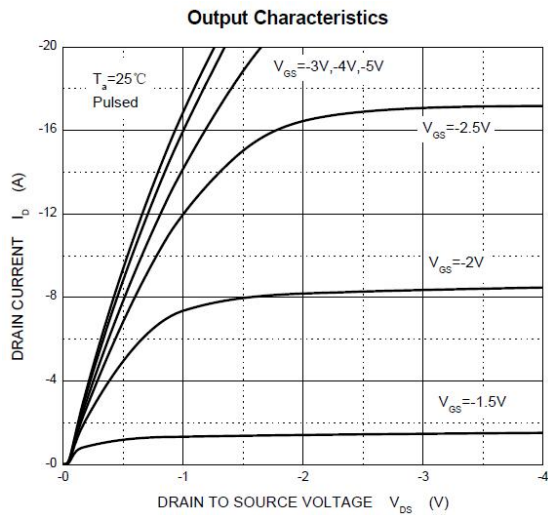
MOSFET ELECTRICAL CHARACTERISTICS $T_a=25\text{ }^\circ\text{C}$ unless otherwise specified

Parameter	Symbol	Test Condition	Min	Typ	Max	Units
Static						
Drain-source breakdown voltage	$V_{(BR)DSS}$	$V_{GS} = 0V, I_D = -250\mu A$	-30	-35		V
Gate-source threshold voltage	$V_{GS(th)}$	$V_{DS} = V_{GS}, I_D = -250\mu A$	-0.5	-0.9	-1.5	
Gate-source leakage	I_{GSS}	$V_{DS} = 0V, V_{GS} = \pm 12V$			± 100	nA
Zero gate voltage drain current	I_{DSS}	$V_{DS} = -30V, V_{GS} = 0V$			-1	μA
Drain-source on-state resistance ^a	$R_{DS(on)}$	$V_{GS} = -10V, I_D = -4.2A$		45	63	m Ω
		$V_{GS} = -4.5V, I_D = -4A$		49	67	
		$V_{GS} = -2.5V, I_D = -1A$		60	85	
Body diode voltage	V_{SD}	$I_S = -0.7A$		-0.7	-1	V
Dynamic^b						
Input capacitance	C_{iss}	$V_{DS} = -15V, V_{GS} = 0V, f = 1MHz$		1050		pF
Output capacitance	C_{oss}			127		
Reverse transfer capacitance	C_{rss}			85		
Total gate charge	Q_g	$V_{DS} = -15V, V_{GS} = -4.5V$ $I_D = -4A$		9.5		nC
Gate-source charge	Q_{gs}			2		
Gate-drain charge	Q_{gd}			3		
Turn-on delay time	$t_{d(on)}$	$V_{DS} = -15V, R_L = 3.6\Omega,$ $V_{GS} = -10V, R_{GEN} = 6\Omega$			6.5	nS
Rise time	t_r				3.5	
Turn-off delay time	$t_{d(off)}$				40	
Fall time	t_f				13	

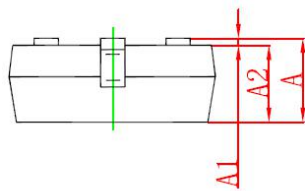
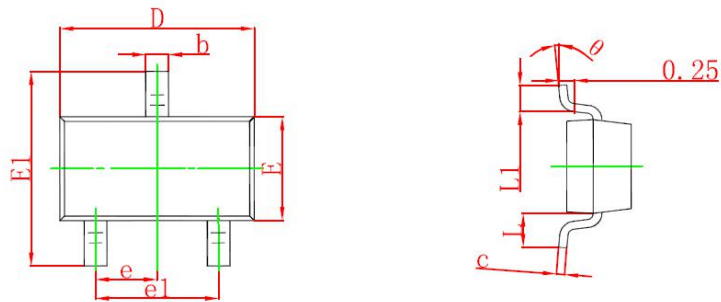
Notes :

- a. Pulse Test : Pulse Width < 300 μs , Duty Cycle $\leq 2\%$.
- b. Guaranteed by design, not subject to production testing.

P-Channel -30V (D-S) MOSFET Typical Characteristics

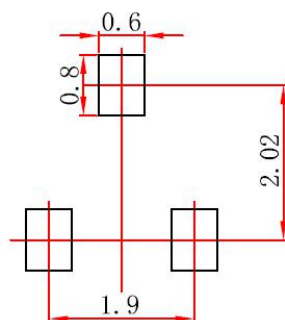


SOT-23 package



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min	Max	Min	Max
A	0.900	1.150	0.035	0.045
A1	0.000	0.100	0.000	0.004
A2	0.900	1.050	0.035	0.041
b	0.300	0.500	0.012	0.020
c	0.080	0.150	0.003	0.006
D	2.800	3.000	0.110	0.118
E	1.200	1.400	0.047	0.055
E1	2.250	2.550	0.089	0.100
e	0.950 TYP		0.037 TYP	
e1	1.800	2.000	0.071	0.079
L	0.550 REF		0.022 REF	
L1	0.300	0.500	0.012	0.020
θ	0°	8°	0°	8°

SOT-23 Suggested Pad Layout



- Note:
1. Controlling dimension: in millimeters.
 2. General tolerance: $\pm 0.05\text{mm}$.
 3. The pad layout is for reference purposes only.