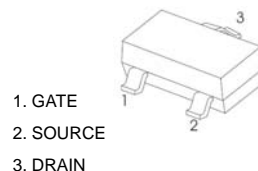


P-Channel 30-V(D-S) MOSFET

SOT- 23

$V_{(BR)DSS}$	$R_{DS(on)MAX}$	I_D
- 30V	88mΩ@-10V	- 2.7A
	138mΩ@-4.5V	



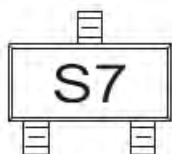
FEATURE

- TrenchFET Power MOSFET

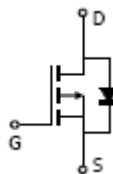
APPLICATION

- Load Switch for Portable Devices

MARKING



Equivalent Circuit



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	
Continuous Drain Current ^{a,b}	I_D	- 2.7	A
Continuous Source- Drain Current ^{a,b}	I_S	- 0.91	
Power Dissipation ^{a,b}	P_D	1.1	W
Thermal Resistance from Junction to Ambient($t \leq 5s$)	$R_{\theta JA}$	114	$^\circ\text{C}/\text{W}$
Operating Junction Temperature	T_J	150	$^\circ\text{C}$
Storage Temperature	T_{stg}	- 55~ +150	



ELECTRICAL CHARACTERISTICS

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

Parameter	Symbol	Test Condition	Min	Typ	Max	Unit
Static						
Drain - Source Breakdown Voltage	$V_{(BR)DSS}$	$V_{GS} = 0V, I_D = -250\mu A$	-30			V
Gate - Source Threshold Voltage	$V_{GS(th)}$	$V_{DS} = V_{GS}, I_D = -250\mu A$	-1		-3	
Gate - Source Leakage	I_{GSS}	$V_{DS} = 0V, V_{GS} = \pm 20V$			± 100	nA
Zero Gate Voltage Drain Current	I_{DSS}	$V_{DS} = -30V, V_{GS} = 0V$			-1	μA
		$V_{DS} = -30V, V_{GS} = 0V, T_J = 55^\circ\text{C}$			-10	
Drain - Source On - State Resistance ^c	$R_{DS(on)}$	$V_{GS} = -4.5V, I_D = -2.5A$		0.110	0.138	Ω
		$V_{GS} = -10V, I_D = -3.5A$		0.073	0.088	
Forward Transconductance ^c	g_{fs}	$V_{DS} = -10V, I_D = -3.5A$		7		S
Dynamic^d						
Input Capacitance	C_{iss}	$V_{DS} = -15V, V_{GS} = 0V, f = 1\text{MHz}$		340		pF
Output Capacitance	C_{oss}			67		
Reverse Transfer Capacitance	C_{rss}			51		
Total Gate Charge	Q_g	$V_{DS} = -15V, V_{GS} = -4.5V, I_D = -2.5A$		4.1	6.2	nC
Gate - Source Charge	Q_{gs}			1.3		
Gate - Drain Charge	Q_{gd}			1.8		
Gate Resistance	R_g	$f = 1\text{MHz}$		10		Ω
Turn - On Delay Time	$t_{d(on)}$	$V_{DD} = -15V, R_L = 15\Omega, I_D = -1A, V_{GEN} = -4.5V, R_g = 1\Omega$		40	60	ns
Rise Time	t_r			40	60	
Turn - Off Delay Time	$t_{d(off)}$			20	40	
Fall Time	t_f			17	30	
Drain - source Body diode characteristics						
Body Diode Voltage	V_{SD}	$I_S = -0.75A, V_{GS} = 0$		-0.8	-1.2	V

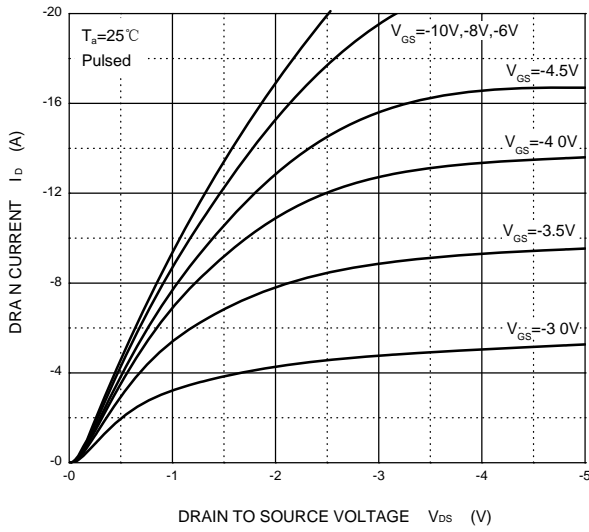
Notes:

- $t=5s$.
- Surface mounted on 1" x 1" FR4 board.
- Pulse Test : Pulse Width < 300 μs , Duty Cycle $\leq 2\%$.
- Guaranteed by design, not subject to production testing.

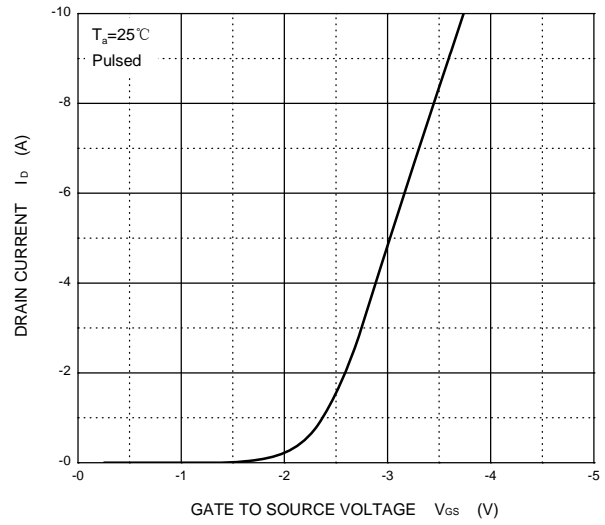


TYPICAL ELECTRICAL CHARACTERISTICS

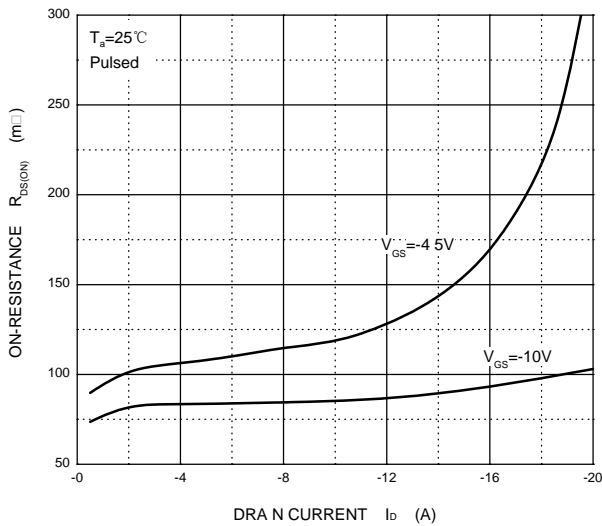
Output Characteristics



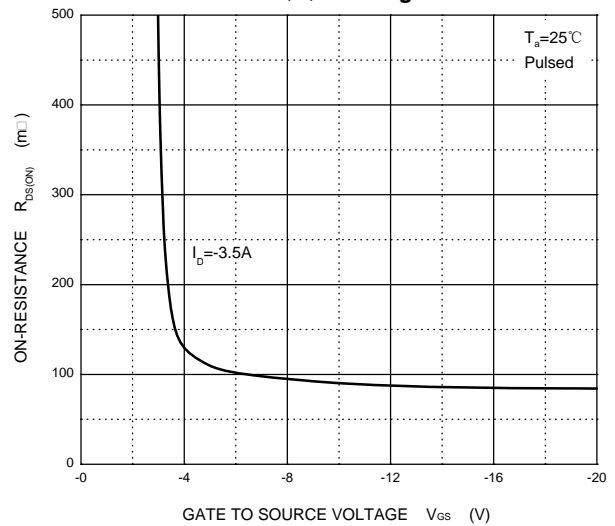
Transfer Characteristics



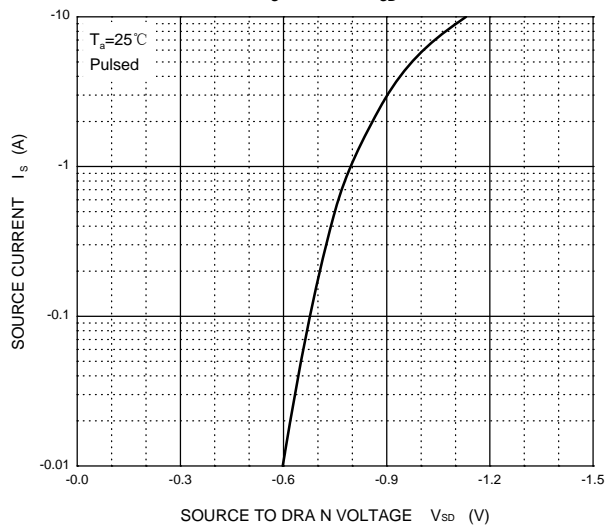
$R_{DS(ON)}$ — I



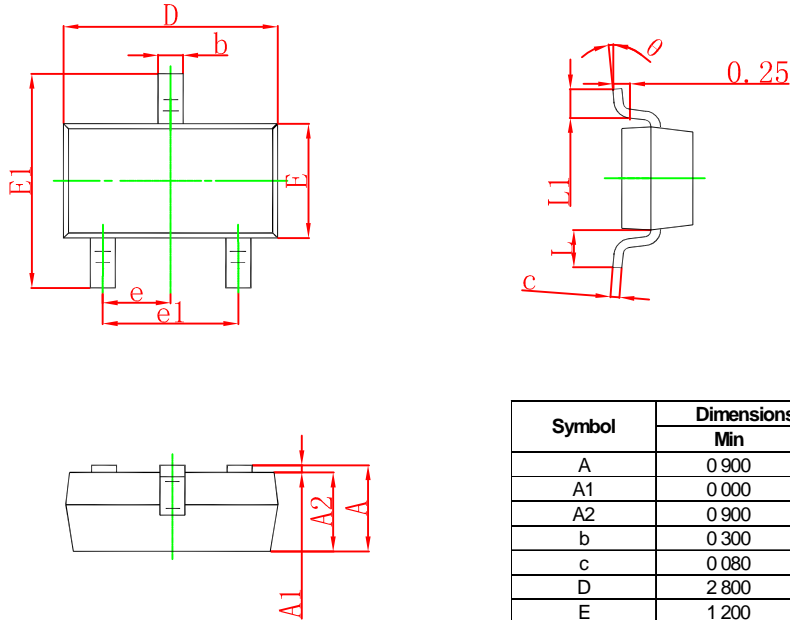
$R_{DS(ON)}$ — V_{GS}



I_S — V_{SD}

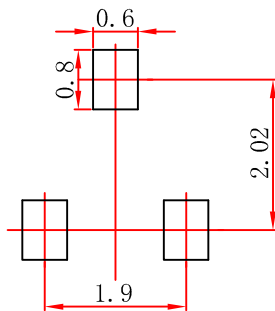


SOT-23 Package Outline Dimensions



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
E1	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: ± 0.05 mm.
3. The pad layout is for reference purposes only.