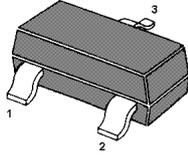


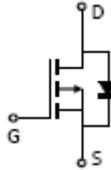
P-Channel 12-V(D-S) MOSFET

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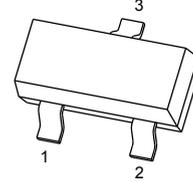
MARKING : S5

Equivalent Circuit



SOT-23

1. GATE
2. SOURCE
3. DRAIN



$V_{(BR)DSS}$	$R_{DS(on)Typ}$	I_D
-12V	38mΩ@-4.5V	-4.1A
	50mΩ@-2.5V	
	70mΩ@-1.8V	

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

Parameter	Symbol	Value	Unit
Drain-Source Voltage	V_{DS}	-12	V
Gate-Source Voltage	V_{GS}	± 10	
Continuous Drain Current	I_D	-4.1	A
Pulsed Drain Current	I_{DM}	-15	
Continuous Source-Drain Diode Current	I_S	-0.59	
Maximum Power Dissipation	P_D	0.35	W
Thermal Resistance from Junction to Ambient	$R_{\theta JA}$	357	$^{\circ}\text{C/W}$
Operation Junction and Storage Temperature Range	T_J, T_{stg}	-50 ~+150	$^{\circ}\text{C}$

MOSFET ELECTRICAL CHARACTERISTICS

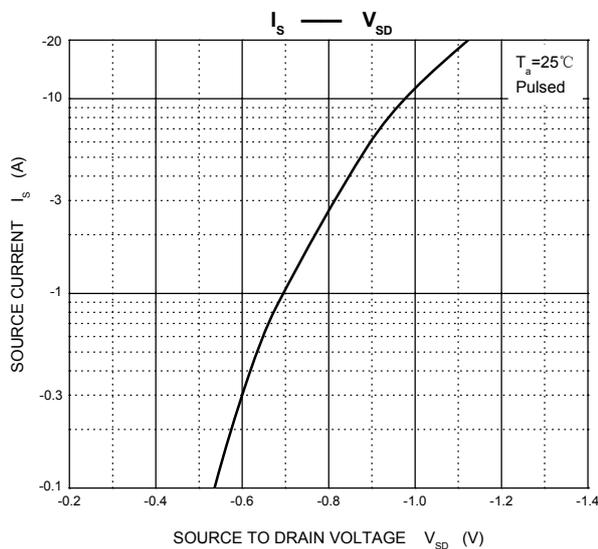
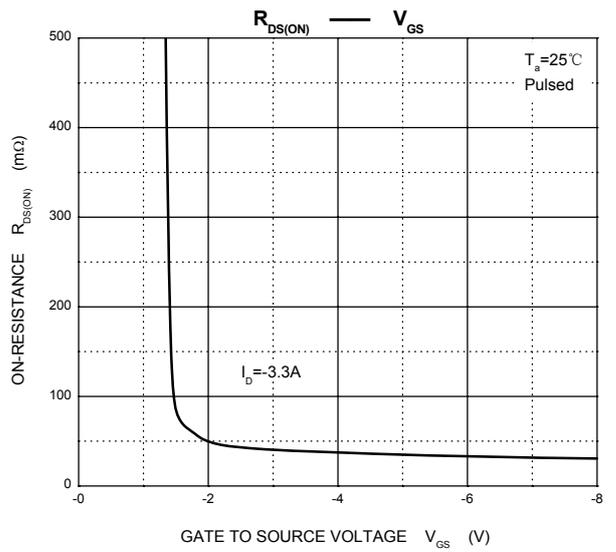
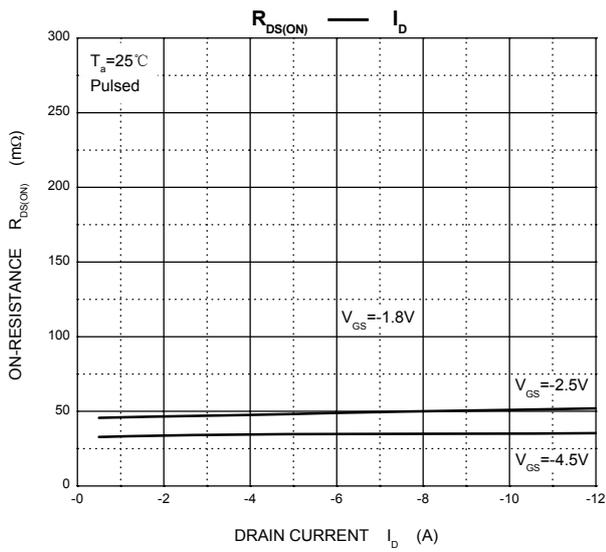
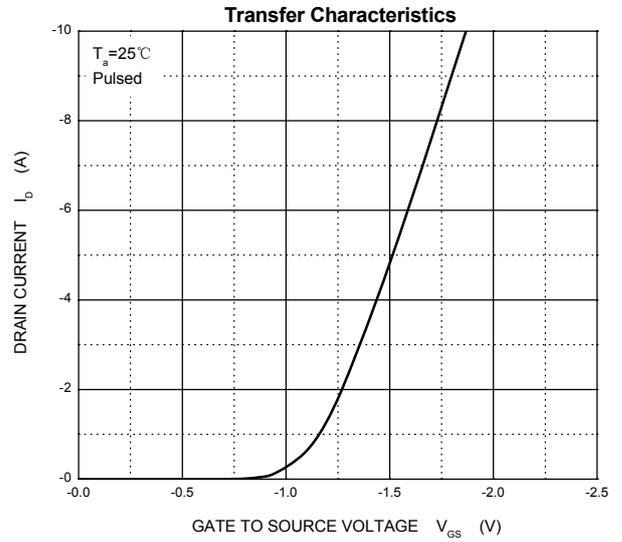
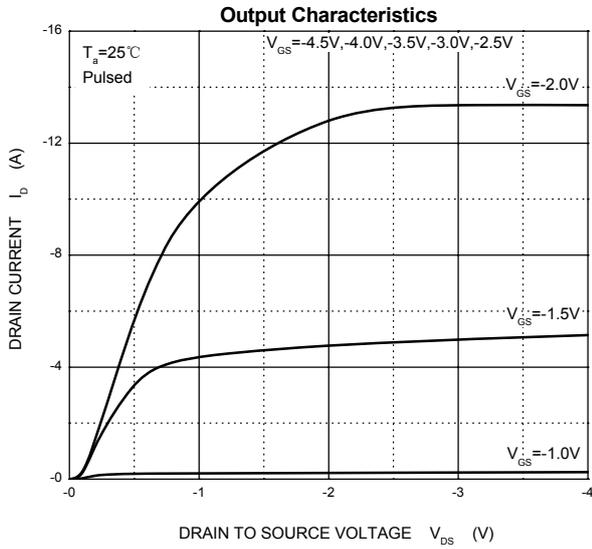
$T_a=25\text{ }^\circ\text{C}$ unless otherwise specified

Parameter	Symbol	Test Condition	Min	Typ	Max	Unit
Static						
Drain-source breakdown voltage	$V_{(BR)DSS}$	$V_{GS} = 0V, I_D = -10\mu A$	-12			V
Gate-source leakage	I_{GSS}	$V_{DS} = 0V, V_{GS} = \pm 12V$			± 100	nA
Zero Gate voltage drain current	I_{DSS}	$V_{DS} = -16V, V_{GS} = 0V$			-1.0	μA
Gate-source threshold voltage	$V_{GS(th)}$	$V_{DS} = V_{GS}, I_D = -250\mu A$	-0.4		-1.0	V
Drain-source on-state resistance	$R_{DS(on)}$	$V_{GS} = -4.5V, I_D = -3.4A$		0.038	0.050	Ω
		$V_{GS} = -2.5V, I_D = -2.0A$		0.050	0.065	
		$V_{GS} = -1.8V, I_D = -2.5A$		0.070	0.085	
Forward transconductance	g_{fs}	$V_{DS} = -5V, I_D = -3.4A$	3			S
Forward diode voltage	V_{SD}	$V_{GS} = 0V, I_S = -1.6A$			-1.2	V
Dynamic						
Input capacitance ^{a,b}	C_{iss}	$V_{DS} = -6V, V_{GS} = 0V, f = 1MHz$		715		pF
Output capacitance ^{a,b}	C_{oss}			170		
Reverse transfer capacitance ^{a,b}	C_{rss}			120		
Total Gate charge ^a	Q_g	$V_{DS} = -6V, V_{GS} = -4.5V, I_D = -3.3A$			13	nc
Gate-Source charge ^a	Q_{gs}			1.2		nc
Gate-Drain charge ^a	Q_{gd}			2.2		nc
Switching^{a,b}						
Turn-on delay Time	$t_{d(on)}$	$V_{GEN} = -4.5V, V_{DD} = -6V,$ $I_D = -1.0A, R_G = 6\Omega, R_L = 6\Omega$			25	ns
Rise time	t_r				55	
Turn-off delay time	$t_{d(off)}$				90	
Fall time	t_f				60	

Notes :

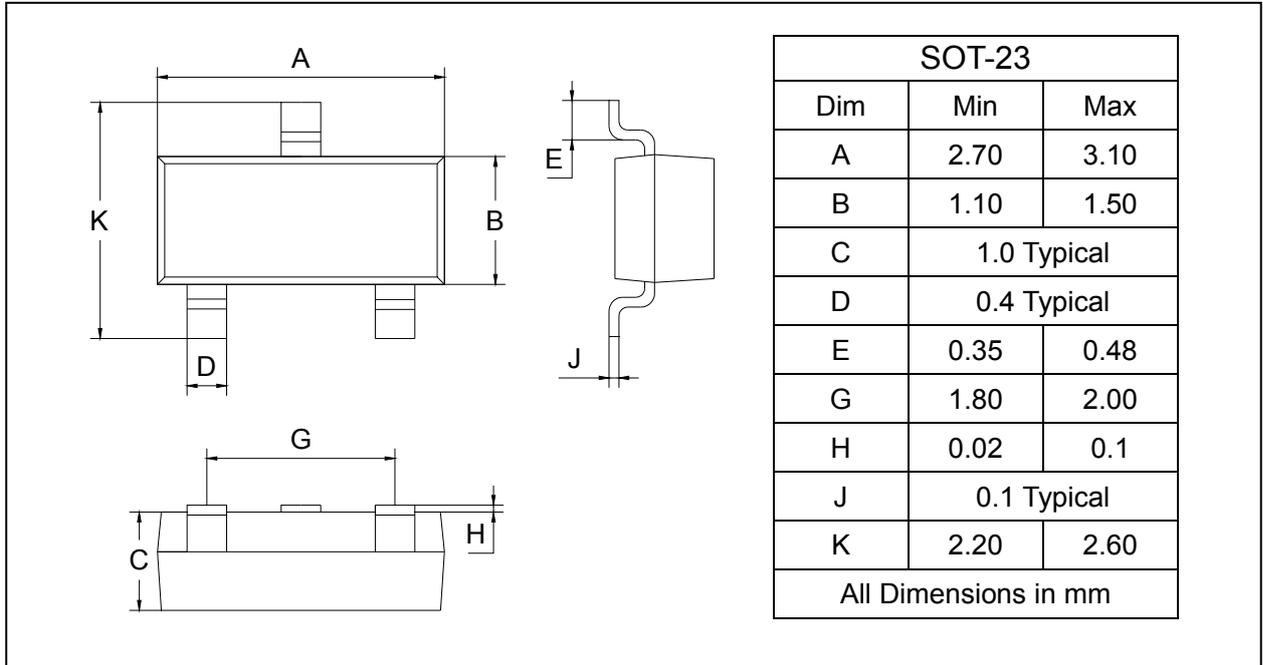
- a. Pulse Test : pulse width $\leq 300\mu s$, duty cycle $\leq 2\%$.
- b. These parameters have no way to verify.

Typical Characteristics

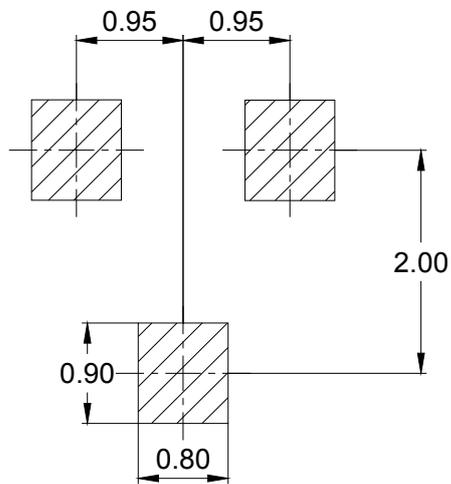


Plastic surface mounted package

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SOLDERING FOOTPRINT



Unit : mm