

Product Summary

V _{(BR)DSS}	R _{DS(on)TYP}	I _D
100V	2.1Ω@10V	0.17A
	2.2Ω@4.5V	

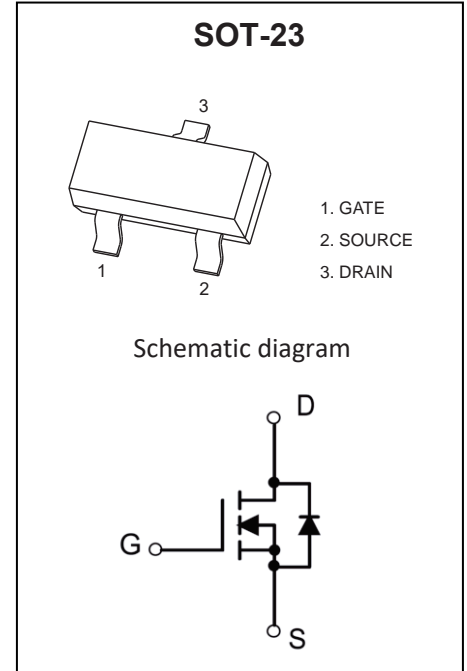
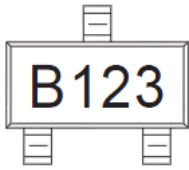
Feature

- Surface Mount Package
- High Density Cell Design for Extremely Low R_{DS(ON)}
- Voltage Controlled Small Signal Switch
- Rugged and Reliable

Application

- Small Servo Motor Controls
- Power MOSFET Gate Drivers
- Switching Application

MARKING:



ABSOLUTE MAXIMUM RATINGS (T_a=25°C unless otherwise noted)

Parameter	Symbol	Value	Unit
Drain-Source Voltage	V _{DS}	100	V
Gate-Source Voltage	V _{GS}	±20	V
Continuous Drain Current	I _D	0.17	A
Pulsed Drain Current (tp=10μs)	I _{DM}	0.68	A
Power Dissipation	P _D	0.35	W
Thermal Resistance from Junction to Ambient	R _{θJA}	357	°C/W
Junction Temperature	T _J	150	°C
Storage Temperature	T _{STG}	-55~ +150	°C

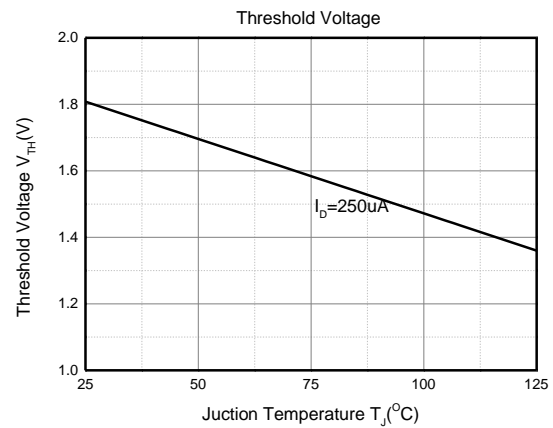
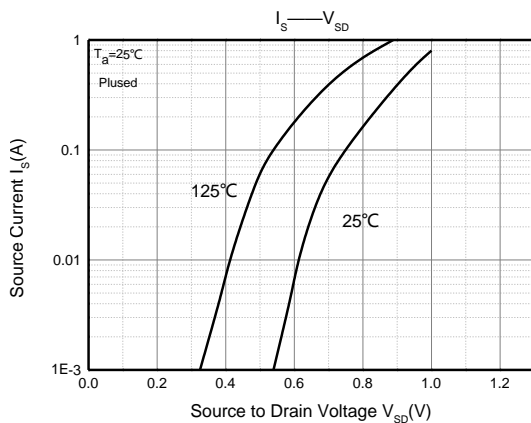
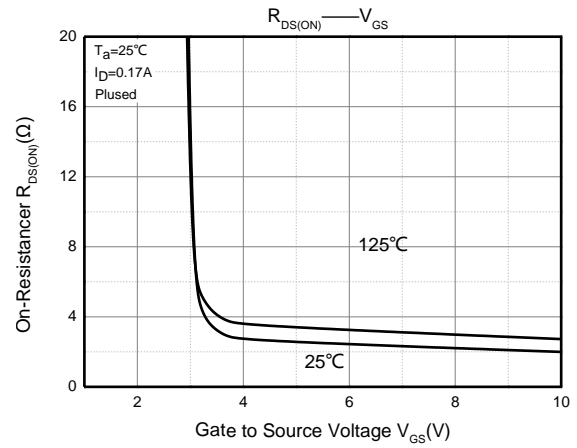
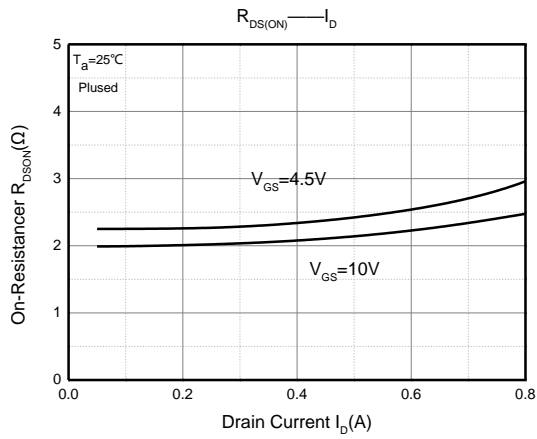
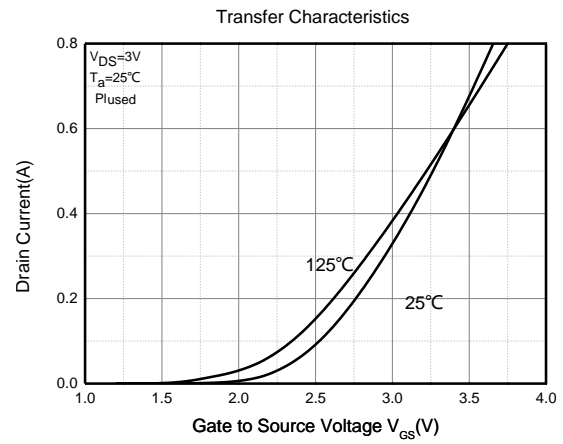
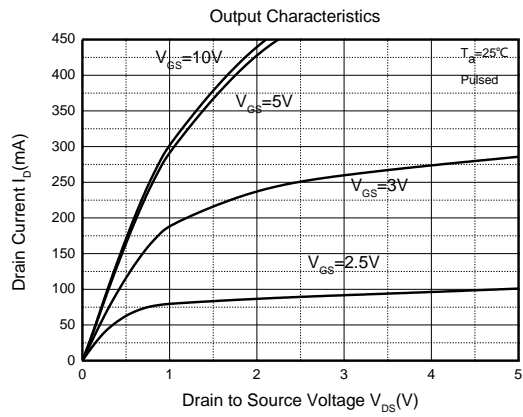
MOSFET ELECTRICAL CHARACTERISTICS ($T_a=25^\circ\text{C}$ unless otherwise noted)

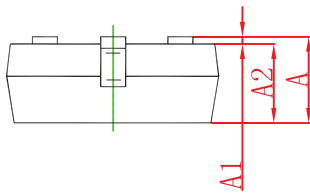
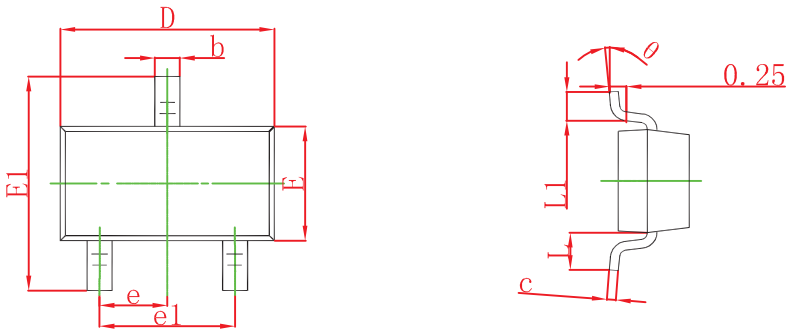
Parameter	Symbol	Test Condition	Min	Type	Max	Unit
Static Characteristics						
Drain-source breakdown voltage	$V_{(BR)DSS}$	$V_{GS} = 0V, I_D = 250\mu A$	100			V
Zero gate voltage drain current	I_{DSS}	$V_{DS} = 80V, V_{GS} = 0V$			1	μA
Gate-body leakage current	I_{GSS}	$V_{GS} = \pm 20V, V_{DS} = 0V$			± 100	nA
Gate threshold voltage ¹	$V_{GS(th)}$	$V_{DS} = V_{GS}, I_D = 250\mu A$	1	1.8	3	V
Drain-source on-resistance ¹	$R_{DS(on)}$	$V_{GS} = 10V, I_D = 0.17A$		2.1	4	Ω
		$V_{GS} = 4.5V, I_D = 0.17A$		2.2	5	
Forward transconductance ¹	g_{FS}	$V_{DS} = 10V, I_D = 0.17A$		0.45		S
Diode forward voltage ¹	V_{SD}	$I_S = 0.17A, V_{GS} = 0V$		0.8	1.3	V
Dynamic characteristics						
Input Capacitance	C_{iss}	$V_{DS} = 25V, V_{GS} = 0V, f = 1MHz$		32		pF
Output Capacitance	C_{oss}			8		
Reverse Transfer Capacitance	C_{rss}			2.6		
Switching Characteristics						
Turn-on delay time	$t_{d(on)}$	$V_{GS} = 10V, V_{DD} = 30V, I_D = 0.28A, R_{GEN} = 50\Omega$		7		ns
Turn-on rise time	t_r			6		
Turn-off delay time	$t_{d(off)}$			10		
Turn-off fall time	t_f			9		
Total Gate Charge	Q_g	$V_{DS} = 10V, I_D = 0.22A, V_{GS} = 10V$		1.5		nC
Gate-Source Charge	Q_{gs}			0.16		
Gate-Drain Charge	Q_{gd}			0.2		

Notes :

1. Pulse Test : Pulse width=300 μ s, duty cycle \leq 2%.

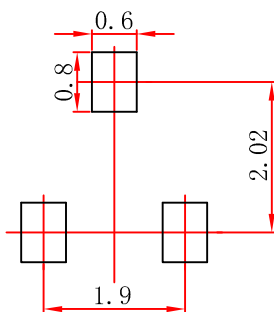
Typical Characteristics





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.