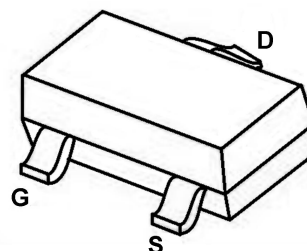


-20V P-Channel Mosfet

FEATURES

- $R_{DS(ON)} \leq 0.75\Omega$ (0.65 Ω Typ.)
@ $V_{GS}=-4.5V$
- $R_{DS(ON)} \leq 1.0\Omega$ (0.85 Ω Typ.)
@ $V_{GS}=-2.5V$

SOT-523

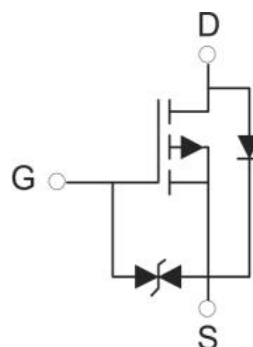
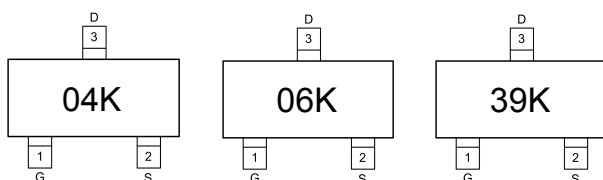


APPLICATIONS

- Load/Power Switching
- Interfacing, Logic Switching
- Battery Management for Ultra Small Portable Electronics

P-CHANNEL MOSFET

MARKING



MAXIMUM RATINGS (Ta=25°C unless otherwise noted)

Symbol	Parameter	Value	Unit
V_{DS}	Drain-Source Voltage	-20	V
V_{GS}	Gate-Source Voltage	± 12	V
I_D	Continuous Drain Current	-0.66	A
I_{DM}	Pulsed Drain Current	-1.2	A
P_D	Power Dissipation	0.15	W
$R_{\theta JA}$	Thermal Resistance from Junction to Ambient	833	$^{\circ}C/W$
T_J	Junction Temperature	150	$^{\circ}C$
T_{STG}	Storage Temperature	-55~ +150	$^{\circ}C$

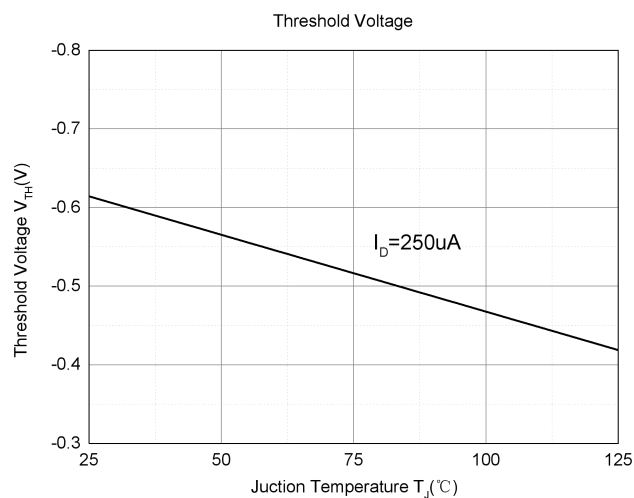
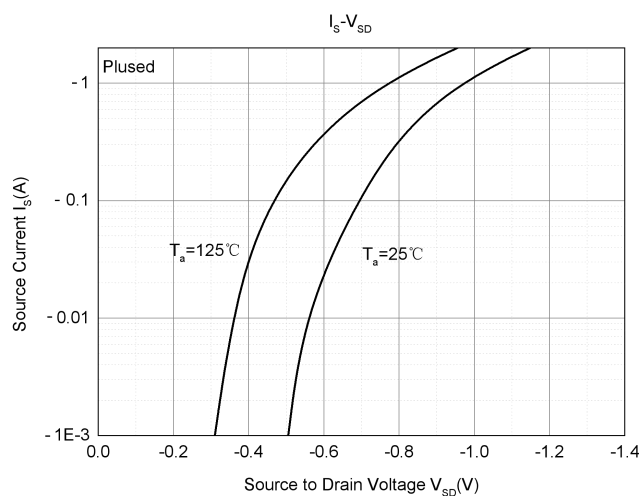
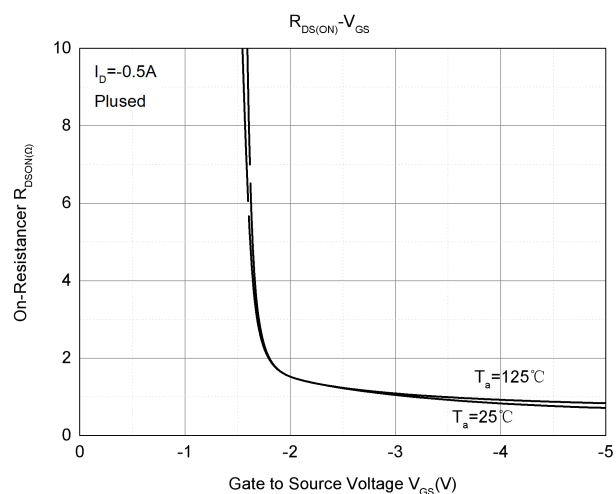
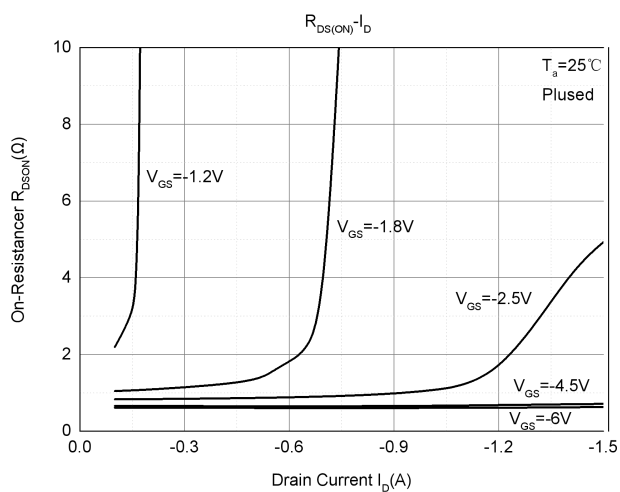
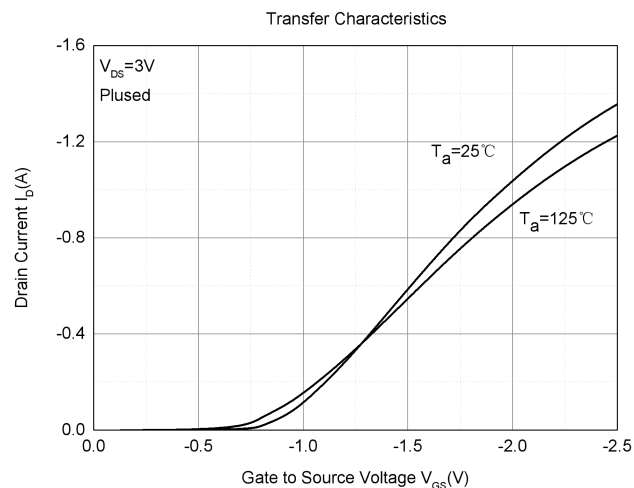
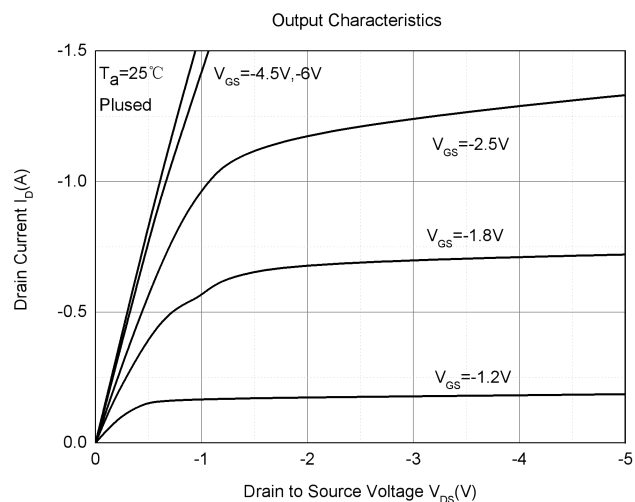
MOSFET ELECTRICAL CHARACTERISTICS Ta=25 °C unless otherwise specified

Symbol	Parameter	Test Condition	Min.	Typ.	Max.	Units
Off Characteristic						
V _{(BR)DSS}	Drain-Source Breakdown Voltage	V _{GS} = 0V, I _D = -250μA	-20	-	-	V
I _{DSS}	Zero Gate Voltage Drain Current	V _{DS} = -16V, V _{GS} = 0V, T _J = 25°C	-	-	-1	μA
I _{GSS}	Gate to Body Leakage Current	V _{GS} = ±10V, V _{DS} = 0V	-	-	±10	uA
On Characteristics						
V _{GS(th)}	Gate Threshold Voltage	V _{DS} =V _{GS} , I _D = -250μA	-0.35	-0.65	-1	V
R _{DS(on)}	Static Drain-Source On-Resistance ^{note1}	V _{GS} =-4.5V, I _D =-0.5A	-	0.65	0.75	Ω
		V _{GS} =-2.5V, I _D =-0.2A	-	0.85	1.0	
		V _{GS} =-1.8V, I _D =-0.1A	-	1.2	-	
Dynamic Characteristics ^{note2}						
C _{iSS}	Input Capacitance	V _{DS} =-16V, V _{GS} = 0V f = 1.0MHz	-	113	-	pF
C _{oSS}	Output Capacitance		-	15	-	pF
C _{rSS}	Reverse Transfer Capacitance		-	9	-	pF
Switching Characteristics ^{note2}						
t _{d(on)}	Turn-On Delay Time	V _{GS} = -4.5V, V _{DS} =-10V R _G =10Ω, I _D =-0.2A	-	9	-	ns
t _r	Turn-On Rise Time		-	5.7	-	ns
t _{d(off)}	Turn-Off Delay Time		-	32.6	-	ns
t _f	Turn-Off Fall Time		-	20.3	-	ns
Drain-Source Diode Characteristics and Maximum Ratings						
V _{SD}	Drain to Source Diode Forward Voltage	V _{GS} = 0V, I _{SD} =-0.5A T _J = 25°C	-	-	-1.2	V

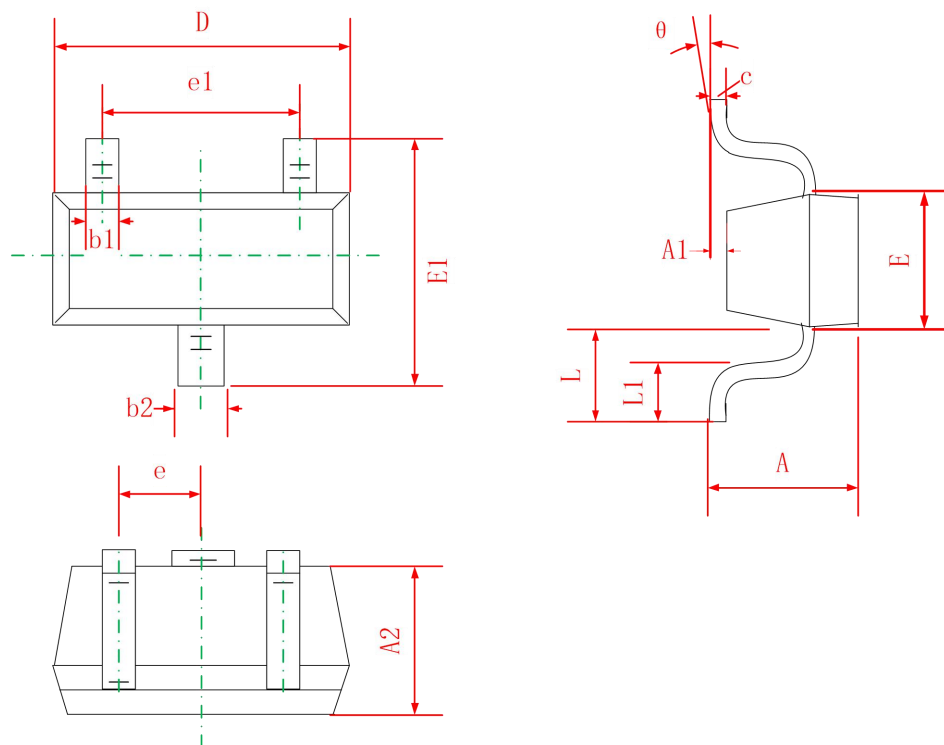
Notes: 1. Pulse Test: Pulse width < 300 μs , Duty Cycle $\leq 2\%$

2. Guaranteed by design, not subject to production testing

TYPICAL PERFORMANCE CHARACTERISTICS



SOT-523 PACKAGE OUTLINE DRAWING



Symbol	Min	Max
A	0.700	0.900
A1	0.000	0.100
A2	0.700	0.800
b1	0.150	0.250
b2	0.250	0.350
C	0.100	0.200
D	1.500	1.700
E	0.700	0.900
E1	1.450	1.750
e	0.500 TYP	
e1	0.900	1.100
L	0.400 REF	
L1	0.260	0.460
θ	0°	8°

Unit: mm