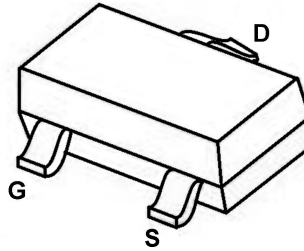


-20V P-Channel Mosfet

FEATURES

- $R_{DS(ON)} \leq 0.52\Omega$ (0.27 Ω Typ.)
@ $V_{GS}=-4.5V$
- $R_{DS(ON)} \leq 0.71\Omega$ (0.37 Ω Typ.)
@ $V_{GS}=-2.5V$
- $R_{DS(ON)} \leq 1.1\Omega$ (0.6 Ω Typ.)
@ $V_{GS}=-1.8V$

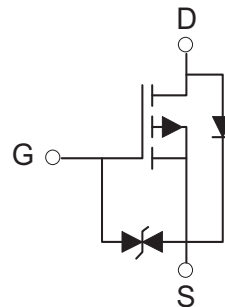
SOT-723



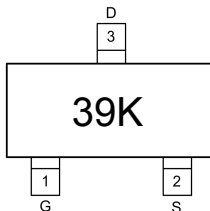
APPLICATIONS

- Load Switching
- Power Management in Note book
- Portable Equipment
- Battery Powered System

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	± 6	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	$V_{GS} = 0V, I_D = -250\mu A$	-20	-	-	V
I_{DSS}	Zero Gate Voltage Drain Current	$V_{DS} = -16V,$ $V_{GS} = 0V, T_J = 25^\circ C$	-	-	-1	μA
I_{GSS}	Gate to Body Leakage Current	$V_{GS} = \pm 4.5V, V_{DS} = 0V$	-	-	± 10	μA
On Characteristics						
$V_{GS(th)}$	Gate Threshold Voltage	$V_{DS} = V_{GS}, I_D = -250\mu A$	-0.45	-0.8	-1.2	V
$R_{DS(on)}$	Static Drain-Source On-Resistance ^{note1}	$V_{GS} = -4.5V, I_D = -1A$	-	0.27	0.52	Ω
		$V_{GS} = -2.5V, I_D = -0.8A$	-	0.37	0.71	
		$V_{GS} = -1.8V, I_D = -0.5A$	-	0.60	1.1	
Dynamic Characteristics ^{note2}						
C_{iss}	Input Capacitance	$V_{DS} = -16V, V_{GS} = 0V$ $f = 1.0MHz$	-	152	-	μF
C_{oss}	Output Capacitance		-	18.5	-	μF
C_{rss}	Reverse Transfer Capacitance		-	6	-	μF
Switching Characteristics ^{note2}						
$t_{d(on)}$	Turn-On Delay Time	$V_{GS} = -5V, V_{DS} = -10V$ $R_G = 10\Omega, I_D = -0.2A$	-	51.3	-	ns
t_r	Turn-On Rise Time		-	24.2	-	ns
$t_{d(off)}$	Turn-Off Delay Time		-	246	-	ns
t_f	Turn-Off Fall Time		-	81.2	-	ns
Drain-Source Diode Characteristics and Maximum Ratings						
V_{SD}	Drain to Source Diode Forward Voltage	$V_{GS} = 0V, I_S = -0.5A$ $T_J = 25^\circ C$	-	-	-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

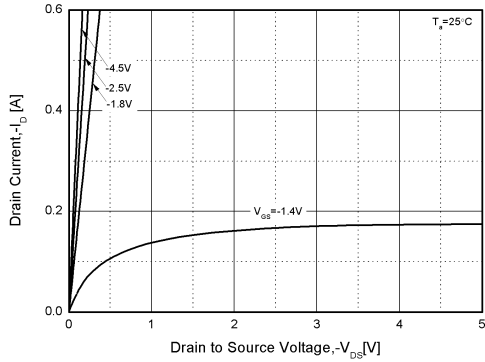


Figure1. Output Characteristics

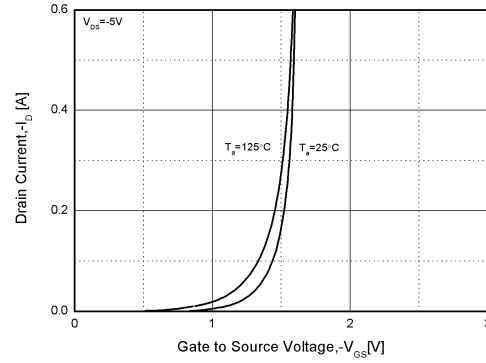


Figure2. Transfer Characteristics

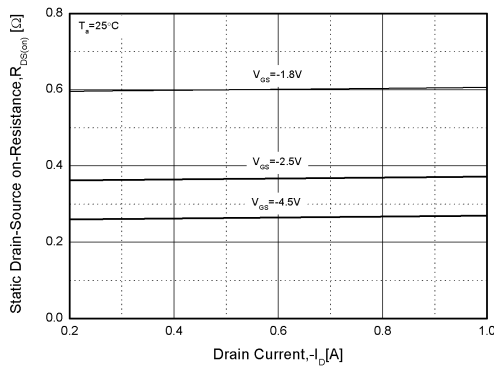


Figure3. R_{dson} -Drain Current

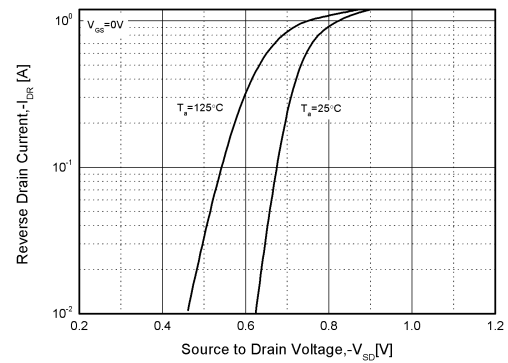


Figure4. Typical Source-Drain Diode Forward Voltage

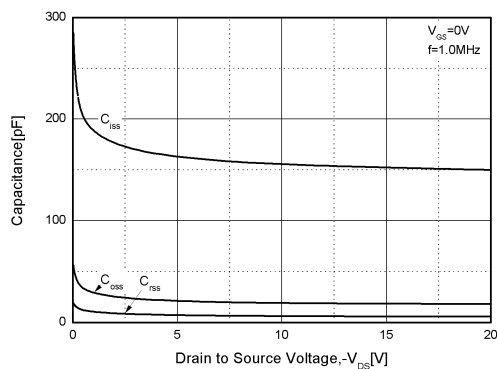


Figure5. Capacitance Characteristics

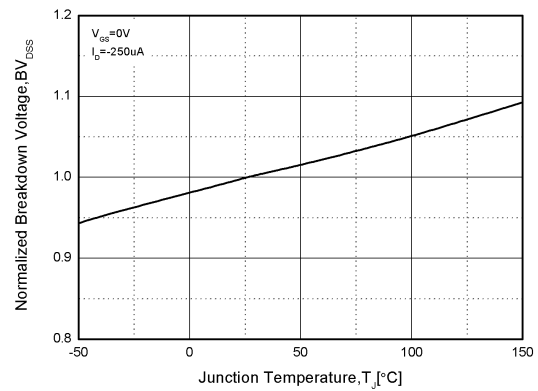


Figure6. Normalized Breakdown Voltage vs. Temperature

Typical Performance Characteristics (cont.)

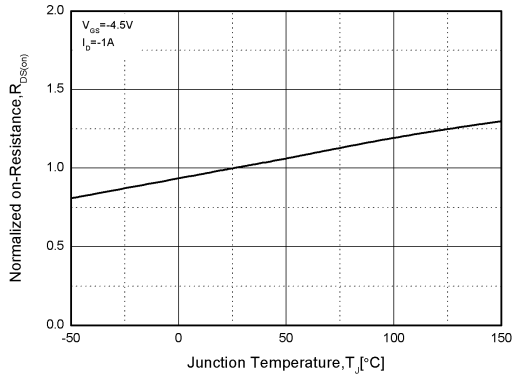


Figure7. Normalized on Resistance vs. Temperature

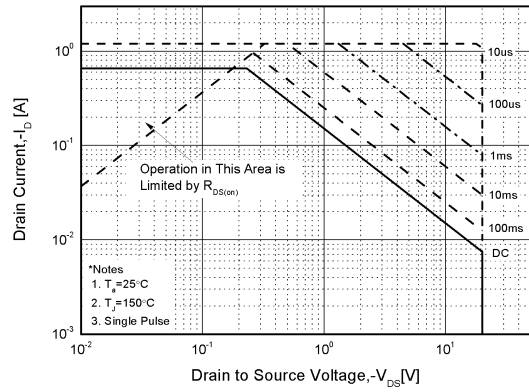


Figure8. Safe Operation Area

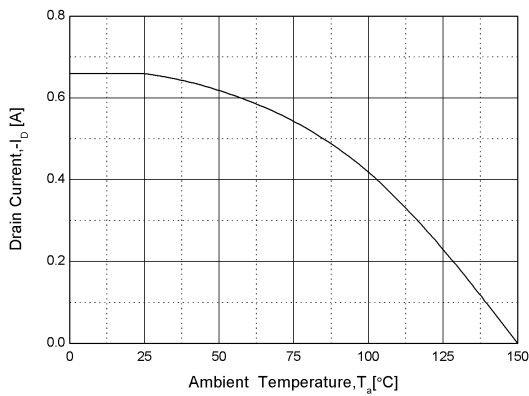


Figure9. Drain Current vs. Ambient Temperature

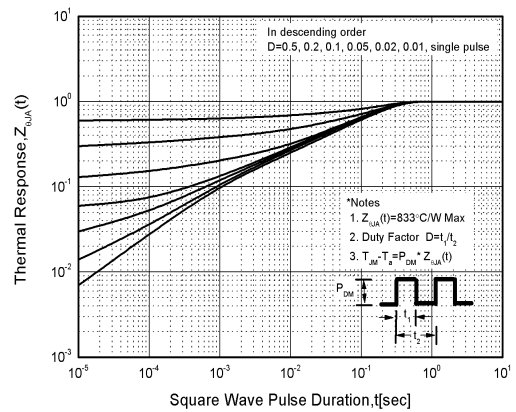
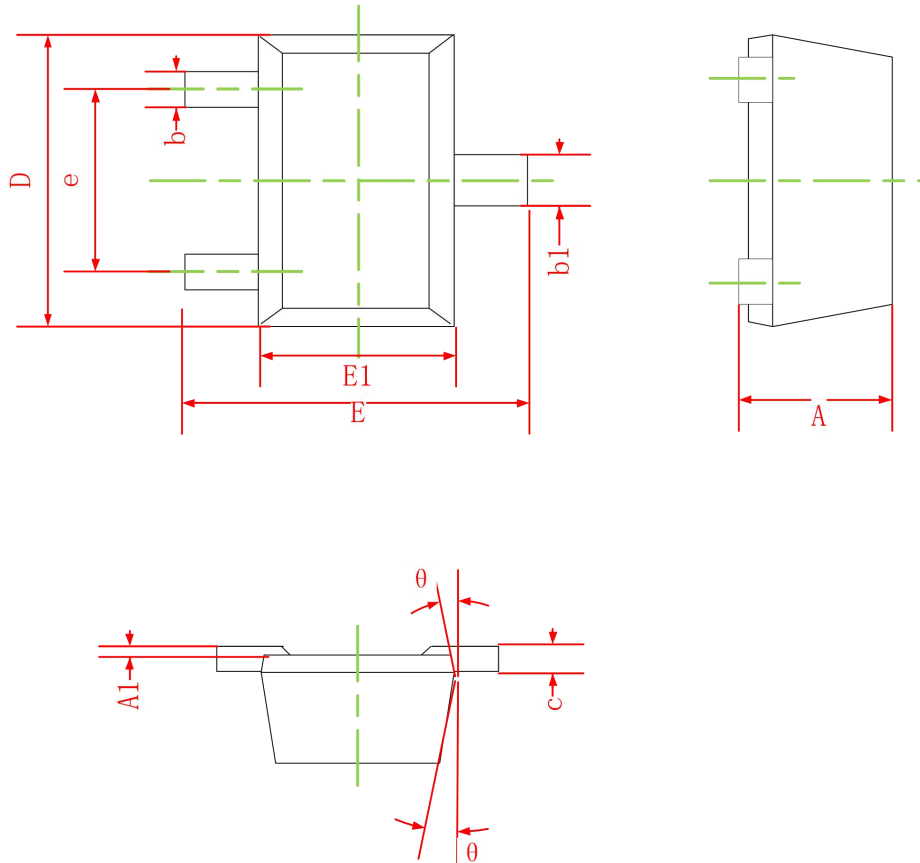


Figure10. Transient Thermal Response Curve

SOT-723 Package Information



Symbol	Dimensions In Millimeters	
	Min.	Max.
A	0.430	0.500
A1	0.000	0.050
b	0.170	0.270
b1	0.270	0.370
c	0.080	0.150
D	1.150	1.250
E	1.150	1.250
E1	0.750	0.850
e	0.800TYP.	
θ	7° REF.	