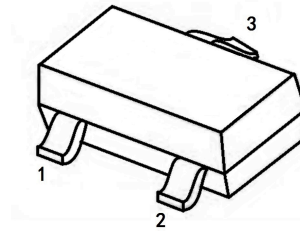


## 20V N-Channel Mosfet

### FEATURES

- Surface Mount Package
- N-Channel Switch with Low RDS(on)
- Operated at Low Logic Level Gate Drive
- ESD Protected

### SOT-723

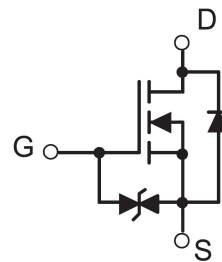


- 1: G
- 2: S
- 3: D

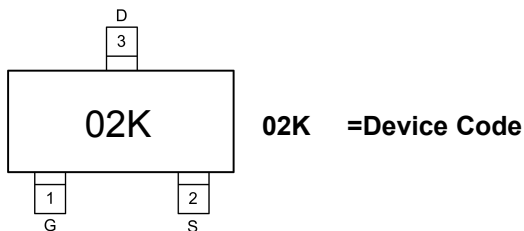
### APPLICATIONS

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

### N-CHANNEL MOSFET



### MARKING



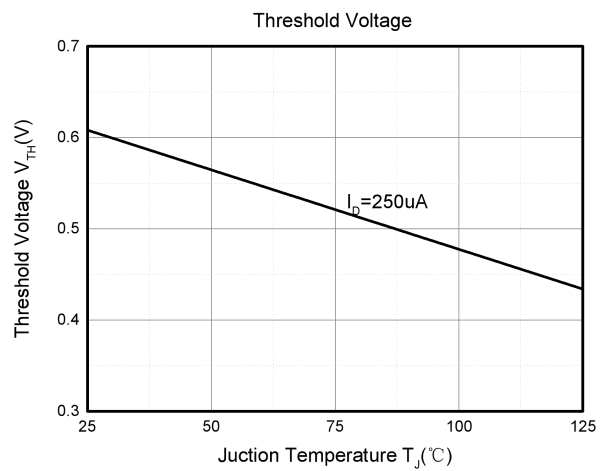
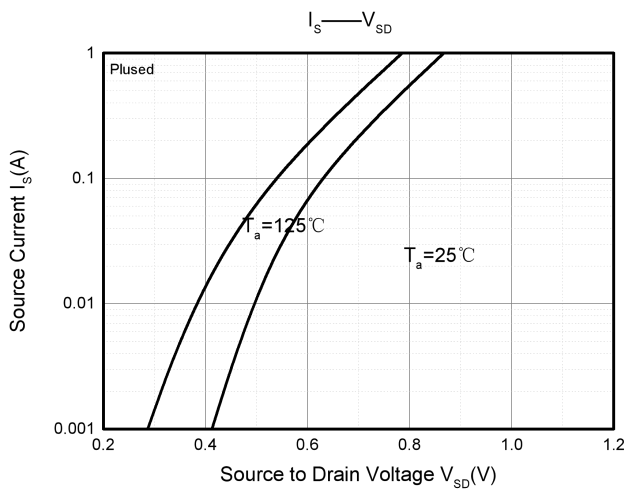
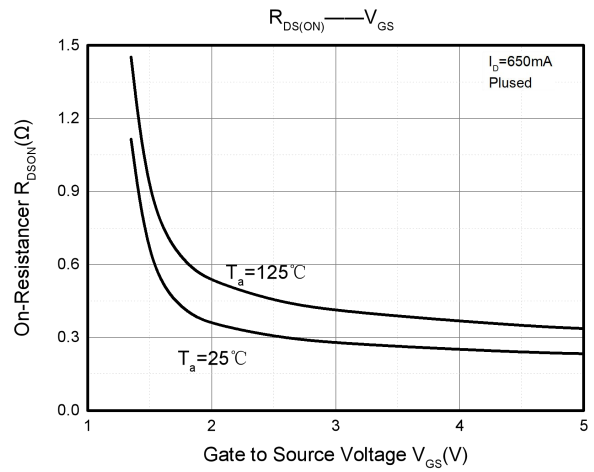
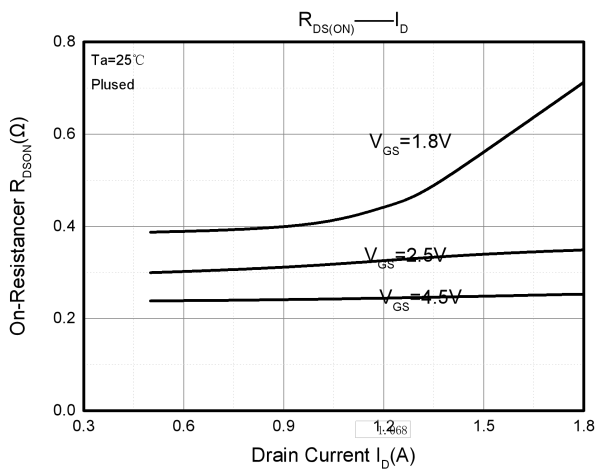
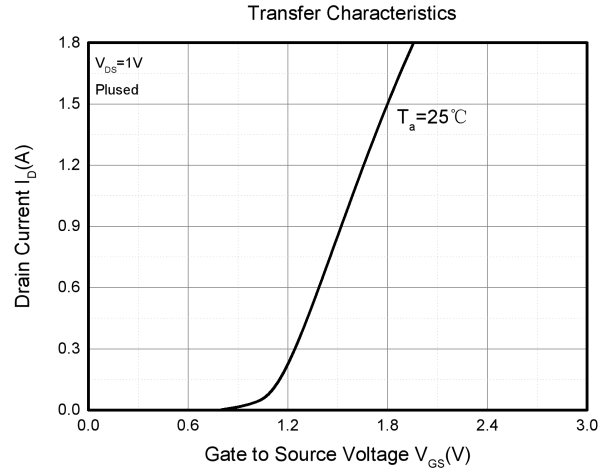
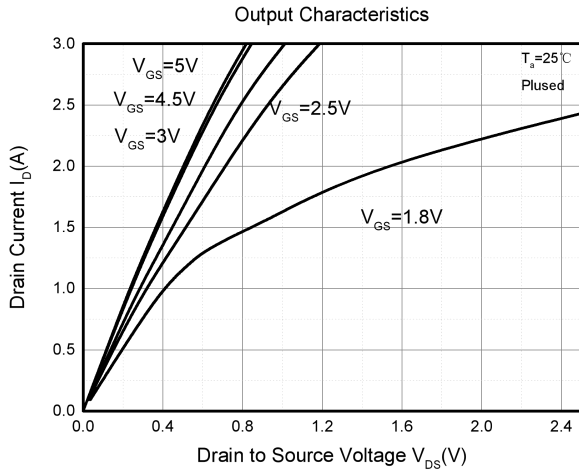
### MAXIMUM RATINGS (Ta=25°C unless otherwise noted)

Parameter	Symbol	Value	Unit
Drain-Source Voltage	$V_{DS}$	20	V
Gate-Source Voltage	$V_{GS}$	$\pm 10$	V
Continuous Drain Current	$I_D$	0.75	A
Pulsed Drain Current	$I_{DM}$	1.8	A
Power Dissipation	$P_D$	0.15	W
Thermal Resistance from Junction to Ambient	$R_{\theta JA}$	833	$^{\circ}C/W$
Junction Temperature	$T_J$	150	$^{\circ}C$
Storage Temperature	$T_{STG}$	-55~ +150	$^{\circ}C$

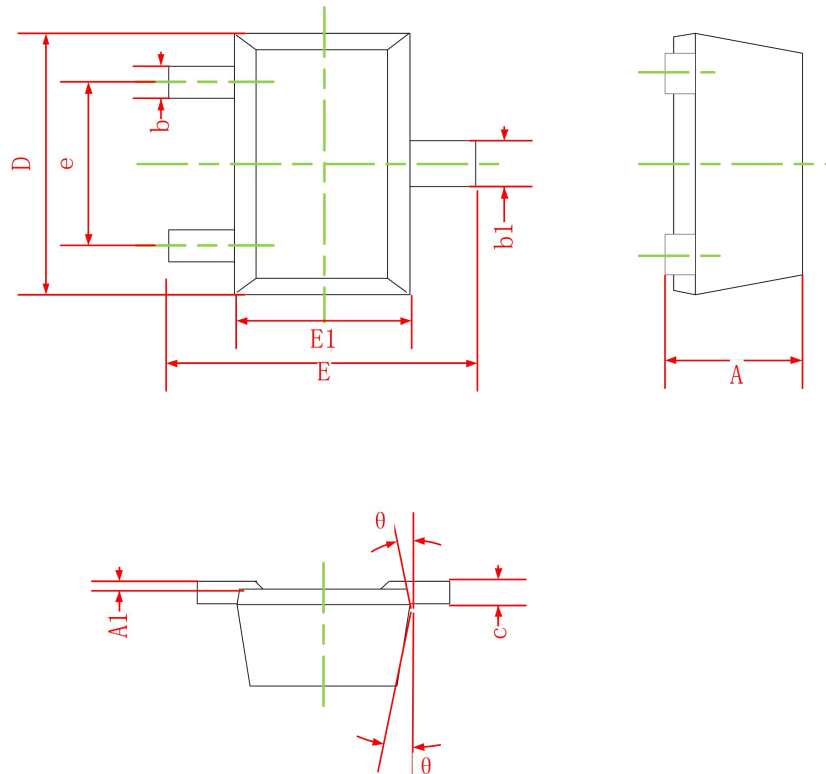
**ELECTRICAL CHARACTERISTICS Ta=25 °C unless otherwise specified**

Parameter	Symbol	Test Condition	Min.	Typ.	Max.	Unit
<b>Static Characteristics</b>						
Drain-source breakdown voltage	$V_{(BR)DSS}$	$V_{GS} = 0V, I_D = 250\mu A$	20			V
Zero gate voltage drain current	$I_{DSS}$	$V_{DS} = 16V, V_{GS} = 0V$			1	$\mu A$
Gate-body leakage current	$I_{GSS}$	$V_{GS} = \pm 10V, V_{DS} = 0V$			$\pm 10$	$\mu A$
Gate threshold voltage	$V_{GS(th)}$	$V_{DS} = V_{GS}, I_D = 250\mu A$	0.3	0.65	1	V
Drain-source on-resistance	$R_{DS(on)}$	$V_{GS} = 4.5V, I_D = 0.5A$		0.25	0.38	$\Omega$
		$V_{GS} = 2.5V, I_D = 0.5A$		0.35	0.45	
		$V_{GS} = 1.8V, I_D = 0.5A$		0.4	0.8	
<b>Dynamic characteristics</b>						
Input Capacitance	$C_{iss}$	$V_{DS} = 16V, V_{GS} = 0V,$ $f = 1MHz$		79	120	pF
Output Capacitance	$C_{oss}$			13	20	
Reverse Transfer Capacitance	$C_{rss}$			9	15	
<b>Switching Characteristics</b>						
Turn-on delay time	$t_{d(on)}$	$V_{GS} = 4.5V, V_{DS} = 10V,$ $I_D = 500mA, R_{GEN} = 10\Omega$		6.7		ns
Turn-on rise time	$t_r$			4.8		
Turn-off delay time	$t_{d(off)}$			17.3		
Turn-off fall time	$t_f$			7.4		
<b>Source-Drain Diode characteristics</b>						
Body Diode Voltage	$V_{SD}$	$I_S = 0.5A, V_{GS} = 0V$		0.7	1.3	V

TYPICAL CHARACTERISTICS



## SOT-723 PACKAGE OUTLINE DRAWING



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min.	Max.	Min.	Max.
A	0.430	0.500	0.017	0.020
A1	0.000	0.050	0.000	0.002
b	0.170	0.270	0.007	0.011
b1	0.270	0.370	0.011	0.015
c	0.080	0.150	0.003	0.006
D	1.150	1.250	0.045	0.049
E	1.150	1.250	0.045	0.049
E1	0.750	0.850	0.030	0.033
e	0.800TYP.		0.031TYP.	
$\theta$	7° REF.		7° REF.	