

Product Summary

$V_{(BR)DSS}$	$R_{DS(on)MAX}$	I_D
20V	380mΩ@4.5V	0.75A
	450mΩ@2.5V	
	800mΩ@1.8V	

Feature

- N-Channel Switch with Low $R_{DS(on)}$
- Operated at Low Logic Level Gate Drive
- Surface Mount Package
- ESD protected

Application

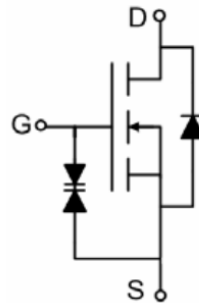
- Load/Power Switching
- Interfacing Switching
- Logic Level Shift
- Battery Management for Ultra Small Portable Electronics

Package

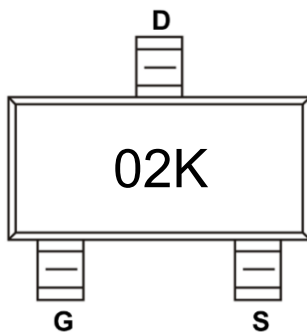


SOT-23

Circuit diagram



Marking



Absolute maximum ratings (Ta=25°C unless otherwise noted)

Parameter	Symbol	Value	Unit
Drain-Source Voltage	V _{DS}	20	V
Gate-Source Voltage	V _{GS}	±12	V
Continuous Drain Current	I _D	0.75	A
Pulsed Drain Current	I _{DM}	1.8	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

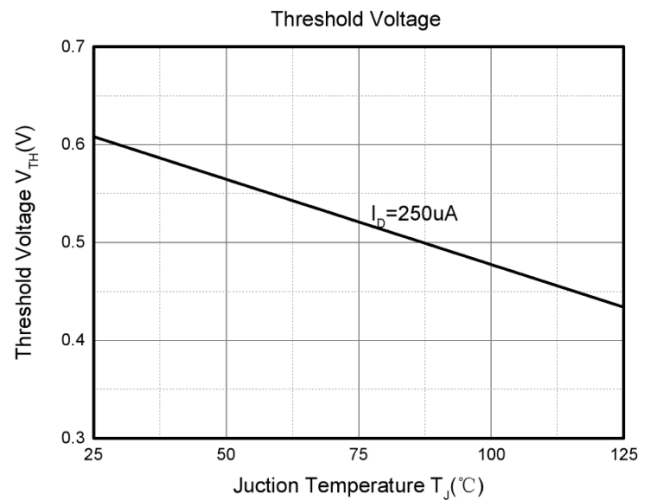
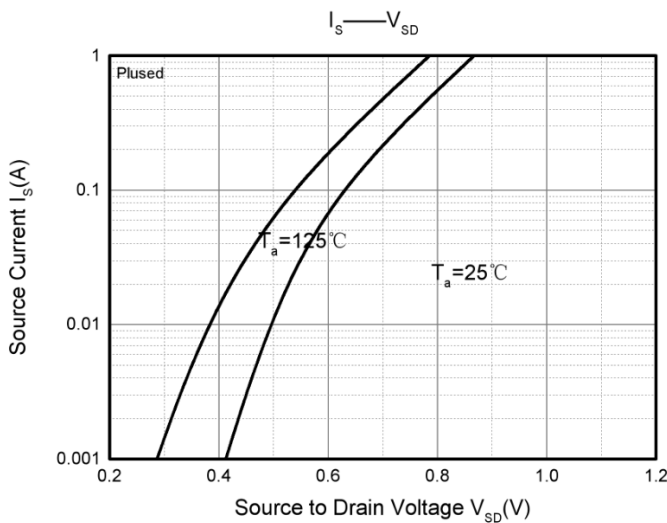
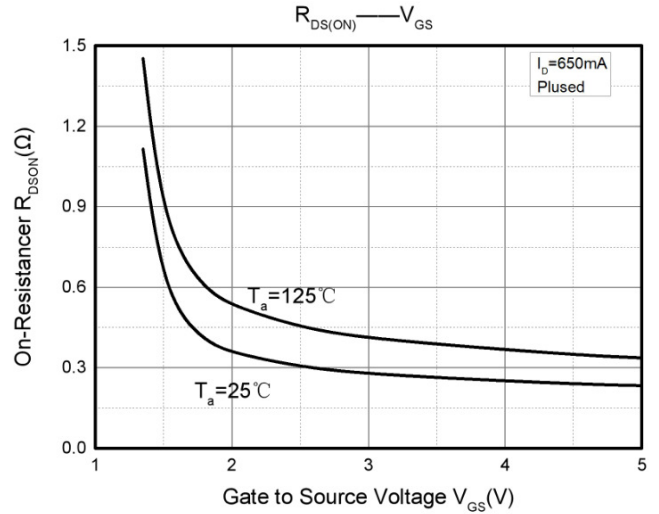
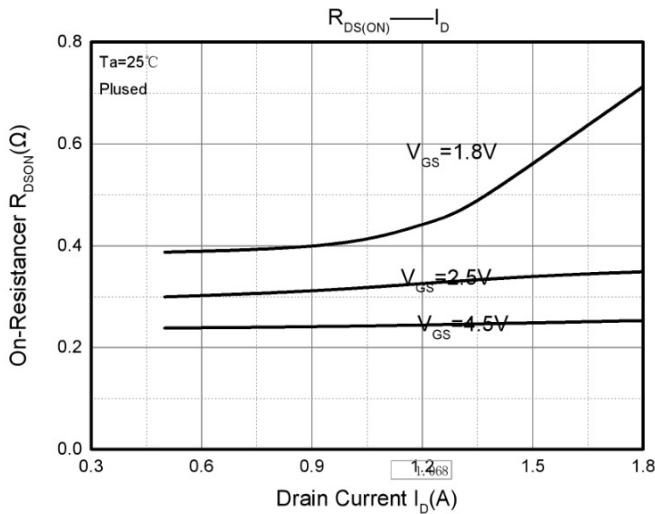
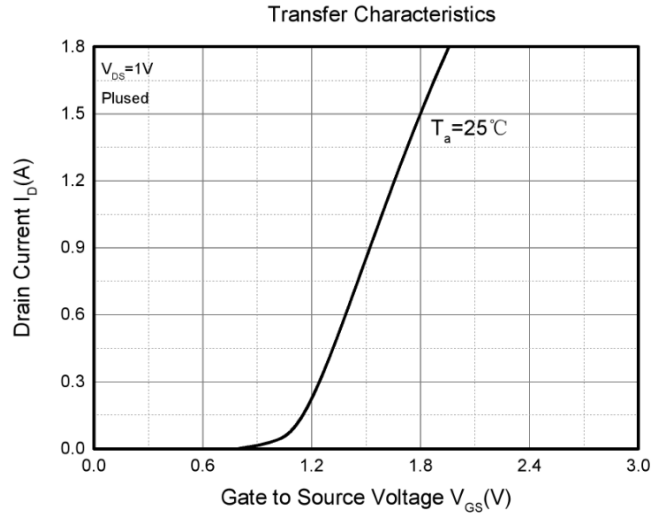
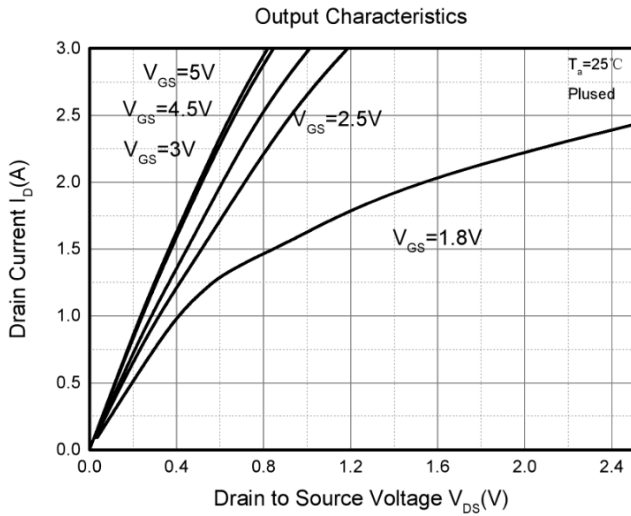
Electrical characteristics (T_A=25 °C, unless otherwise noted)

Parameter	Symbol	Test Condition	Min.	Typ.	Max.	Unit
Static Characteristics						
Drain-source breakdown voltage	V _{(BR)DSS}	V _{GS} = 0V, I _D = 250μA	20			V
Zero gate voltage drain current	I _{DSS}	V _{DS} = 16V, V _{GS} = 0V			1	μA
Gate-body leakage current	I _{GSS}	V _{GS} = ±10V, V _{DS} = 0V			±10	μA
Gate threshold voltage	V _{GS(th)}	V _{DS} = V _{GS} , I _D = 250μA	0.3		1.0	V
Drain-source on-resistance ¹⁾	R _{DS(on)}	V _{GS} = 4.5V, I _D = 0.5A		250	380	mΩ
		V _{GS} = 2.5V, I _D = 0.5A		350	450	
		V _{GS} = 1.8V, I _D = 0.5A		400	800	
Dynamic characteristics²⁾						
Input Capacitance	C _{iss}	V _{DS} = 16V, V _{GS} = 0V, f = 1MHz		79		pF
Output Capacitance	C _{oss}			13		
Reverse Transfer Capacitance	C _{rss}			9		
Turn-on delay time	t _{d(on)}	V _{DD} = 10V, V _{GS} = 4.5V, I _D = 0.5A R _{GEN} = 10Ω		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		
Source-Drain Diode characteristics						
Diode Forward voltage	V _{DS}	V _{GS} = 0V, I _S = 0.5A			1.3	V

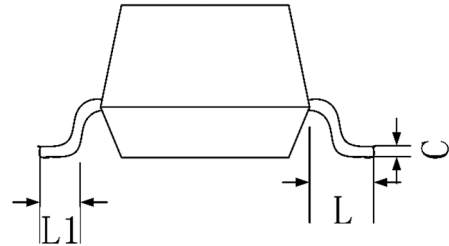
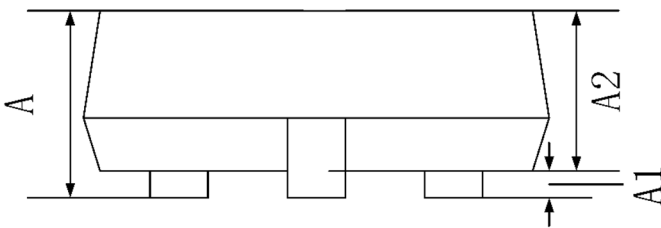
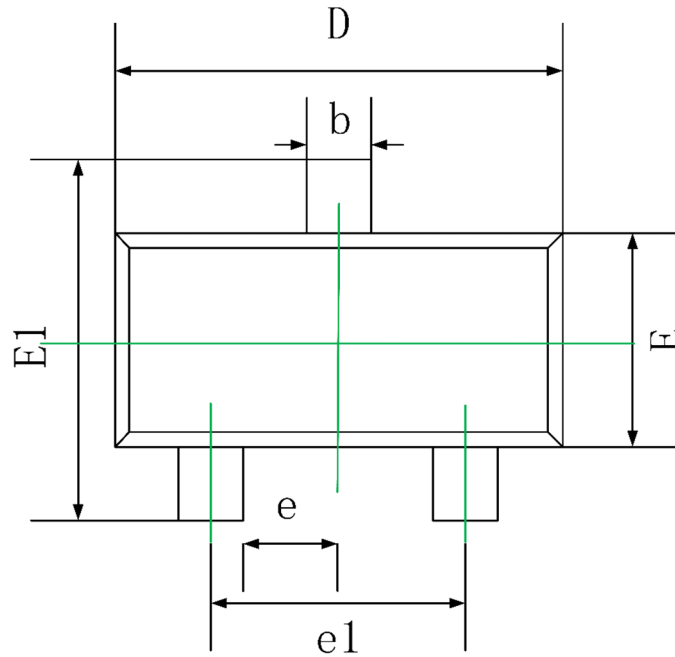
Notes:

- 1) Pulse Test: Pulse Width < 300μs, Duty Cycle ≤ 2%.
- 2) Guaranteed by design, not subject to production testing.

Typical Characteristics



SOT-723 Package Information



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	0.200	0.003	0.008
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