



Product Summary

$V_{(BR)DSS}$	$R_{DS(on)MAX}$	I_D
30V	500mΩ@4.5V	0.6A
	600mΩ@2.5V	

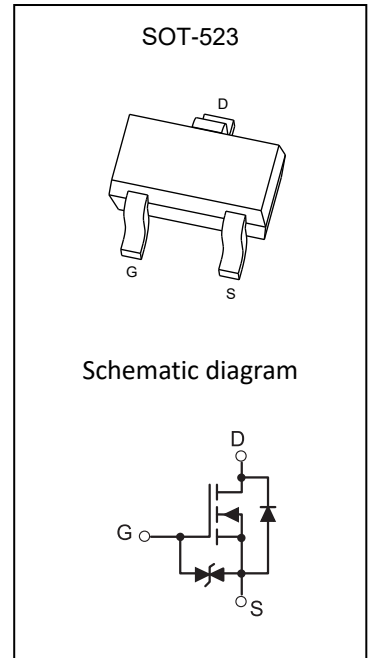
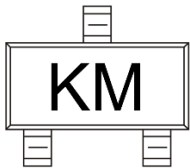
Feature

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

Application

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

MARKING:



ABSOLUTE MAXIMUM RATINGS ($T_a=25^{\circ}C$ unless otherwise noted)

Parameter	Symbol	Value	Unit
Drain-Source Voltage	V_{DS}	30	V
Gate-Source Voltage	V_{GS}	± 12	V
Continuous Drain Current	I_D	0.6	A
Pulsed Drain Current ⁽¹⁾	I_{DM}	1.8	A
Power Dissipation ⁽²⁾	P_D	0.35	W
Thermal Resistance from Junction to Ambient ⁽¹⁾	$R_{\theta JA}$	357	$^{\circ}C/W$
Junction Temperature	T_J	150	$^{\circ}C$
Storage Temperature	T_{STG}	-55~ +150	$^{\circ}C$

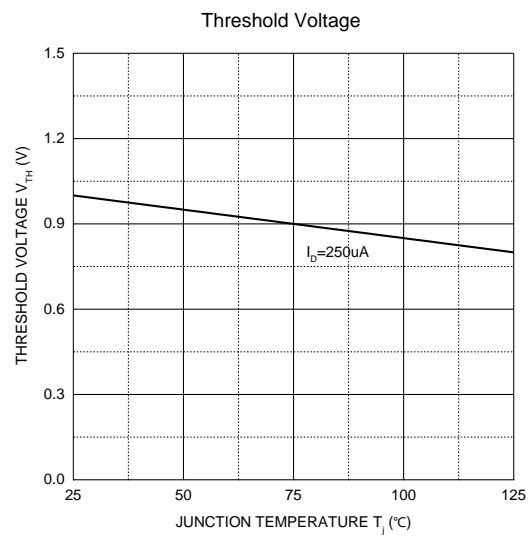
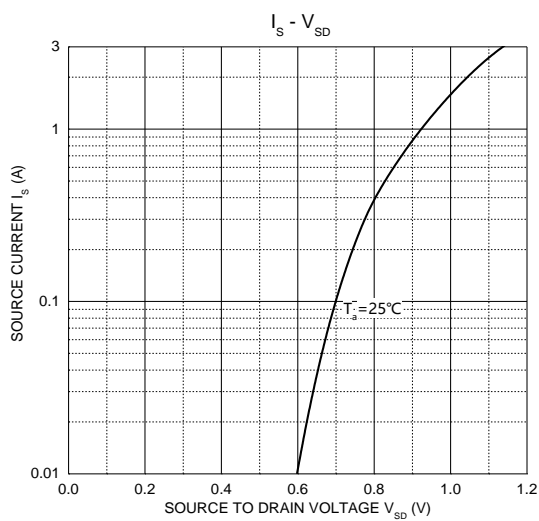
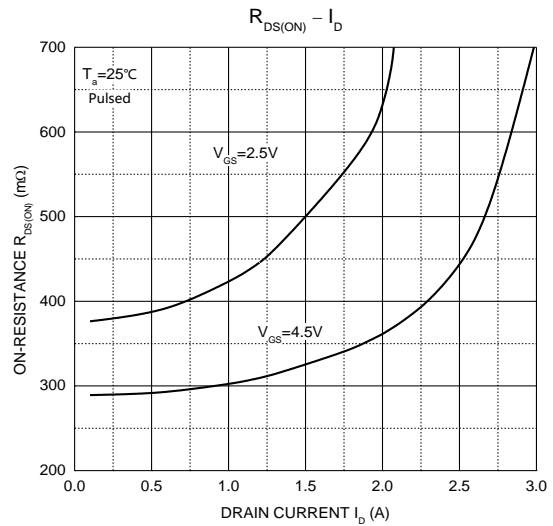
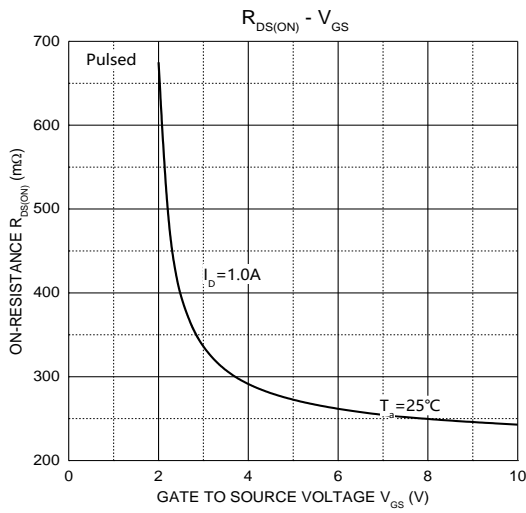
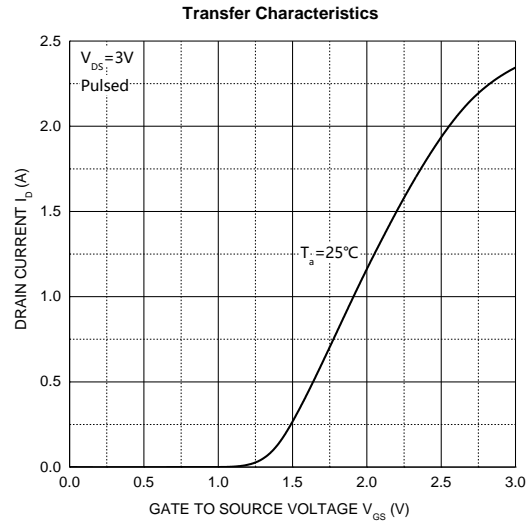
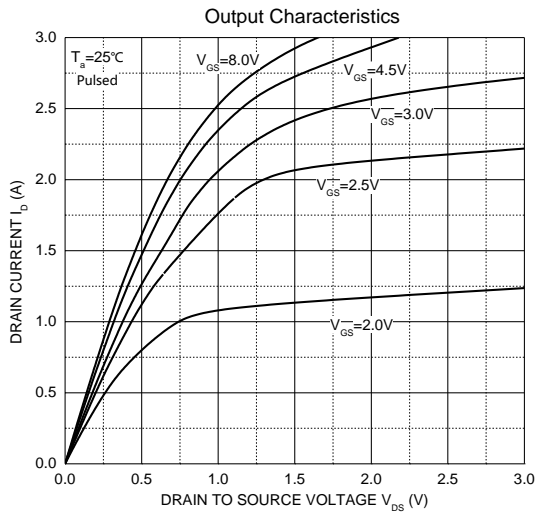
MOSFET ELECTRICAL CHARACTERISTICS(T_a=25°C unless otherwise noted)

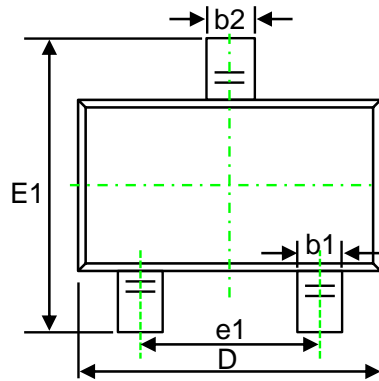
Parameter	Symbol	Test Condition	Min	Type	Max	Unit
Static Characteristics						
Drain-source breakdown voltage	V _{(BR)DSS}	V _{GS} = 0V, I _D =250μA	30			V
Zero gate voltage drain current	I _{DSS}	V _{DS} =30V, V _{GS} = 0V			1	μA
Gate-body leakage current	I _{GSS}	V _{GS} =±10V, V _{DS} = 0V			±3	μA
Gate threshold voltage ⁽³⁾	V _{GS(th)}	V _{DS} =V _{GS} , I _D =250μA	0.5	1.0	1.5	V
Drain-source on-resistance ⁽³⁾	R _{DS(on)}	V _{GS} =4.5V, I _D =0.6A		290	500	mΩ
		V _{GS} =2.5V, I _D =0.3A		380	600	
Forward tranconductance	g _{FS}	V _{DS} =5V, I _D =0.5A	0.1			S
Dynamic characteristics						
Input Capacitance	C _{iss}	V _{DS} =10V, V _{GS} =0V, f=1MHz		44		pF
Output Capacitance	C _{oss}			15		
Reverse Transfer Capacitance	C _{rss}			8		
Total gate charge	Q _g	V _{DS} =15V, V _{GS} =4.5V, I _D =0.8A		1.2		nC
Gate-source charge	Q _{gs}			0.28		
Gate-drain charge	Q _{gd}			0.3		
Switching Characteristics						
Turn-on delay time	t _{d(on)}	V _{DS} =15V, I _D =0.7A, V _{GS} =4.5V, R _G =51Ω		5.0		ns
Turn-on rise time	t _r			8.2		
Turn-off delay time	t _{d(off)}			23		
Turn-off fall time	t _f			41		
Source-Drain Diode characteristics						
Diode Forward voltage ⁽³⁾	V _{DS}	I _S =0.6A, V _{GS} = 0V			1.2	V

Notes:

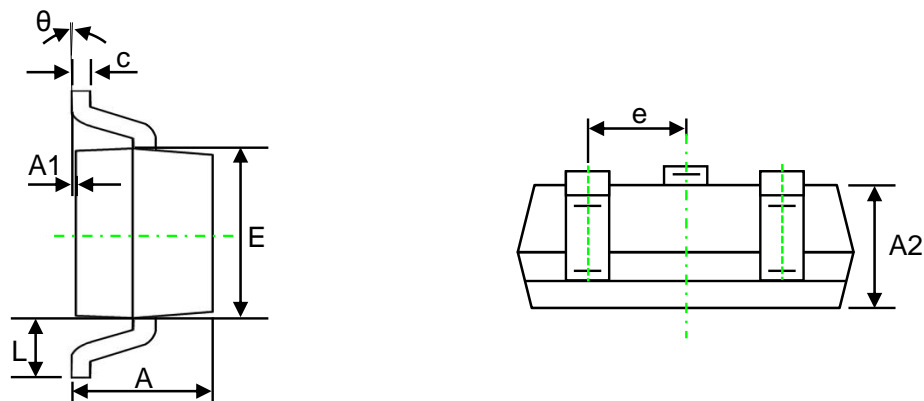
1. Repetitive Rating: Pulse width limited by maximum junction temperature.
2. This test is performed with no heat sink at T_a=25°C.
3. Pulse Test : Pulse Width≤380μs, Duty Cycle≤0.5%.

Typical Electrical and Thermal Characteristics



SOT-523 Package Information


TOP VIEW
[顶视图]



SIDE VIEW
[侧视图]

Symbol	Dimensions In Millimeters (mm)		
	Min.	Typ.	Max.
A	0.70	0.80	0.90
A1	0.00	0.05	0.10
A2	0.70	0.75	0.80
b1	0.15	0.20	0.25
b2	0.25	0.30	0.35
c	0.10	0.15	0.20
D	1.50	1.60	1.70
E	0.70	0.80	0.90
E1	1.45	1.60	1.75
e	-	0.50	-
e1	0.90	1.00	1.10
L	0.55 REF.		
θ	0°	-	8°