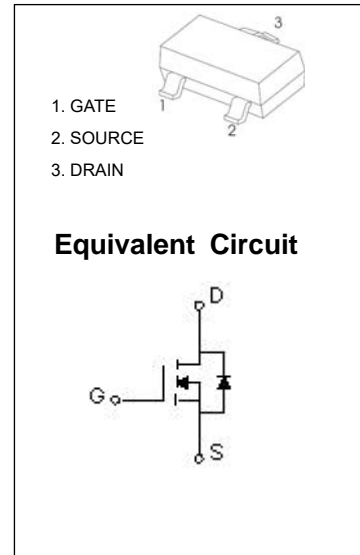


SOT-23 Plastic-Encapsulate MOSFETS

N-Channel MOSFET

$V_{(BR)DSS}$	$R_{DS(on)MAX}$	I_D
100V	240mΩ@10V	2A
	270mΩ@6V	
	280mΩ@4.5V	

SOT-23



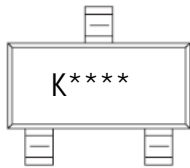
FEATURE

- TrenchFET Power MOSFET
- Low $R_{DS(ON)}$
- Surface Mount Package

APPLICATION

- DC/DC Converters
- Load Switch
- LED Backlighting in LCD TVs

MARKING



K = Device Code
* = Date Code*

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

Parameter	Symbol	Value	Unit
Drain-Source Voltage	V_{DS}	100	V
Gate-Source Voltage	V_{GS}	± 20	V
Continuous Drain Current	I_D	2	A
Pulsed Drain Current	I_{DM}^*	8	A
Maximum Power Dissipation	P_D	1.25	W
Thermal Resistance from Junction to Ambient	$R_{\theta JA}$	357	$^\circ\text{C/W}$
Operation Junction and Storage Temperature Range	T_J, T_{STG}	-55~+150	$^\circ\text{C}$
Lead Temperature for Soldering Purposes(1/8" from case for 10 s)	T_L	260	$^\circ\text{C}$

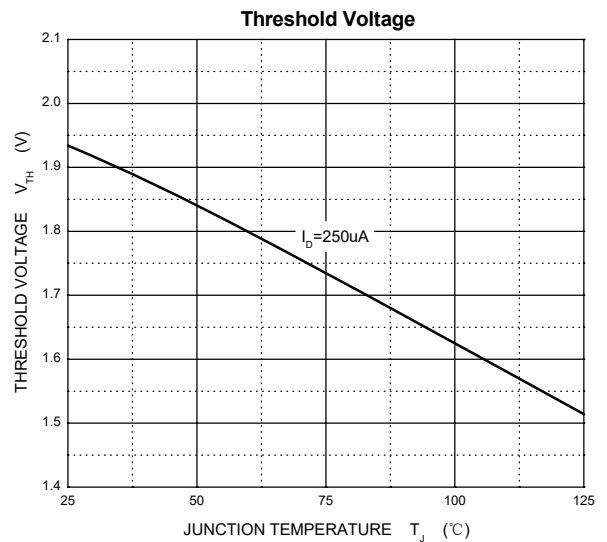
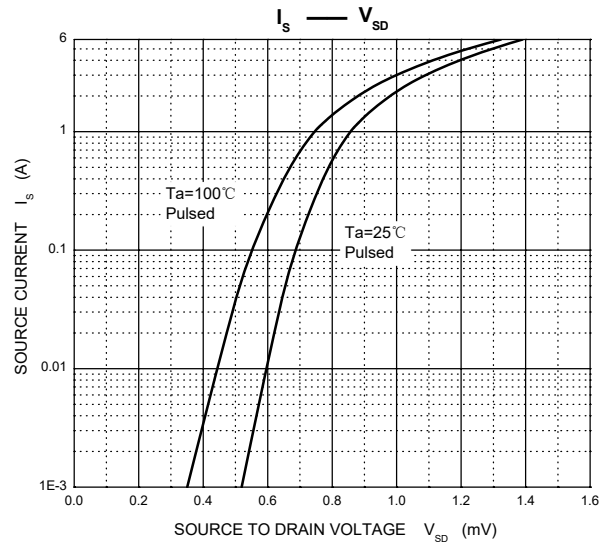
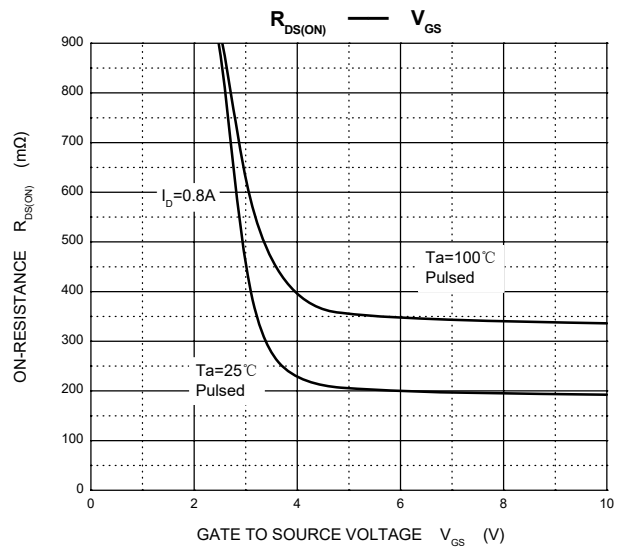
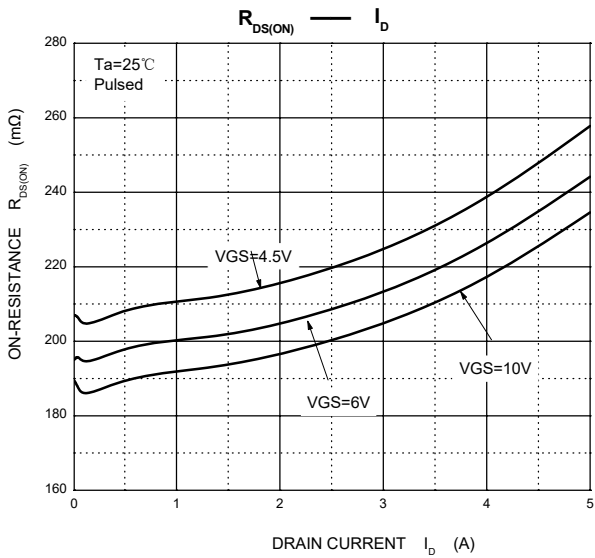
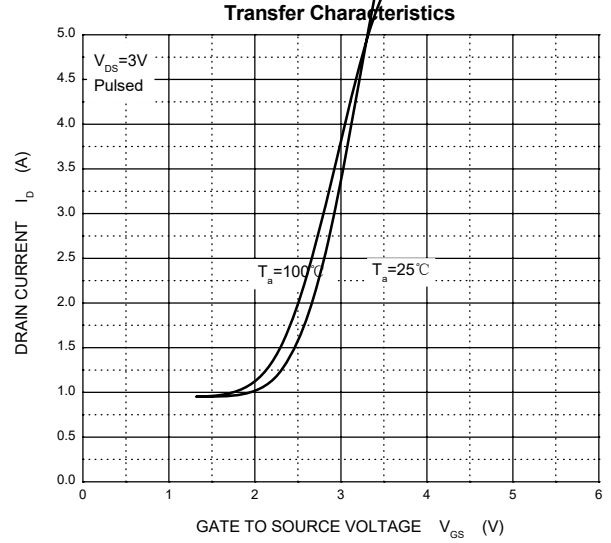
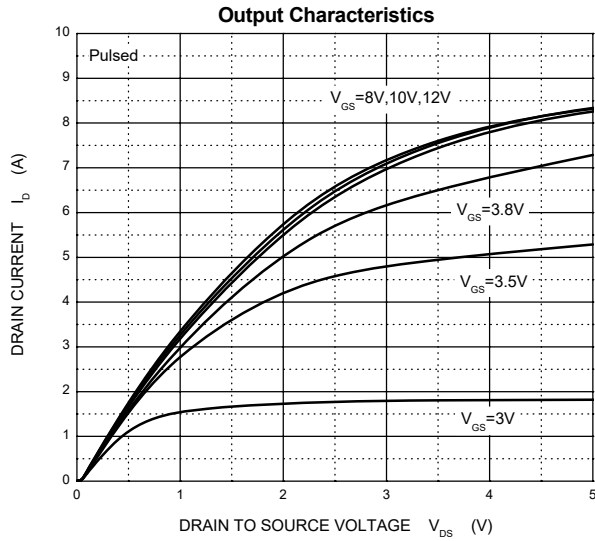
*Repetitive rating: Pluse width limited by junction temperature.

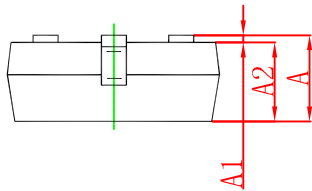
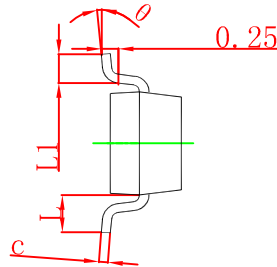
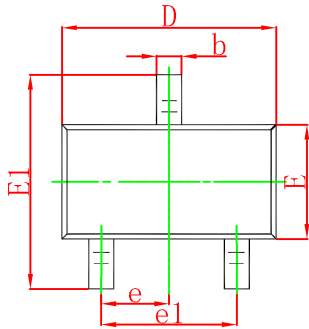
MOSFET ELECTRICAL CHARACTERISTICS
T_a=25 °C unless otherwise specified

Parameter	Symbol	Test Condition	Min	Typ	Max	Unit
STATIC PARAMETERS						
Drain-source breakdown voltage	V _{(BR)DSS}	V _{GS} = 0V, I _D =250μA	100			V
Zero gate voltage drain current	I _{DSS}	V _{DS} =100V, V _{GS} = 0V			1	μA
Gate-body leakage current	I _{GSS}	V _{GS} =±20V, V _{DS} = 0V			±100	nA
Gate threshold voltage(note 1)	V _{GS(th)}	V _{DS} =V _{GS} , I _D =250μA	1.0		2.8	V
Drain-source on-resistance (note 1)	R _{DS(on)}	V _{GS} =10V, I _D =1.5A		195	240	mΩ
		V _{GS} =6V, I _D =1A		200	270	mΩ
		V _{GS} =4.5V, I _D =0.5A		208	280	mΩ
Forward tranconductance (note 1)	g _{FS}	V _{DS} =20V, I _D =1.5A		2		S
Diode forward voltage (note 1)	V _{SD}	I _S =1.3A, V _{GS} = 0V			1.2	V
DYNAMIC PARAMETERS (note2)						
Input Capacitance	C _{iss}	V _{DS} =50V, V _{GS} =0V, f =1MHz		190		pF
Output Capacitance	C _{oss}			22		pF
Reverse Transfer Capacitance	C _{rss}			13		pF
Gate Resistance	R _g	F=1MHz	0.3		2.8	Ω
SWITCHING PARAMETERS (note 2)						
Turn-on delay time	t _{d(on)}	V _{DD} =50V, V _{GEN} =4.5V R _L =39Ω, R _G =1Ω, I _D =1.3A			45	ns
Turn-on rise time	t _r				39	ns
Turn-off delay time	t _{d(off)}				26	ns
Turn-off fall time	t _f				20	ns
Total Gate Charge	Q _g	V _{DS} =50V, V _{GS} =4.5V, I _D =1.6A			5.8	nC
Gate-Source Charge	Q _{gs}			0.75		nC
Gate-Drain Charge	Q _{gd}			1.4		nC

- Notes :** 1. Pulse Test : Pulse width≤300μs, duty cycle≤0.5%.
2. Guaranteed by design, not subject to production testing.

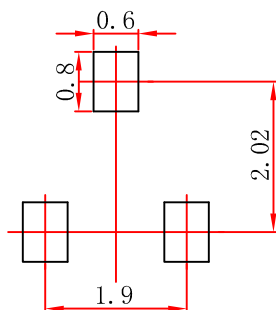
Typical Characteristics





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	0.150	0.003	0.006
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
θ	0°	8°	0°	8°

SOT-23 Suggested Pad Layout



Note:

1. Controlling dimension: in millimeters.
2. General tolerance: $\pm 0.05\text{mm}$.
3. The pad layout is for reference purposes only.