N-Channel Enhancement Mode Field Effect Transistor

$V_{(BR)DSS}$	$R_{DS(on)}$MAX	I_D
30V	30mΩ@ 10V	5.8A
	42mΩ@4.5V	

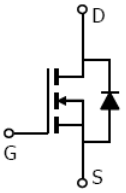
SOT–23

1. GATE
2. SOURCE
3. DRAIN

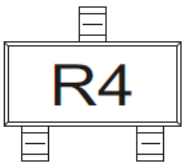
DESCRIPTION

The FTK3404 use advanced trench technology to provide excellent $R_{DS(ON)}$ and low gate charge. This device is suit able for use as a load switch or in PWM applications.The source leads are separated to allow a Kelvin connection to the source,which may be used to bypass the source inductance.

Equivalent Circuit



MARKING



Maximum ratings (T_a=25℃ unless otherwise noted)

Parameter	Symbol	Value	Unit
Drain-source voltage	V_{DS}	30	V
Gate-source voltage	V_{GS}	±20	V
Continuous drain current (t ≤10s)	I_D	5.8	A
Pulsed drain current *	I_{DM}	30	A
Thermal resistance from junction to ambient	$R_{\theta JA}$	357	℃/W
Junction temperature	T_J	150	℃
Storage temperature	T_{stg}	-55~ 150	℃

* Repetitive rating : Pulse width limited by maximum junction temperature.

Electrical characteristics (T_a=25℃ unless otherwise noted)

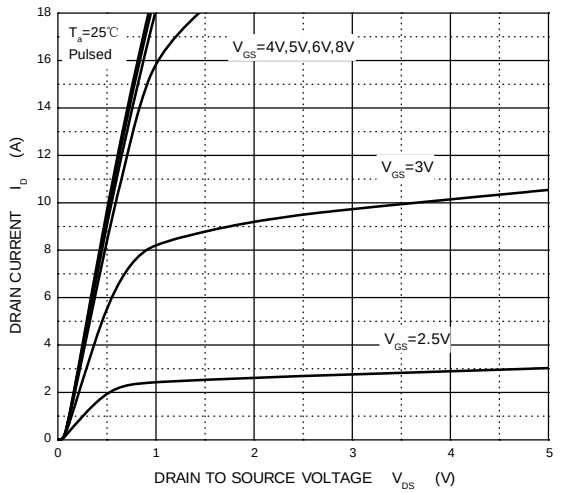
Parameter	Symbol	Test Condition	Min	Typ	Max	Units
STATIC PARAMETERS						
Drain-source breakdown voltage	$V_{(BR)DSS}$	V_{GS} = 0V, I_D =250μA	30			V
Zero gate voltage drain current	I_{DSS}	V_{DS} =30V,V_{GS} = 0V			1	μA
Gate-body leakage current	I_{GSS}	V_{GS} =±20V, V_{DS} = 0V			±100	nA
Gate threshold voltage	$V_{GS(th)}$	V_{DS} =V_{GS}, I_D =250μA	1		3	V
Drain-source on-resistance (note 1)	$R_{DS(on)}$	V_{GS} =10V, I_D =5.8A			30	mΩ
		V_{GS} =4.5V, I_D =4.8A			42	mΩ
Forward tranconductance (note 1)	g_{FS}	V_{DS} =5V, I_D =5.8A	5			S
Diode forward voltage	V_{SD}	I_S=1A			1	V
DYNAMIC PARAMETERS (note 2)						
Input capacitance	C_{iss}	V_{DS} =15V,V_{GS} =0V,f =1MHz			820	pF
Output capacitance	C_{oss}			118		pF
Reverse transfer capacitance	C_{rss}			85		pF
Gate resistance	R_g	V_{DS} =0V,V_{GS} =0V,f =1MHz			1.5	Ω
SWITCHING PARAMETERS(note 2)						
Turn-on delay time	$t_{d(on)}$	V_{GS}=10V,V_{DS}=15V, R_L=2.6Ω,R_{GEN}=3Ω			6.5	ns
Turn-on rise time	t_r			3.1		ns
Turn-off delay time	$t_{d(off)}$			15.1		ns
Turn-off fall time	t_f			2.7		ns

Note :

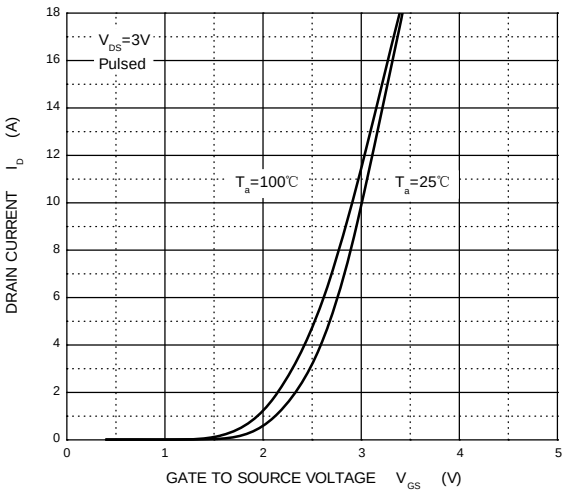
1. Pulse Test : Pulse width≤300μs, duty cycle≤0.5%.
2. These parameters have no way to verify.

Typical Characteristics

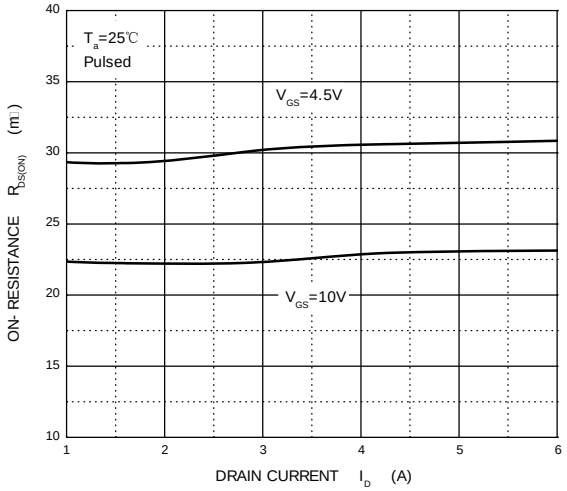
Output Characteristics



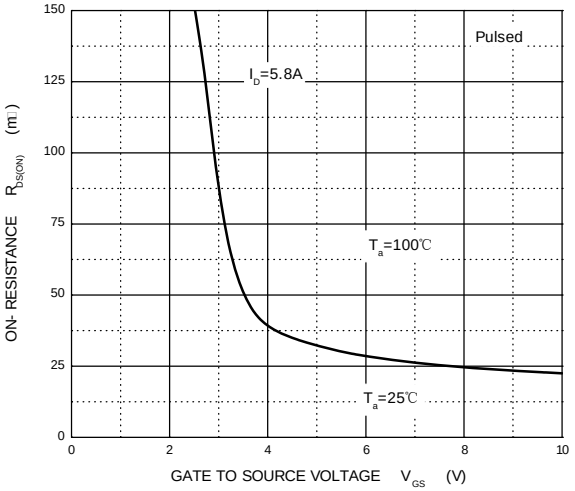
Transfer Characteristics



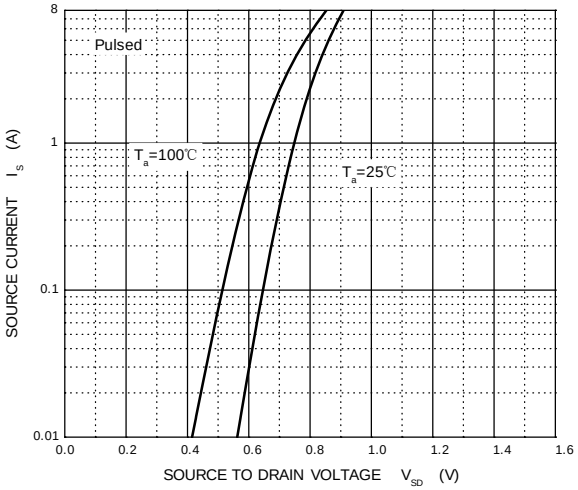
$R_{DS(ON)}$ —— I_D



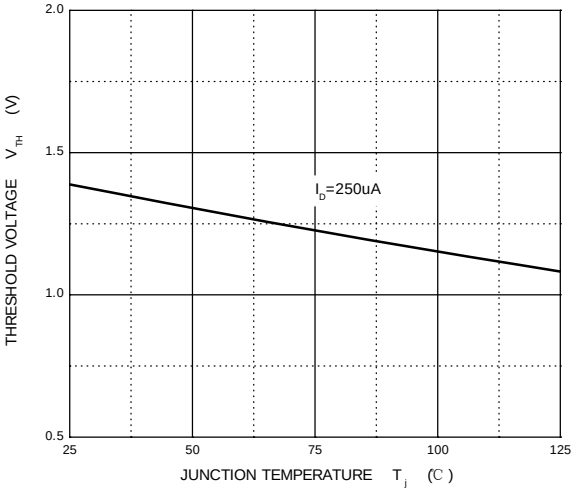
$R_{DS(ON)}$ —— V_{GS}



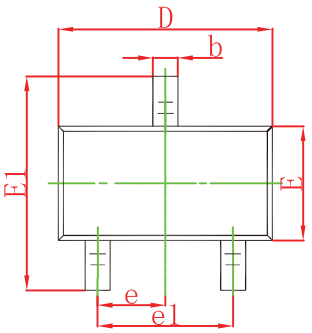
I_S —— V_{SD}

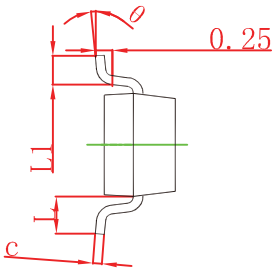


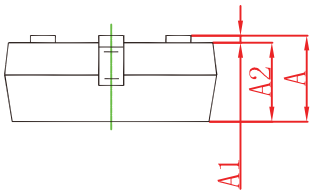
Threshold Voltage



SOT-23 Package Outline Dimensions

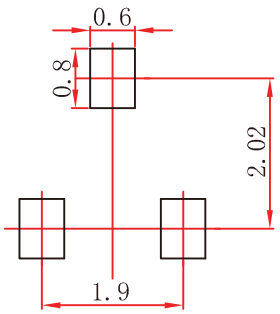






Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min	Max	Min	Max
A	0.900	1.150	0.035	0.045
A1	0.000	0.100	0.000	0.004
A2	0.900	1 050	0.035	0.041
b	0.300	0 500	0.012	0.020
c	0.080	0.150	0.003	0.006
D	2.800	3 000	0.110	0.118
E	1.200	1.400	0.047	0.055
E1	2.250	2 550	0.089	0.100
e	0.950 TYP		0.037 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°	6°

SOT-23 Suggested Pad Layout



Note:
1.Controlling dimension:in millimeters.
2.General tolerance:± 0.05mm.
3.The pad layout is for reference purposes only.