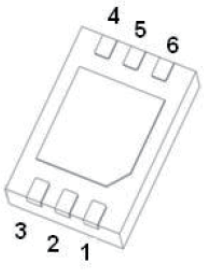
Dual N-Channel MOSFET

$V_{(BR)DSS}$	$R_{DS(on)}$MAX	I_D
20V	13mΩ@10V	8A
	14mΩ@4.5V	
	15.5mΩ@3.8V	
	19mΩ@2.5V	
	27mΩ@1.8V	

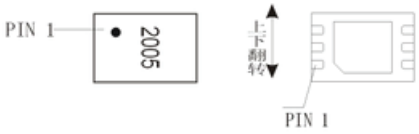
DFNWB2××3-6L-C



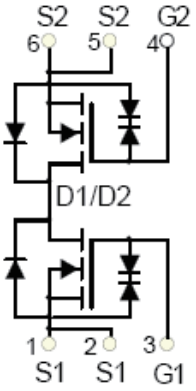
DESCRIPTION

The FTK2005DFN23 uses advanced trench technology to provide excellent $R_{DS(ON)}$ low gate charge. It is ESD protected. This device is suitable for use as a uni-directional or bi-directional load switch,facilitated by its common-drain configuration.

MARKING:



Equivalent Circuit



MAXIMUM RATINGS (T_a=25℃ 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	8	A
Pulsed Drain Current	I_{DM}*	30	A
Thermal Resistance from Junction to Ambient	$R_{\theta JA}$	125	℃/W
Junction Temperature	T_j	150	℃
Storage Temperature	T_{stg}	-55~+150	℃
Lead Temperature for Soldering Purposes(1/8" from case for 10 s)	T_L	260	℃

*Repetitive rating：Pluse width limited by junction temperature.

Electrical characteristics (T_a=25℃ unless otherwise noted)

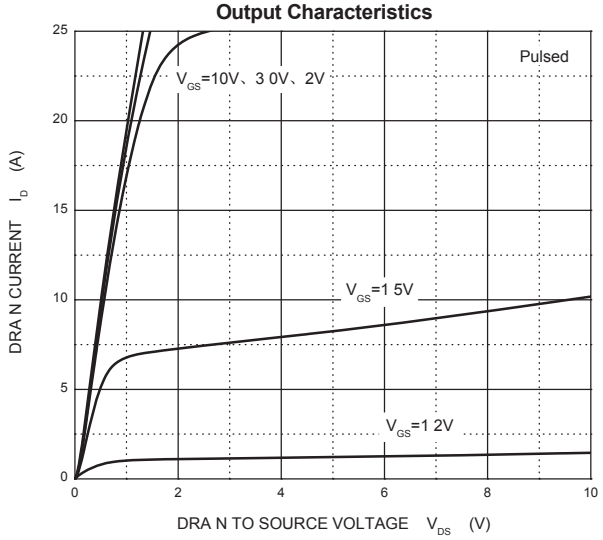
Parameter	Symbol	Test Condition	Min	Typ	Max	Unit
STATIC PARAMETERS						
Drain-source breakdown voltage	$V_{(BR)DSS}$	V_{GS} = 0V, I_D =250μA	20			V
Zero gate voltage drain current	I_{DSS}	V_{DS} =16V,V_{GS} = 0V			10	μA
Gate-body leakage current	I_{GSS}	V_{GS} =±10V, V_{DS} = 0V			±10	μA
Gate threshold voltage (note 1)	$V_{GS(th)}$	V_{DS} =V_{GS}, I_D =250μA	0.5		1	V
Drain-source on-resistance (note 1)	$R_{DS(on)}$	V_{GS} =10V, I_D =8A			13	mΩ
		V_{GS} =4.5V, I_D =5A			14	mΩ
		V_{GS} =3.8V, I_D =5A			15.5	mΩ
		V_{GS} =2.5V, I_D =4A			19	mΩ
		V_{GS} =1.8V, I_D =3A			27	mΩ
Forward tranconductance (note 1)	g_{FS}	V_{DS} =5V, I_D =8A		36		S
Diode forward voltage(note 1)	V_{SD}	I_S=1A, V_{GS} = 0V			1	V
DYNAMIC PARAMETERS (note 2)						
Input Capacitance	C_{iss}	V_{DS} =10V,V_{GS} =0V,f =1MHz		1800		pF
Output Capacitance	C_{oss}			230		pF
Reverse Transfer Capacitance	C_{rss}			200		pF
Total gate charge	Q_g	V_{DS} =10V,V_{GS} =4.5V,I_D =8A		17.9		nC
Gate-source charge	Q_{gs}			1.5		nC
Gate-drain charge	Q_{gd}			4.7		nC
SWITCHING PARAMETERS(note 2)						
Turn-on delay time	$t_{d(on)}$	V_{GS}=10V,V_{DD}=10V, R_L=1.2Ω,R_{GEN}=3Ω		2.5		ns
Turn-on rise time	t_r			7.2		ns
Turn-off delay time	$t_{d(off)}$			49		ns
Turn-off fall time	t_f			10.8		ns

Notes :

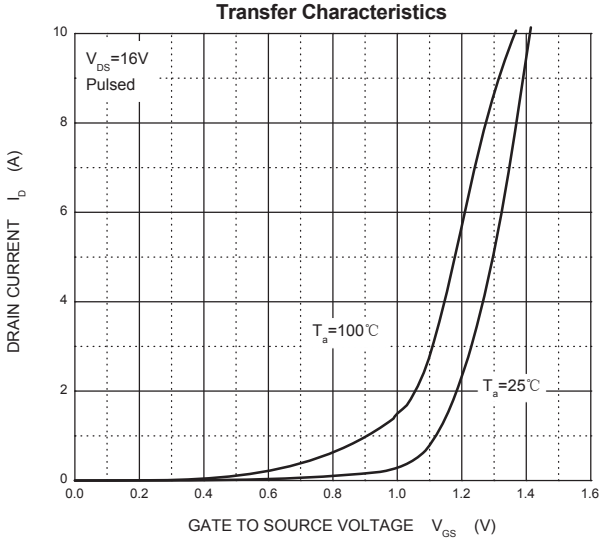
1. Pulse Test : Pulse width≤300μs, duty cycle≤0.5%.
2. Guaranteed by design, not subject to production testing.

Typical Characteristics

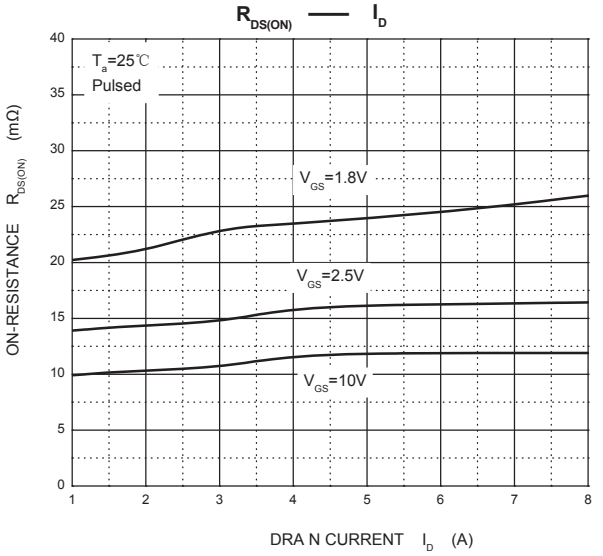
Output Characteristics



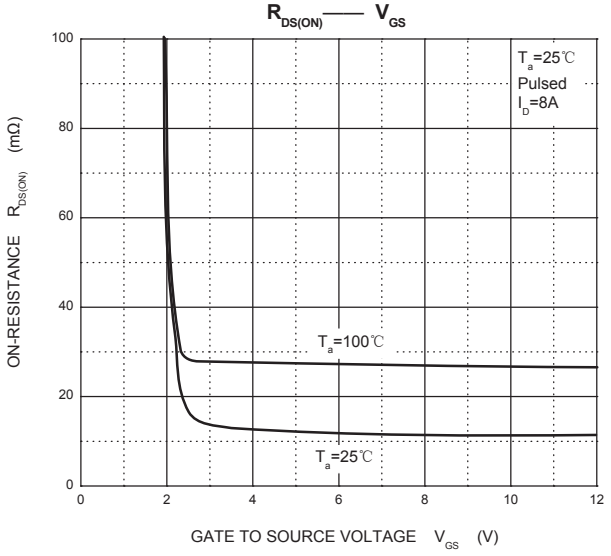
Transfer Characteristics



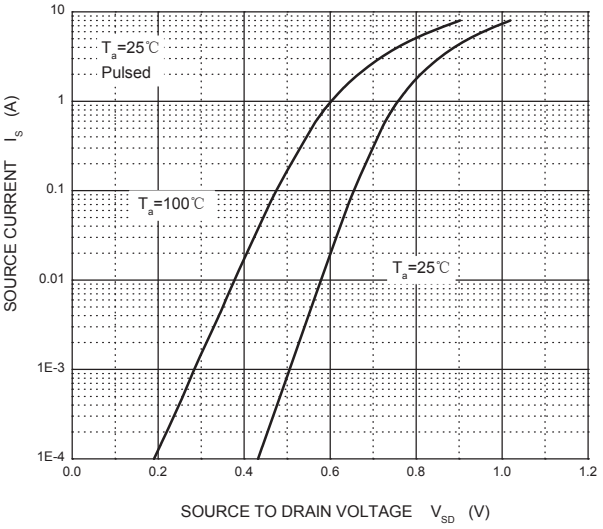
RDS(ON) — ID



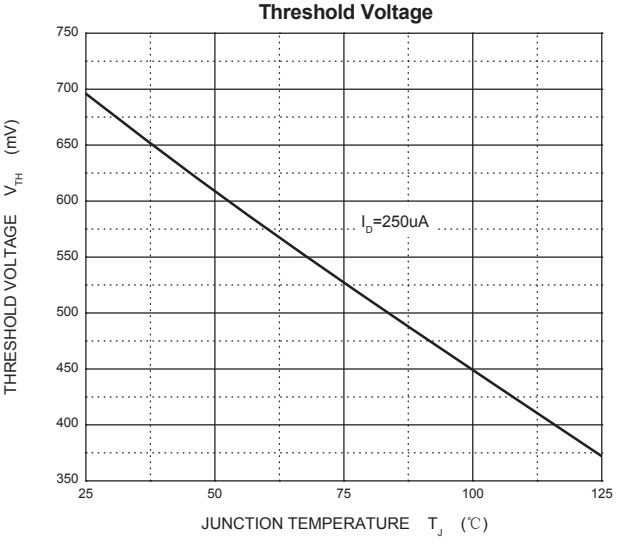
RDS(ON) — VGS



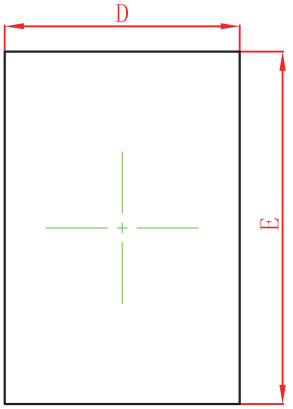
IS — VSD



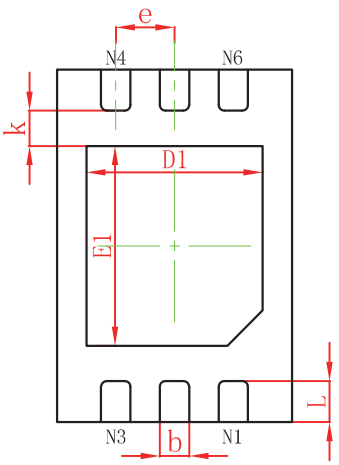
Threshold Voltage



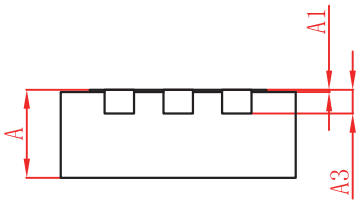
DFNWB2×3-6L Package Outline Dimensions(Unit:mm)



TOP VIEW



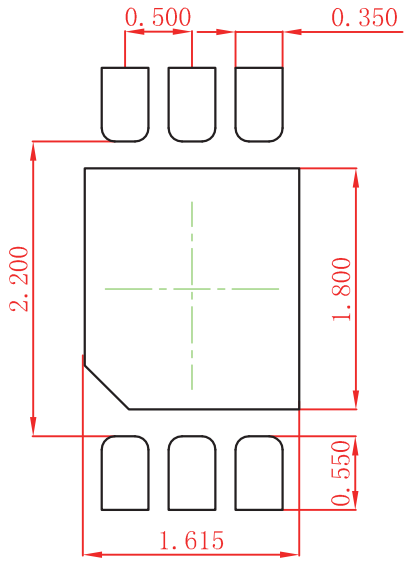
BOTTOM VIEW



SIDE VIEW

Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min.	Max.	Min.	Max.
A	0.700	0.800	0.028	0.031
A1	0.000	0.050	0.000	0.002
A3	0.203REF.		0.008REF.	
D	1.950	2.050	0.077	0.081
E	2.950	3.050	0.116	0.120
D1	1.450	1.550	0.057	0.061
E1	1.650	1.750	0.065	0.069
k	0.200MIN.		0.008MIN.	
b	0.200	0.300	0.008	0.012
e	0.500TYP.		0.020TYP.	
L	0.300	0.400	0.012	0.016

DFNWB2×3-6L Suggested Pad Layout



Note:
1.Controlling dimension:in millimeters.
2.General tolerance:± 0.050mm.
3.The pad layout is for reference purposes only.