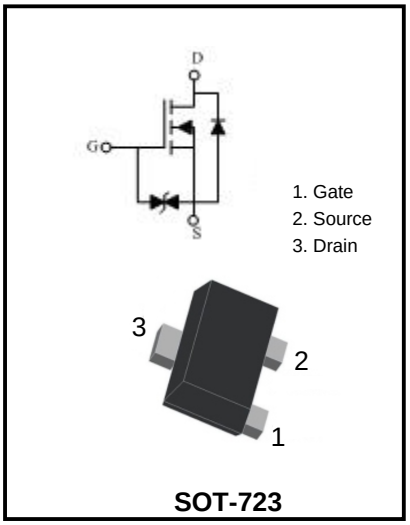
N-Channel MOSFET



Features

- Lead Free Product is Acquired
- 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 Code	
YFW3134KM	KF

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

Absolute maximum rating (TA = 25 °C unless otherwise specified)

Parameter	Symbol	Value	Unit
Drain-Source Voltage	V_{DS}	20	V
Typical Gate-Source Voltage	V_{GS}	±12	V
Continuous Drain Current (note 1)	I_D	0.75	A
Pulsed Drain Current (t_p=10μs)	I_{DM}	1.8	A
Power Dissipation (note 1)	P_D	150	mW
Thermal Resistance from Junction to Ambient (note 1)	$R_{\theta JA}$	833	℃/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	℃

Electrical Characteristics(TA = 25 °C unless otherwise specified)

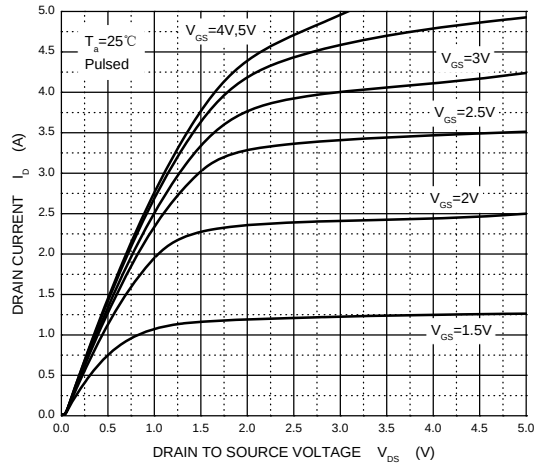
Parameter	Symbol	Test Condition	Min	Typ	Max	Unit
STATIC CHARACTERISTICS						
Drain-source breakdown voltage	$V_{(BR)DSS}$	V_{GS} = 0V, I_D =250μA	20			V
Zero gate voltage drain current	I_{DSS}	V_{DS} =20V,V_{GS} = 0V			1	μA
Gate-body leakage current	I_{GSS}	V_{GS} =±10V, V_{DS} = 0V			±20	μA
Gate threshold voltage (note 2)	$V_{GS(th)}$	V_{DS} =V_{GS}, I_D =250μA	0.35	0.54	1.1	V
Drain-source on-resistance (note 2)	$R_{DS(on)}$	V_{GS} =4.5V, I_D =0.65A		270	380	mΩ
		V_{GS} =2.5V, I_D =0.55A		320	450	mΩ
		V_{GS} =1.8V, I_D =0.45A		390	800	mΩ
Forward transconductance (note 2)	g_{FS}	V_{DS} =10V, I_D =0.8A		1.6		S
Diode forward voltage	V_{SD}	I_S=0.15A, V_{GS} = 0V			1.2	V
DYNAMIC CHARACTERISTICS (note 4)						
Input capacitance	C_{iss}	V_{DS} =16V,V_{GS} =0V,f =1MHz		79	120	pF
Output capacitance	C_{oss}			13	20	pF
Reverse transfer capacitance	C_{rss}			9	15	pF
SWITCHING CHARACTERISTICS (note 4)						
Turn-on delay time (note 3)	$t_{d(on)}$	V_{GS}=4.5V,V_{DS}=10V, I_D =500mA,R_{GEN}=10Ω		6.7		ns
Turn-on rise time (note 3)	t_r			4.8		ns
Turn-off delay time (note3)	$t_{d(off)}$			17.3		ns
Turn-off fall time (note 3)	t_f			7.4		ns

Notes :

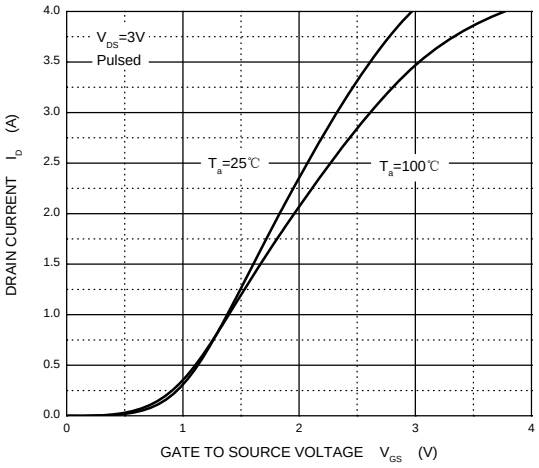
1. Surface mounted on FR4 board using the minimum recommended pad size.
2. Pulse Test : Pulse Width=300μs, Duty Cycle=2%.
3. Switching characteristics are independent of operating junction temperatures.
4. Guaranteed by design, not subject to producting.

Typical Characteristics

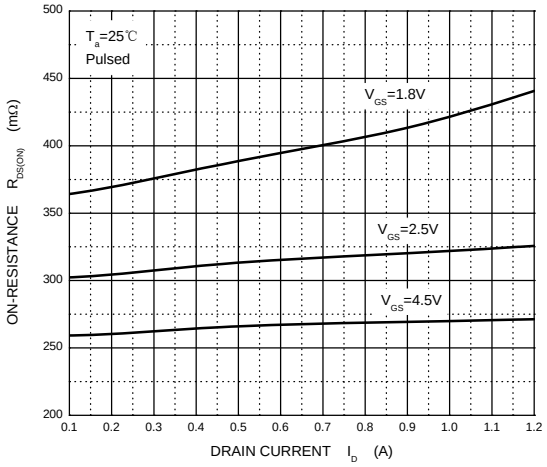
Output Characteristics



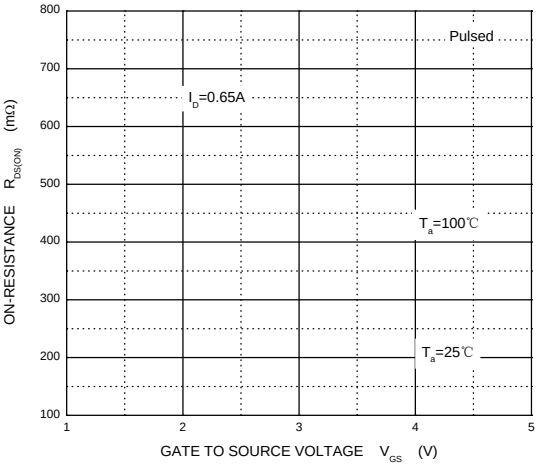
Transfer Characteristics



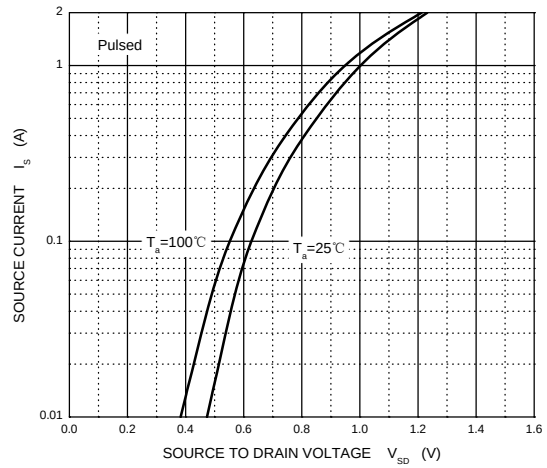
$R_{DS(ON)}$ —— I_D



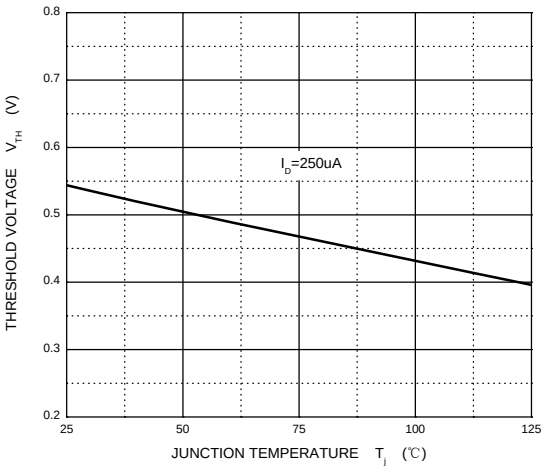
$R_{DS(ON)}$ —— V_{GS}



I_S —— V_{SD}



Threshold Voltage

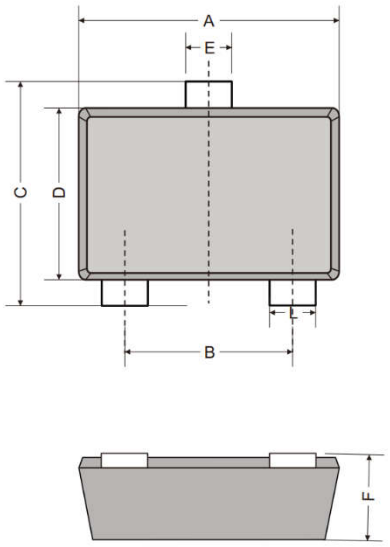


Ordering information

Package	Packing Description	Base Quantity	Packing Quantity
SOT-723	Tape/Reel,7"reel	8000pcs/Reel	64000PCS/Box 320000PCS/Carton

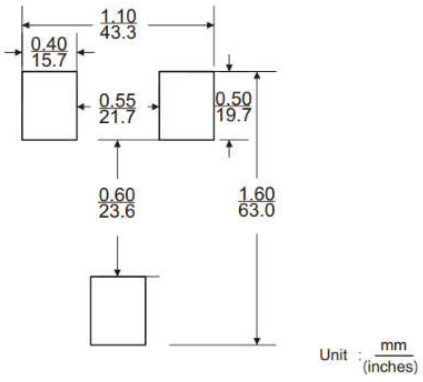
Package Dimensions

SOT-723



Dim.	Millimeter (mm)		mil	
	Min.	Max.	Min.	Max.
A	1.10	1.30	43.3	51.2
B	-	0.80	-	31.5
C	1.10	1.30	43.3	51.2
D	0.70	0.90	27.6	35.4
E	0.20	0.30	7.9	11.8
F	0.40	0.50	15.7	19.7
G	0.15	0.25	5.9	9.8
H	0.06	0.16	2.4	6.3
L	0.15	0.25	5.9	9.8

The recommended mounting pad size



Disclaimer

The information presented in this document is for reference only. GuangDong Youfeng Microelectronics Co.,Ltd. reserves the right to make changes without notice for the specification of the products displayed herein to improve reliability, function or design or otherwise. The product listed herein is designed to be used with ordinary electronic equipment or devices, and not designed to be used with equipment or devices which require high level of reliability and the malfunction of with would directly endanger human life (such as medical instruments, transportation equipment, aerospace machinery, nuclear-reactor controllers, fuel controllers and other safety devices),YFW or anyone on its behalf, assumes no responsibility or liability for any damages resulting from such improper use of sale. This publication supersedes & replaces all information previously supplied. For additional information, please visit our website https://www.yfwdiode.com, or consult YFW sales office for further assistance.