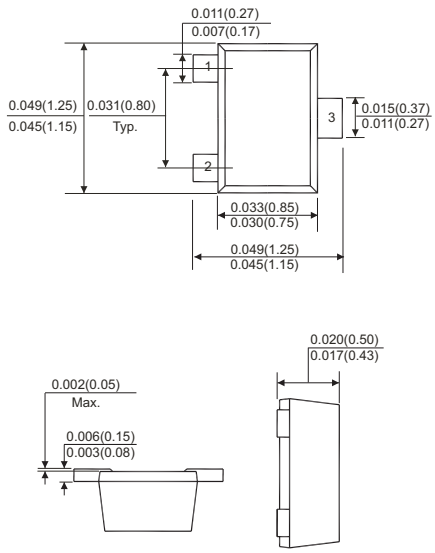
MOSFET

CJ3134K-HF

N-Channel
RoHS Device
Halogen Free

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

SOT-723



Dimensions in inches and (millimeter)

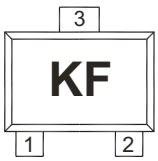
Features

- Lead free product is acquired
- Surface mount package
- N-Channel switch with low R_{DS}(on)
- Operated at low logic level gate drive

Mechanical data

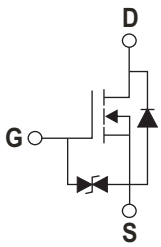
- Case: SOT-723, molded plastic.
- Terminals: Solderable per MIL-STD-750, method 2026.

Marking: KF



Circuit Diagram

1. G : Gate
2. S : Source
3. D : Drain



Maximum Rating (at Ta=25°C unless otherwise noted)

Parameter	Symbol	Value	Unit
Drain-Source voltage	V_{DS}	20	V
Gate-Source voltage	V_{GS}	±12	V
Continuous drain current (note1)	I_D	0.75	A
Pulsed drain current (tp=10μs)	I_{DM}	1.8	
Power dissipation (note1)	P_D	150	mW
Thermal resistance from junction to ambient (note1)	$R_{\Theta JA}$	833	°C/W
Junction temperature range	T_J	150	°C
Storage temperature range	T_{STG}	-55 to +150	°C
Lead temperature for soldering purposes (1/8" from case for 10 s)	T_L	260	°C

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Electrical Characteristics (at T_A=25°C unless otherwise noted)

Parameter	Symbol	Conditions	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}=±12V , V_{DS} =0V			±50	μA
Gate-threshold voltage (note 2)	$V_{GS(th)}$	V_{DS} =V_{GS} , I_D=250μA	0.35		1	V
Drain-source on-state resistance (note 2)	$R_{DS(on)}$	V_{GS}=4.5V , I_D=0.65A			380	mΩ
		V_{GS}=2.5V , I_D=0.55A			450	
		V_{GS}=1.8V , I_D=0.45A			800	
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	
Reverse transfer capacitance	C_{rss}			9	15	
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		
Turn-off delay time (note 3)	$t_{d(off)}$			17.3		
Turn-off fall time (note 3)	t_f			7.4		

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.

RATING AND CHARACTERISTIC CURVES (CJ3134K-HF)

Fig.1 - Output Characteristics

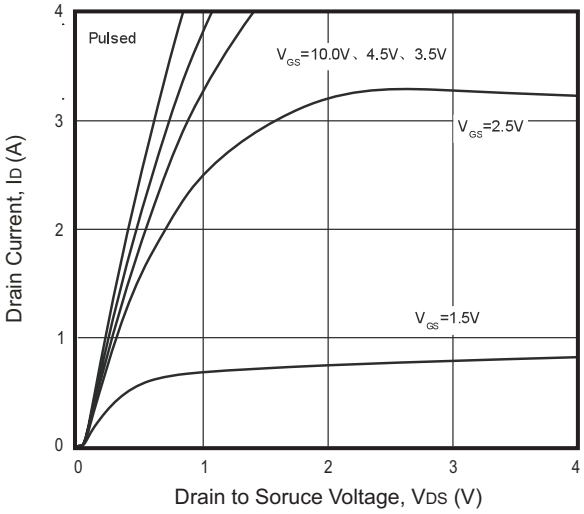


Fig.2 - Transfer Characteristics

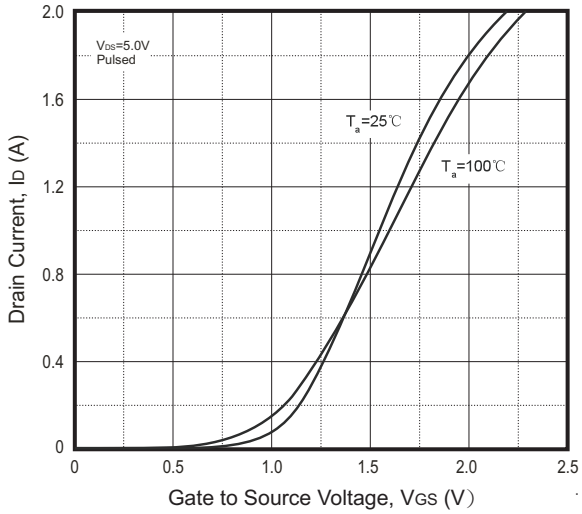


Fig.3 - $R_{DS(ON)}$ — ID

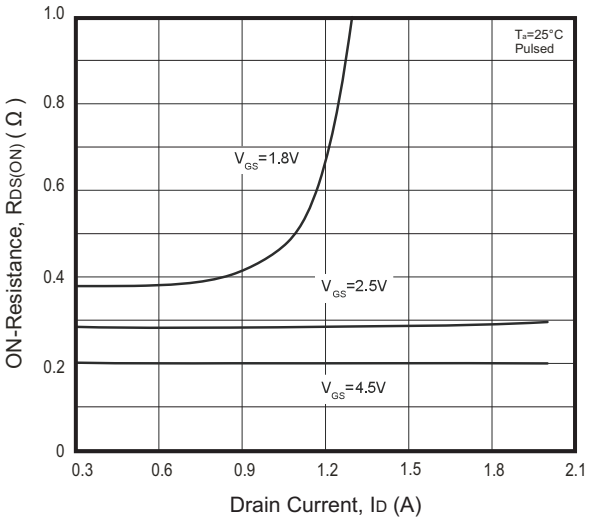


Fig.4 - RDS(ON) — VGS

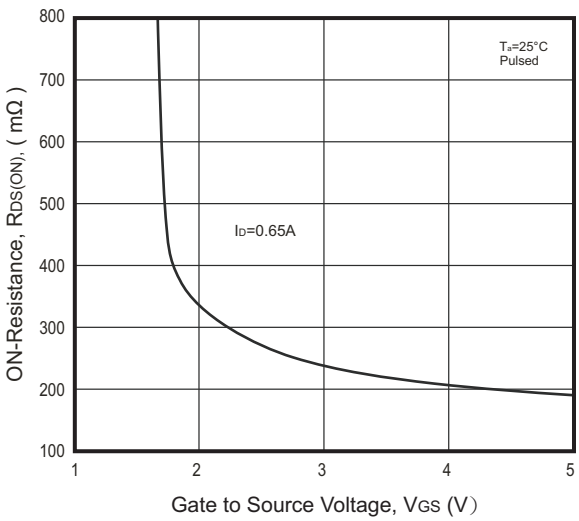


Fig.5 - IS — VSD

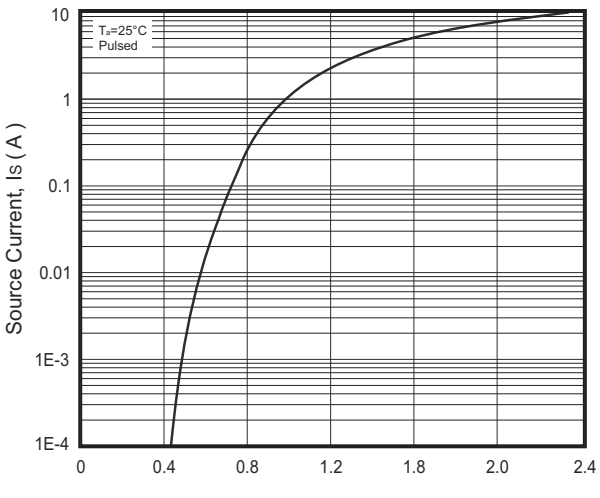
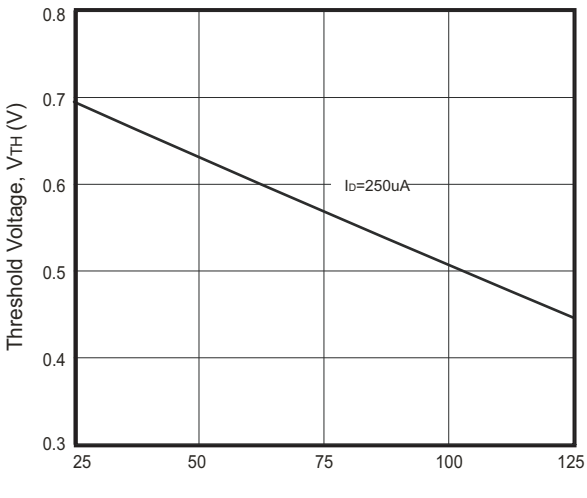


Fig.6 - Threshold Voltage



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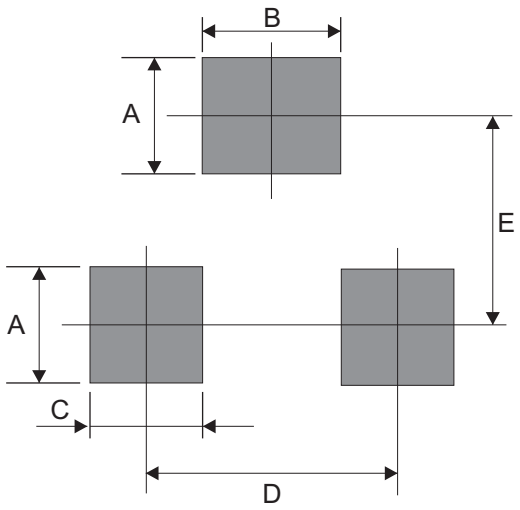
Suggested PAD Layout

SIZE	SOT-723	
	(mm)	(inch)
A	0.30	0.012
B	0.42	0.017
C	0.32	0.013
D	0.80	0.031
E	1.00	0.039



Standard Packaging

Case Type	Qty Per Reel	Reel Size
	(Pcs)	(inch)
SOT-723	8,000	7