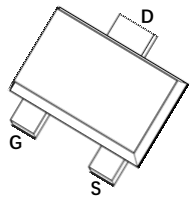
GP3134KC-L

20V N-Channel MOSFET

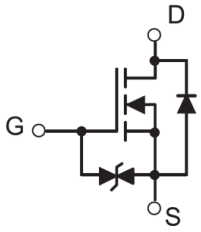
Product Summary

$V_{(BR)DSS}$	$R_{DS(on)TYP}$	I_D
20V	150mΩ@4.5V	0.75A
	200mΩ@2.5V	
	270mΩ@1.8V	

SOT-723



Schematic diagram



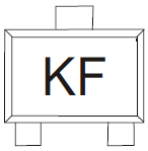
Feature

- Trench Technology Power MOSFET
- Low $R_{DS(ON)}$
- Low Gate Charge
- ESD Protected

Application

- Load Switching
- Low Current Inverters
- Low Current DC/DC Converters

MARKING:



ABSOLUTE 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[1,5]	T_A = 25℃	I_D	0.75	A
Pulsed Drain Current[2]		I_{DM}	2.3	A
Power Dissipation[4,5]	T_A = 25℃	P_D	0.2	W
Thermal Resistance from Junction to Ambient[5]		$R_{\theta JA}$	625	℃/W
Junction Temperature		T_J	150	℃
Storage Temperature		T_{STG}	-55~ +150	℃

MOSFET ELECTRICAL CHARACTERISTICS (T_J = 25℃ unless otherwise noted)

Parameter	Symbol	Test Condition	Min	Type	Max	Unit
Off 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			±10	μA
On Characteristics[3]						
Gate Threshold Voltage	$V_{GS(th)}$	V_{DS} = V_{GS}, I_D = 250μA	0.4	0.62	0.75	V
Drain-source On-resistance	$R_{DS(on)}$	V_{GS} = 4.5V, I_D =0.65A		150	380	mΩ
		V_{GS} = 2.5V, I_D = 0.55A		200	450	
		V_{GS} = 1.8V, I_D = 0.45A		270	800	
Forward Transconductance	g_{FS}	V_{DS} = 5V, I_D = 0.4A	1			S
Dynamic Characteristics						
Input Capacitance	C_{iss}	V_{DS} = 10V, V_{GS} = 0V, f = 1MHz		60		pF
Output Capacitance	C_{oss}			13		
Reverse Transfer Capacitance	C_{rss}			11		
Switching Characteristics						
Total Gate Charge	Q_g	V_{DS} = 10V, V_{GS} =4.5V, I_D = 0.4A		2.13		nC
Gate-source Charge	Q_{gs}			1.12		
Gate-drain Charge	Q_{gd}			0.56		
Turn-on Delay Time	$t_{d(on)}$	V_{DD} = 10V, V_{GS} = 4.5V, R_L = 25Ω, R_G = 3Ω		6		ns
Turn-on Rise Time	t_r			5.5		
Turn-off Delay Ttime	$t_{d(off)}$			27		
Turn-off Fall Time	t_f			12		
Source - Drain Diode Characteristics						
Diode Forward Voltage[3]	V_{SD}	V_{GS} = 0V, I_S = 0.15A			1.2	V

Notes :

1.The maximum current rating is limited by package.

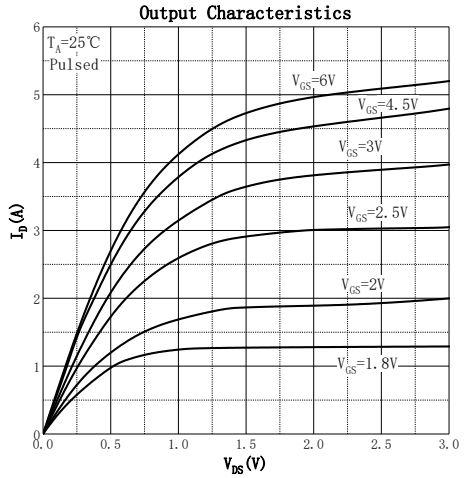
2.Pulse Test : Pulse Width ≤ 10μs, duty cycle ≤ 1%.

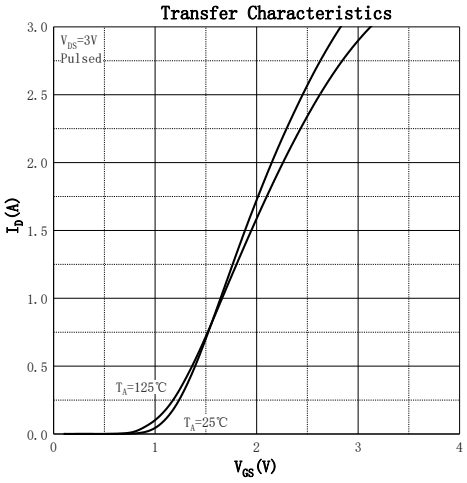
3.Pulse Test : Pulse Width ≤ 300μs, duty cycle ≤ 2%.

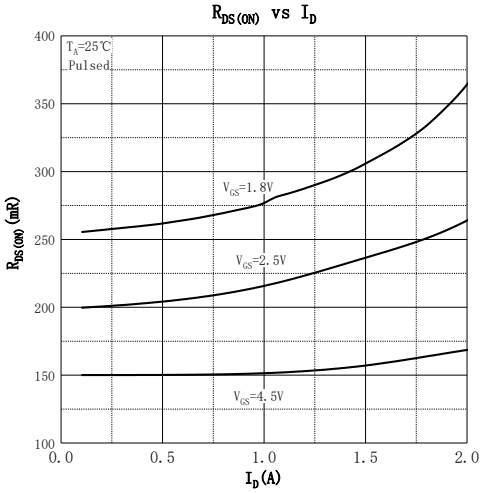
4.The power dissipation P_D is limited by $T_{J(MAX)}$ = 150°C.Pluse width is 10μs,duty cycle is 1%

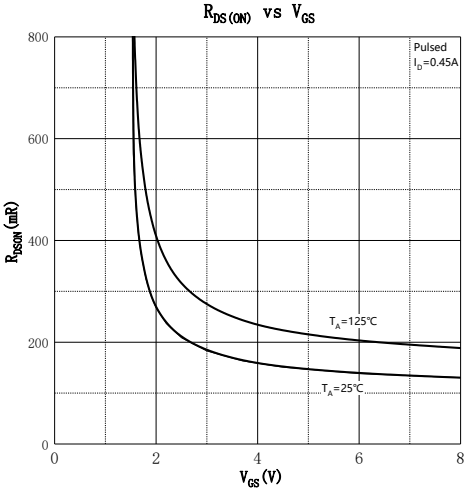
5.Device mounted on 1in^2 FR-4 board with 2oz. Copper, in a still air environment with T_A =25°C.

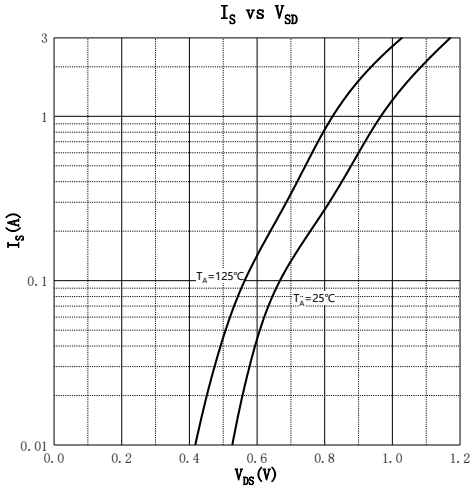
Typical Characteristics

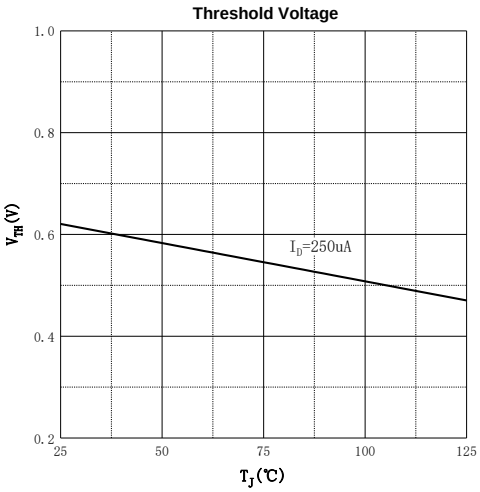




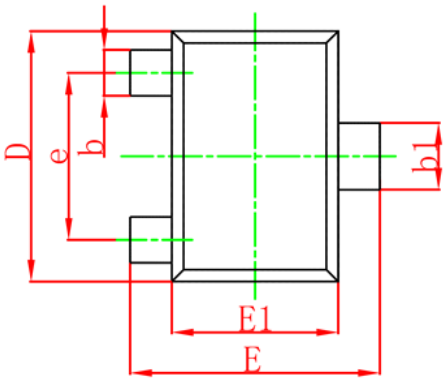


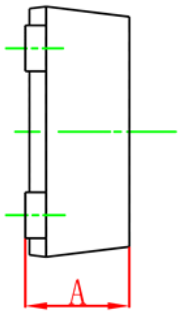


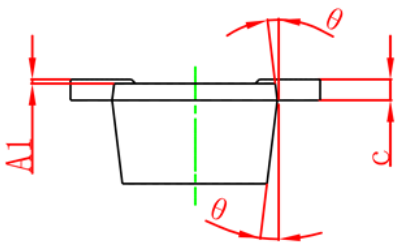




SOT-723 Package Information







Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min.	Max.	Min.	Max.
A	0.340	0.500	0.013	0.020
A1	0.000	0.050	0.000	0.002
b	0.150	0.270	0.006	0.011
b1	0.200	0.370	0.008	0.015
c	0.060	0.160	0.002	0.006
D	1.100	1.300	0.043	0.051
E	1.100	1.300	0.043	0.051
E1	0.700	0.900	0.028	0.035
e	0.8TYP		0.031TYP	
θ	8°REF		8°REF	