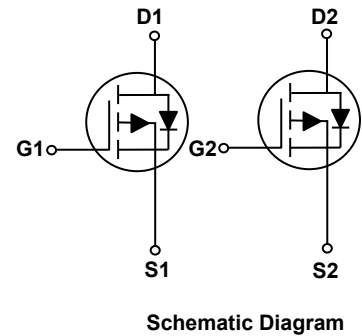
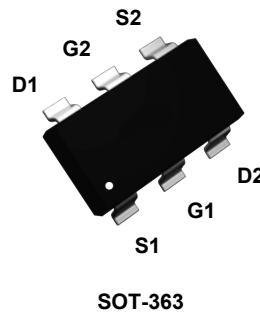


Main Product Characteristics

V_{DS}	-50V
$R_{DS(ON)}$	10 Ω
I_D	-130mA



Features and Benefits

- Advanced MOSFET process technology
- Ideal for high efficiency switch mode power supplies
- Low on-resistance with low gate charge
- Fast switching and reverse body recovery



Description

The GSFK0501 utilizes the latest techniques to achieve high cell density and low on-resistance. These features make this device extremely efficient and reliable for use in high efficiency switch mode power supply and a wide variety of other applications.

Absolute Maximum Ratings ($T_A=25^{\circ}\text{C}$ unless otherwise specified)

Parameter	Symbol	Max.	Unit
Drain-Source Voltage	V_{DSS}	-50	V
Gate-Source Voltage	V_{GSS}	± 12	V
Drain Current-Continuous ¹	I_D	-130	mA
Power Dissipation ¹	P_D	0.3	W
Thermal Resistance, Junction-to-Ambient	$R_{\theta JA}$	417	$^{\circ}\text{C}/\text{W}$
Operating Junction Temperature Range	T_J	-55 To +150	$^{\circ}\text{C}$
Storage Temperature Range	T_{STG}	-55 To +150	$^{\circ}\text{C}$


Electrical Characteristics ($T_A=25^\circ\text{C}$ unless otherwise specified)

Parameter	Symbol	Conditions	Min.	Typ.	Max.	Unit
On/Off Characteristics						
Drain-Source Breakdown Voltage	BV_{DSS}	$V_{GS}=0V, I_D=-250\mu A$	-50	-	-	V
Drain-Source Leakage Current	I_{DSS}	$V_{DS}=-50V, V_{GS}=0V$	-	-	-1	μA
Gate-Body Leakage	I_{GSS}	$V_{GS}=\pm 12V, V_{DS}=0V$	-	-	± 10	nA
Static Drain-Source On-Resistance ²	$R_{DS(ON)}$	$V_{GS}=-5V, I_D=-0.1A$	-	2.1	10	Ω
Gate Threshold Voltage ²	$V_{GS(th)}$	$V_{GS}=V_{DS}, I_D=-1mA$	-0.8	-1.6	-2	V
Dynamic and Switching Characteristics						
Input Capacitance ³	C_{iss}	$V_{GS}=0V, V_{DS}=-20V,$ $F=1MHz$	-	56	-	pF
Output Capacitance ³	C_{oss}		-	17	-	
Reverse Transfer Capacitance ³	C_{rss}		-	5	-	
Turn-On Delay Time ³	$t_{d(on)}$	$V_{DD}=-30V, R_L=150\Omega$ $V_{GS}=-10V, I_D=-0.2A,$ $R_G=25\Omega$	-	6	-	nS
Turn-Off Delay Time ³	$t_{d(off)}$		-	25	-	

Note:

1. Surface Mounted on FR4 Board, $t \leq 10$ sec
2. Pulse test: pulse width $\leq 300\mu s$, duty cycle $\leq 2\%$.
3. Guaranteed by design.

Typical Electrical and Thermal Characteristic Curves

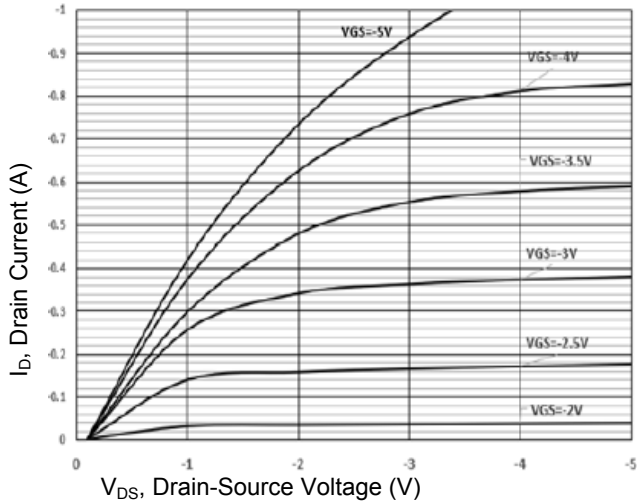


Figure 1. Output Characteristics

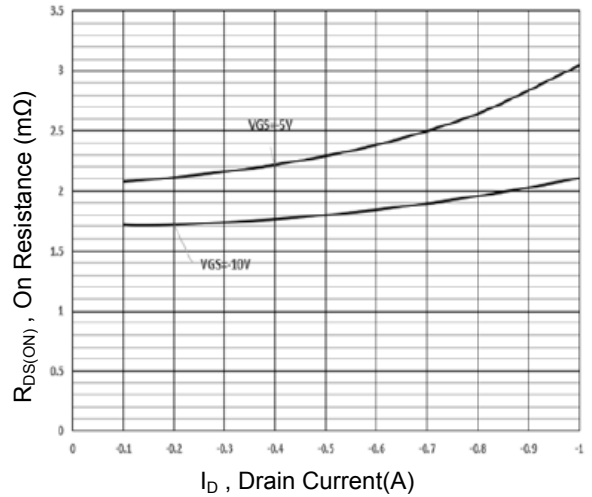


Figure 2. Drain-Source On Resistance

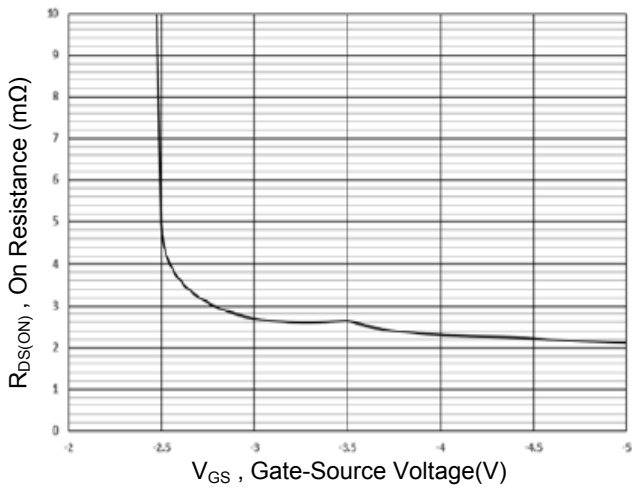


Figure 3. Drain-Source On Resistance

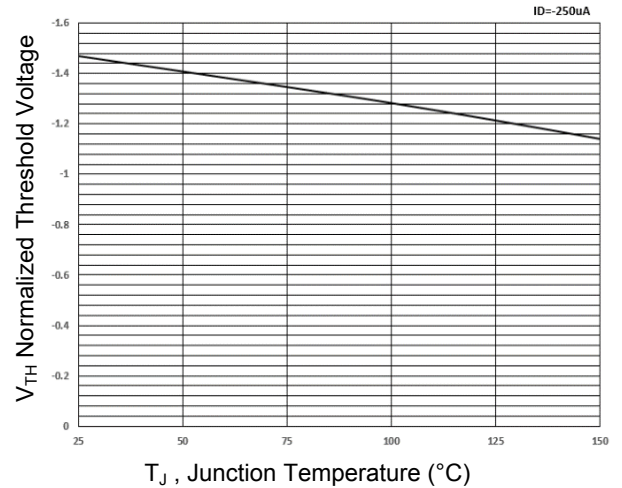


Figure 4. Gate Threshold Voltage

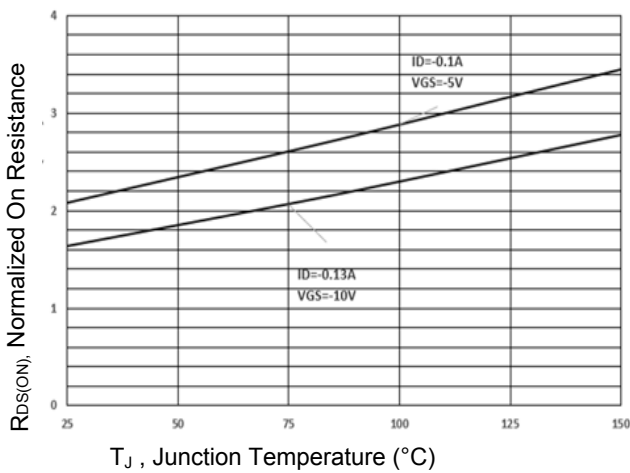


Figure 5. Drain-Source On Resistance

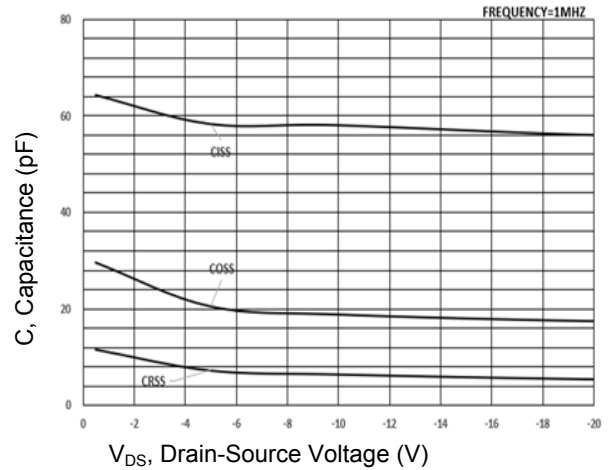
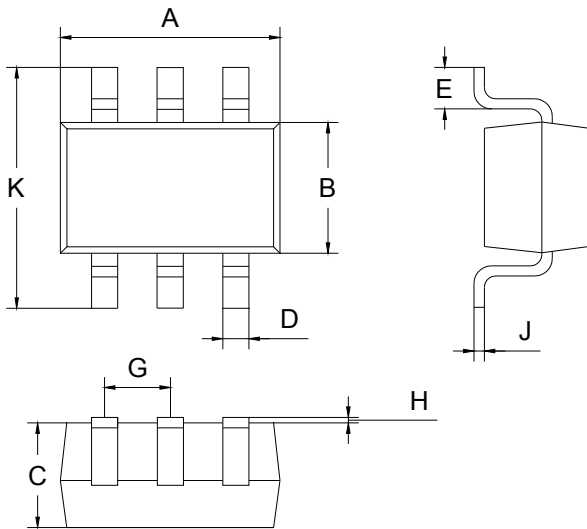


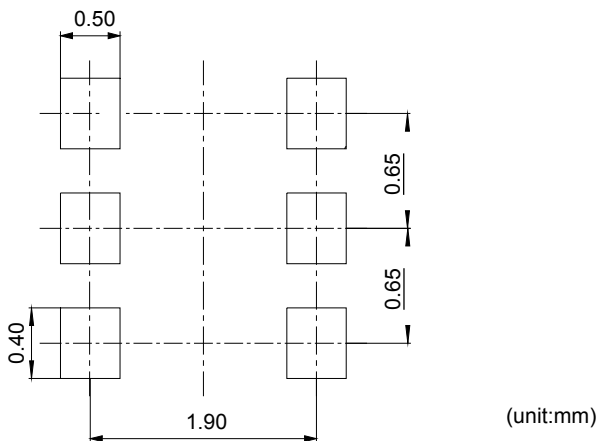
Figure 6. Capacitance

Package Outline Dimensions (SOT-363)



SOT-363 (Unit:mm)		
Dim	M	Max
A	2.0	2.20
B	1.1	1.35
C	0.85	1.05
D	0.1	0.35
E	0.2	0.40
G	0.6	0.70
H	0.0	0.10
J	0.0	0.15
K	2.2	2.40

Recommended Pad Layout



Order Information

Device	Package	Marking Code	Carrier	Quantity	HSF Status
GSFK0501	SOT-363	K84	Tape & Reel	3,000/Reel	RoHS Compliant