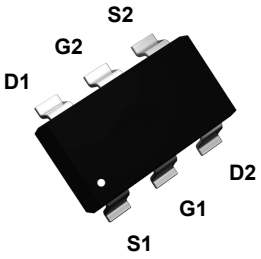
GSFK6802KL

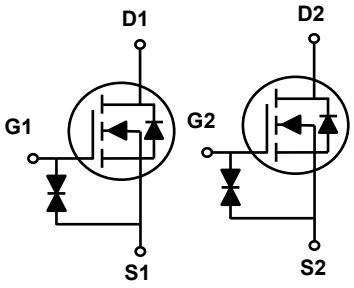
60V Dual N-Channel MOSFETs

Main Product Characteristics

$V_{(BR)DSS}$	60V
$R_{DS(ON)}$	1.5Ω (Max.)
I_D	0.34A



SOT-363



Schematic Diagram

Features and Benefits

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

Description

The GSFK6802KL 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 supplies and a wide variety of other applications.

Absolute Maximum Ratings (T_A=25°C unless otherwise specified)

Parameter	Symbol	Value	Unit
Drain-Source Voltage	V_{DS}	60	V
Gate-Source Voltage	V_{GS}	±20	V
Drain Current-Continuous	I_D	0.34	A
Drain Current-Continuous @ T_A=70°C		0.28	
Drain Current-Pulsed[1]	I_{DM}	1.36	A
Thermal Resistance Junction to Ambient[2]	$R_{\theta JA}$	310	°C/W
Maximum Power Dissipation	P_D	440	mW
Operating Junction and Storage Temperature Range	T_J, T_{STG}	-55 to +150	°C

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

Parameter	Symbol	Condition	Min	Typ	Max	Unit
On / Off Characteristics						
Drain-Source Breakdown Voltage	BV_{DSS}	V_{GS}=0V, I_D=250μA	60	-	-	V
Zero Gate Voltage Drain Current	I_{DSS}	V_{DS}=60V, V_{GS}=0V	-	-	1	μA
Gate-Body Leakage Current	I_{GSS}	V_{GS}=±5V, V_{DS}=0V	-	-	100	nA
		V_{GS}=±10V, V_{DS}=0V	-	-	100	nA
		V_{GS}=±20V, V_{DS}=0V	-	-	100	nA
Gate-Source Breakdown Voltage	BV_{GSO}	V_{DS}=0V, I_G=±250uA	±20	-	-	V
Gate Threshold Voltage[3]	$V_{GS(th)}$	V_{DS}=V_{GS}, I_D=250μA	0.5	0.8	1.1	V
Drain-Source On-State Resistance[3]	$R_{DS(ON)}$	V_{GS}=10V, I_D=0.3A	-	0.9	1.5	Ω
		V_{GS}=4.5V, I_D=0.2A	-	1.2	2.0	
		V_{GS}=2.5V, I_D=0.1A	-	1.4	2.5	
Forward Transconductance[3]	gfs	V_{DS}=10V, I_D=0.2A	0.09	-	-	S
Dynamic and Switching Characteristics						
Input Capacitance[4]	C_{iss}	V_{DS}=25V, V_{GS}=0V, F=1.0MHz	-	30	-	pF
Output Capacitance[4]	C_{oss}		-	6.1	-	
Reverse Transfer Capacitance[4]	C_{rss}		-	3.1	-	
Turn-On Delay Time[4]	$t_{d(on)}$	V_{DD}=30V, V_{GS}=10V, R_{GEN}=6Ω, I_D=0.3A	-	4.0	-	nS
Rise Time[4]	t_r		-	2.7	-	
Turn-Off Delay Time[4]	$t_{d(off)}$		-	9.4	-	
Fall Time[4]	t_f		-	33	-	
Total Gate Charge[4]	Q_g	V_{DS}=10V, I_D=0.3A, V_{GS}=10V	-	1.6	-	nC
Gate to Source Charge[4]	Q_{gs}		-	0.3	-	
Gate to Drain Charge[4]	Q_{gd}		-	0.45	-	
Drain-Source Ratings and Characteristics						
Diode Forward Voltage[3]	V_{SD}	V_{GS}=0V, I_S=0.2A	-	-	1.3	V
Reverse Recovery Time	t_{rr}	I_F=0.5A, dI/dt=100A/us, V_R=10V	-	8.2	-	nS
Reverse Recovery Charge	Q_{rr}		-	3.2	-	nC

Notes:
1. Repetitive rating: Pulsed width limited by maximum junction temperature.
2. Surface mounted on FR4 board, t ≤10 sec
3. Pulse test: pulse width ≤300uS, duty cycle ≤2%.
4. Guaranteed by design, not subject to production testing.

Typical Electrical and Thermal Characteristic Curves

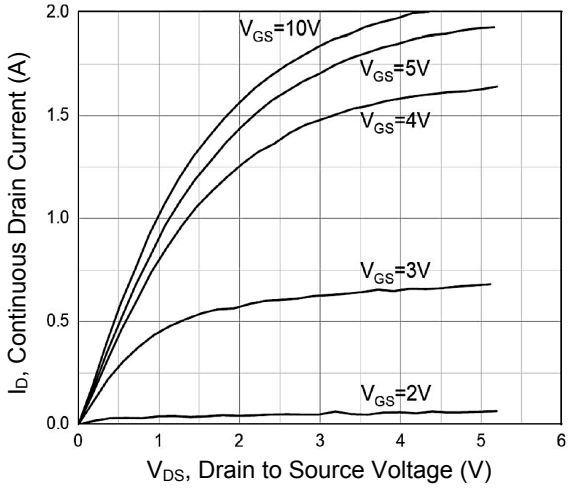


Figure 1. Typical Output Characteristics

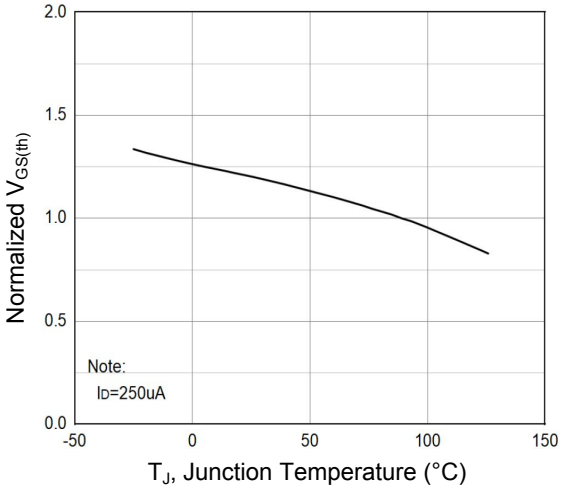


Figure 2. Normalized Threshold Voltage vs. T_J

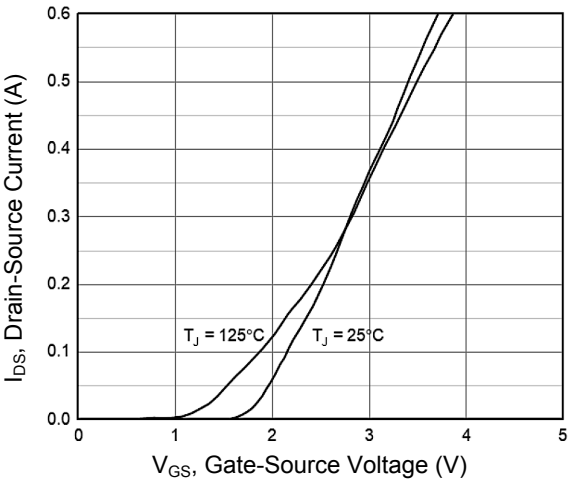


Figure 3. Typical Transfer Characteristics

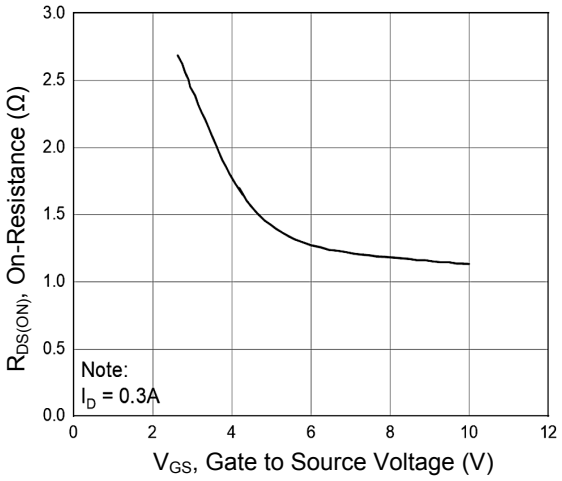


Figure 4. $R_{DS(ON)}$ vs. V_{GS}

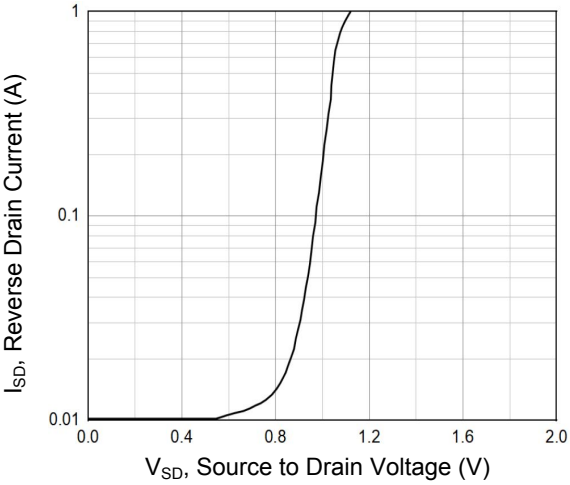


Figure 5. Typical Source-Drain Diode Forward Voltage

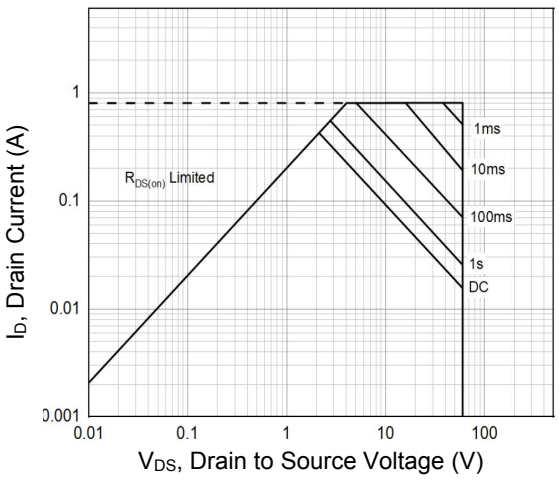


Figure 6. Maximum Safe Operating Area

Typical Electrical and Thermal Characteristic Curves

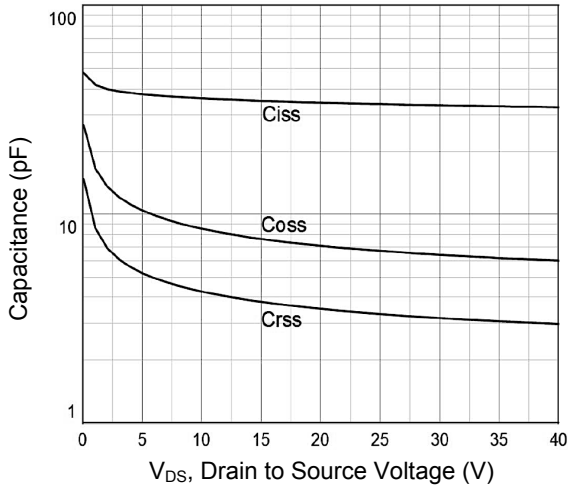


Figure 7. Capacitance Characteristics

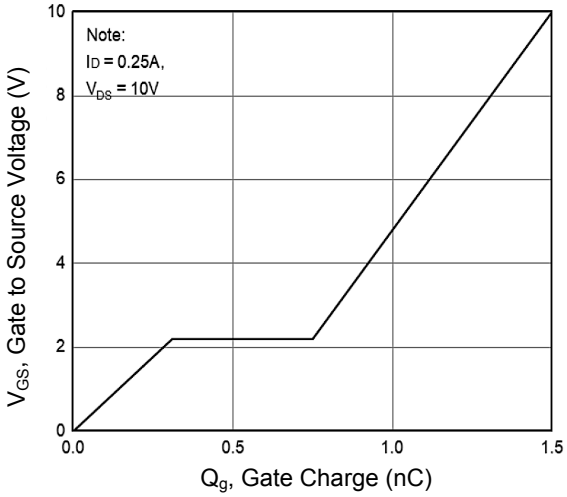
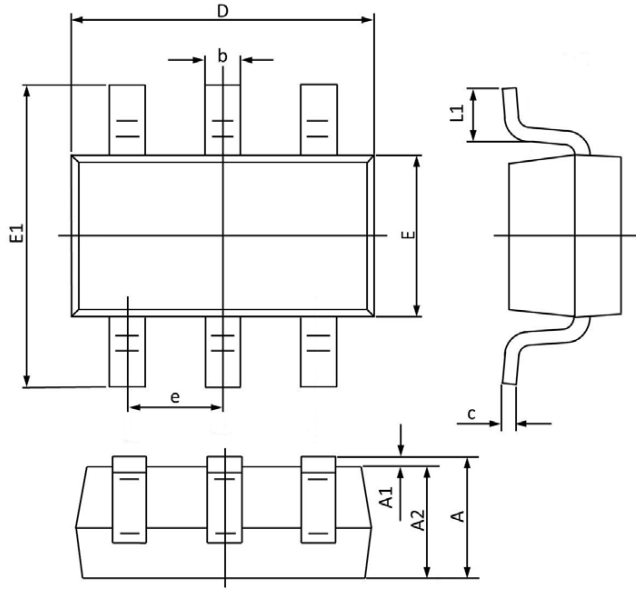


Figure 8. Gate Charge Characteristics

Package Outline Dimensions (SOT-363)



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min	Max	Min	Max
A	0.800	1.100	0.031	0.043
A1	0.000	0.100	0.000	0.004
A2	0.800	1.000	0.031	0.039
b	0.100	0.350	0.004	0.014
c	0.080	0.250	0.003	0.010
D	1.800	2.200	0.071	0.087
E	1.150	1.350	0.045	0.053
E1	1.800	2.450	0.071	0.096
e	0.650 BSC		0.026 BSC	
L1	0.100	0.460	0.004	0.018

Order Information

Device	Package	Marking	Packaging	SPQ
GSFK6802KL	SOT-363	.6LK	Tape & Reel	3,000 Pcs / Reel