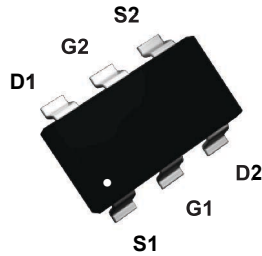
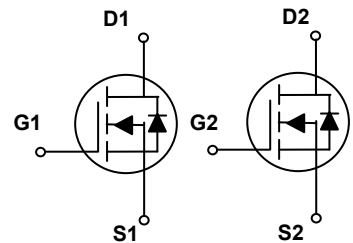


Main Product Characteristics

V_{DS}	60V
$R_{DS(ON)}$	4.0Ω (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 GSFK6802H 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 ($T_A=25^{\circ}\text{C}$ 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 (70°C)		0.28	
Pulsed Drain Current ¹	I_{DM}	1.36	A
Maximum Power Dissipation	P_D	180	mW
Thermal Resistance, Junction to Ambient ²	$R_{\theta JA}$	695	$^{\circ}\text{C/W}$
Operating Junction and Storage Temperature Range	T_J, T_{STG}	-55 To +150	$^{\circ}\text{C}$

Electrical Characteristics ($T_A=25^\circ\text{C}$ 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	1.0	1.45	2.5	V
Drain-Source On-State Resistance ³	R _{DS(ON)}	V _{GS} =10V, I _D =0.5A	-	-	4	Ω
		V _{GS} =4.5V, I _D =0.2A	-	-	4.5	
Forward Transconductance ³	g _{fs}	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	-	
Reverse Transfer Capacitance ⁴	C _{rss}		-	3	-	
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, d _i /d _t =100A/us, V _R =10V	-	8.2	-	nS
Reverse Recovery Charge	Q _{rr}		-	3.2	-	nC

Note:

1. Repetitive rating: Pulse width limited by maximum junction temperature.
2. Surface mounted on FR4 Board, $t \leq 10$ sec.
3. Pulse test: Pulse width $\leq 300\mu s$, duty cycle $\leq 2\%$.
4. Guaranteed by design, not subject to production testing.

Typical Electrical and Thermal Characteristic Curves

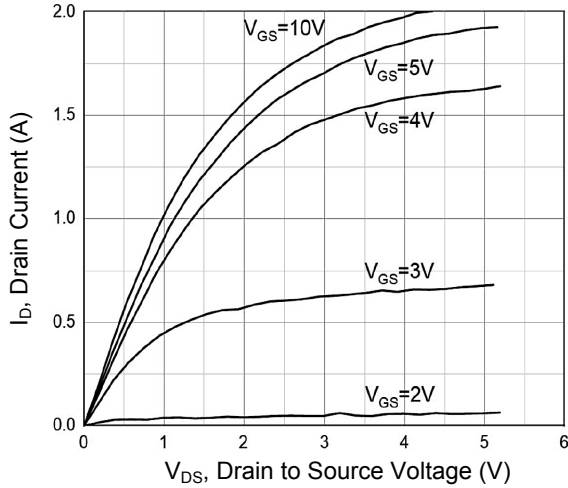


Figure 1. Output Characteristics

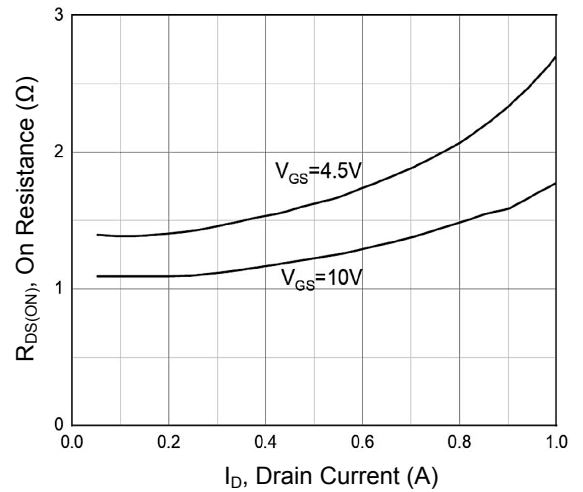


Figure 2. Drain to Source On-Resistance

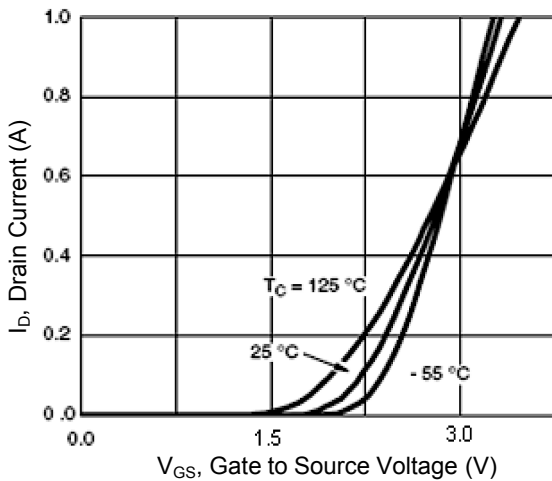


Figure 3. Transfer Characteristics

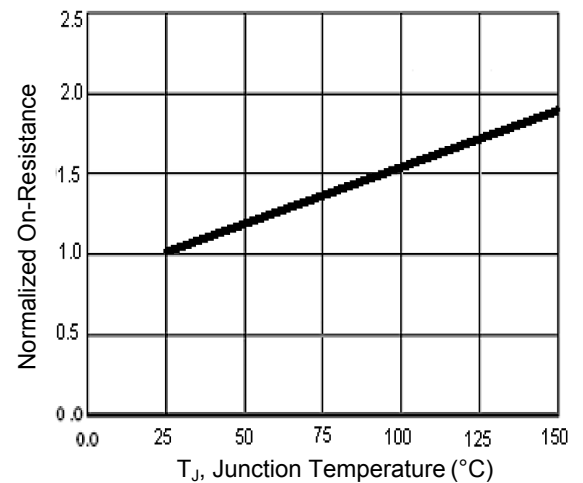


Figure 4. Drain to Source On-Resistance

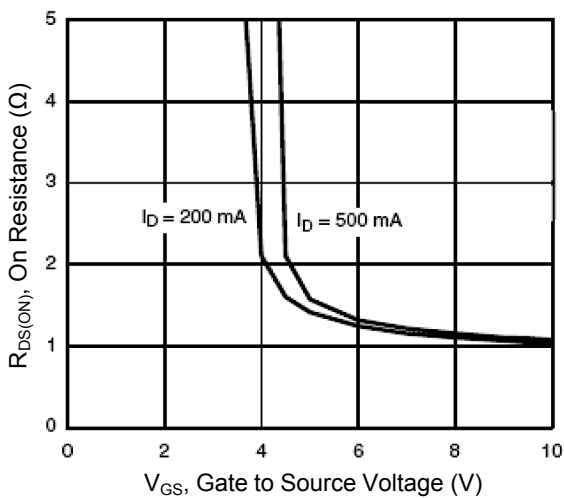


Figure 5. $R_{DS(ON)}$ vs. V_{GS}

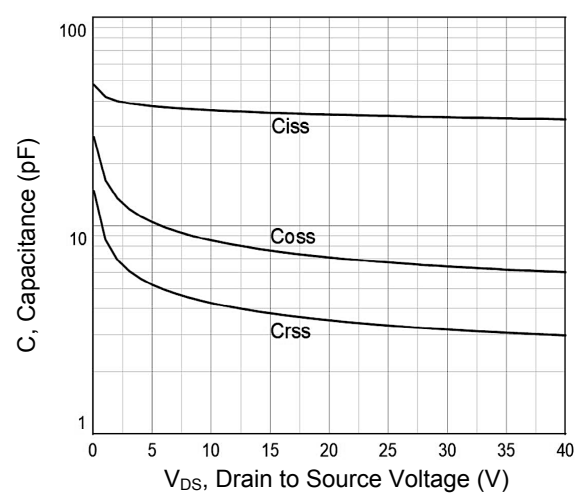


Figure 6. Capacitance vs. V_{DS}

Typical Electrical and Thermal Characteristic Curves

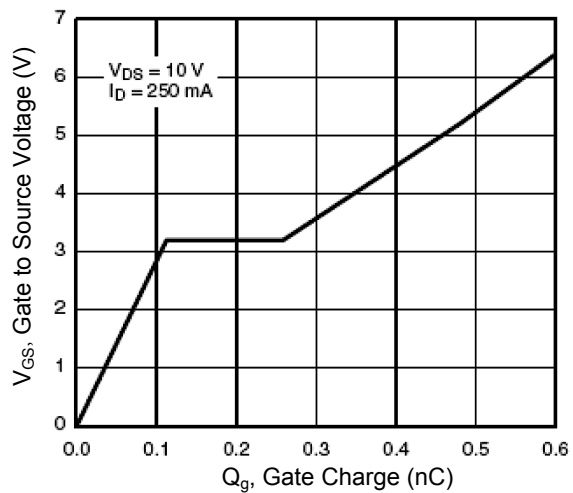


Figure 7. Gate Charge

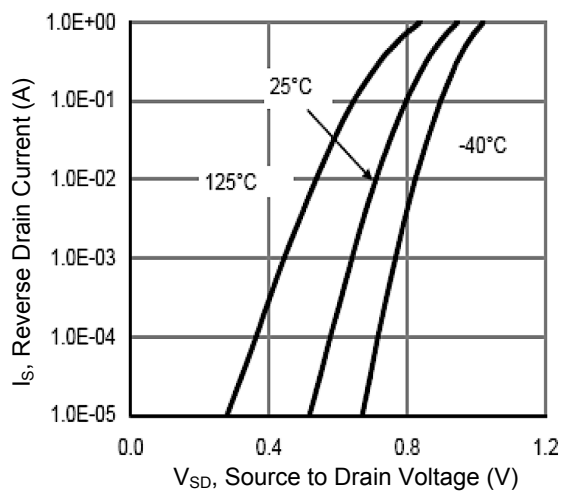
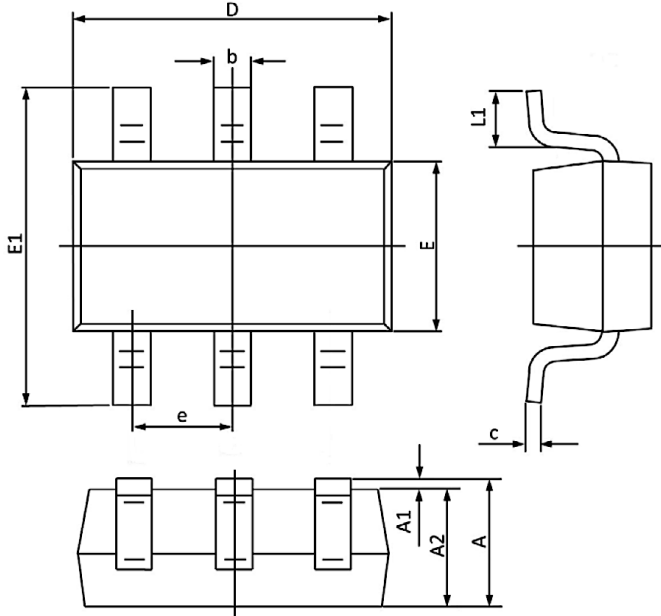


Figure 8. Source to Drain Diode Forward Voltage

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
GSFK6802H	SOT-363	6dK	Tape & Reel	3,000 Pcs / Reel