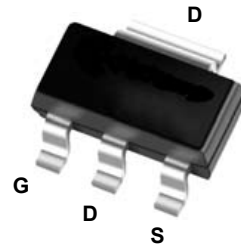
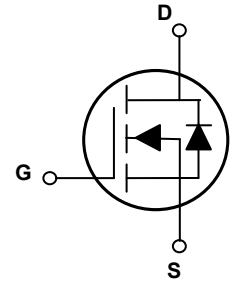


Main Product Characteristics

$V_{(BR)DSS}$	100V
$R_{DS(ON)}$	284mΩ (Max.)
I_D	3A



SOT-223



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 GSFL28110 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 ($T_J=25^{\circ}\text{C}$ unless otherwise specified)

Parameter	Symbol	Value	Unit
Drain-Source Voltage	V_{DS}	100	V
Gate-to-Source Voltage	V_{GS}	± 20	V
Continuous Drain Current, @ Steady-State ($T_C=25^{\circ}\text{C}$)	I_D	3.0	A
Continuous Drain Current, @ Steady-State ($T_C=100^{\circ}\text{C}$)		1.8	A
Pulsed Drain Current ($T_C=25^{\circ}\text{C}$) ¹	I_{DM}	12	A
Power Dissipation ($T_C=25^{\circ}\text{C}$)	P_D	2.5	W
Thermal Resistance, Junction-to-Ambient (PCB Mounted, Steady-State)	$R_{\theta JA}$	62	$^{\circ}\text{C}/\text{W}$
Operating Junction and Storage Temperature Range	T_J/T_{STG}	-55 to +150	$^{\circ}\text{C}$
Soldering Temperature (SMD)	T_{sold}	260	$^{\circ}\text{C}$

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

Parameter	Symbol	Conditions	Min.	Typ.	Max.	Unit
On / Off Characteristics						
Drain-Source Breakdown Voltage	BV_{DSS}	$V_{GS}=0V, I_D=250\mu A$	100	-	-	V
BV_{DSS} Temperature Coefficient	$\Delta BV_{DSS}/\Delta T_J$	Reference to 25°C , $I_D=1mA$	-	0.1	-	$V/^\circ\text{C}$
Drain-Source Leakage Current	I_{DSS}	$V_{DS}=100V, V_{GS}=0V, T_J=25^\circ\text{C}$	-	-	1	μA
		$V_{DS}=80V, V_{GS}=0V, T_J=125^\circ\text{C}$	-	-	10	μA
Gate-Source Leakage Current	I_{GSS}	$V_{GS}=\pm 20V, V_{DS}=0V$	-	-	± 100	nA
Static Drain-Source On-Resistance	$R_{DS(ON)}$	$V_{GS}=10V, I_D=2A$	-	220	284	m Ω
		$V_{GS}=4.5V, I_D=1A$	-	240	400	
Gate Threshold Voltage	$V_{GS(th)}$	$V_{DS}=V_{GS}, I_D=250\mu A$	1.1	-	2.9	V
$V_{GS(th)}$ Temperature Coefficient	$\Delta V_{GS(th)}$		-	-4	-	$mV/^\circ\text{C}$
Forward Transconductance	gfs	$V_{DS}=10V, I_D=1A$	-	2	-	S
Dynamic and Switching Characteristics						
Total Gate Charge ^{2,3}	Q_g	$V_{DS}=50V, I_D=2A, V_{GS}=10V$	-	13.4	-	nC
Gate-Source Charge ^{2,3}	Q_{gs}		-	2.9	-	
Gate-Drain Charge ^{2,3}	Q_{gd}		-	1.7	-	
Turn-On Delay Time ^{2,3}	$t_{d(on)}$	$V_{DD}=30V, R_G=3.3\Omega, V_{GS}=10V, I_D=1A$	-	1.6	-	nS
Rise Time ^{2,3}	t_r		-	6.6	-	
Turn-Off Delay Time ^{2,3}	$t_{d(off)}$		-	11.5	-	
Fall Time ^{2,3}	t_f		-	3.6	-	
Input Capacitance	C_{iss}	$V_{DS}=50V, V_{GS}=0V, F=1MHz$	-	820	-	pF
Output Capacitance	C_{oss}		-	35	-	
Reverse Transfer Capacitance	C_{rss}		-	20	-	
Gate Resistance	R_g	$V_{GS}=0V, V_{DS}=0V, F=1MHz$	-	1.3	-	Ω
Drain-Source Ratings and Characteristics						
Continuous Source Current	I_S	$V_G=V_D=0V, \text{Force Current}$	-	-	3.0	A
Pulsed Source Current	I_{SM}		-	-	6.0	A
Diode Forward Voltage	V_{SD}	$V_{GS}=0V, I_S=1A, T_J=25^\circ\text{C}$	-	-	1.0	V

Notes:

1. Repetitive rating: Pulsed width limited by maximum junction temperature.
2. The data tested by pulsed, pulse width $\leq 300\mu s$, duty cycle $\leq 2\%$.
3. Essentially independent of operating temperature.

Typical Electrical and Thermal Characteristic Curves

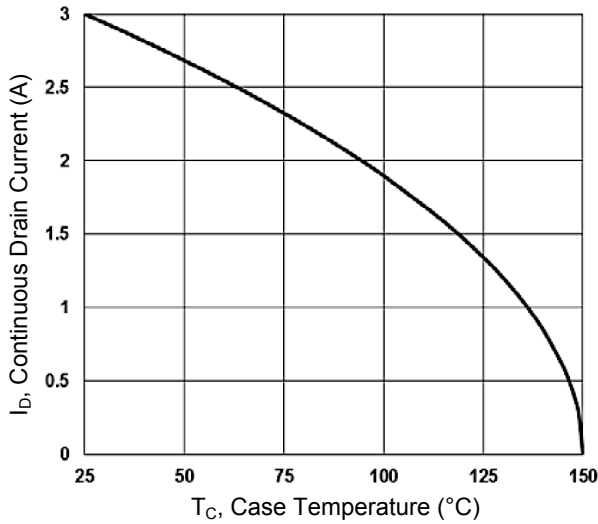


Figure 1. Continuous Drain Current vs. T_c

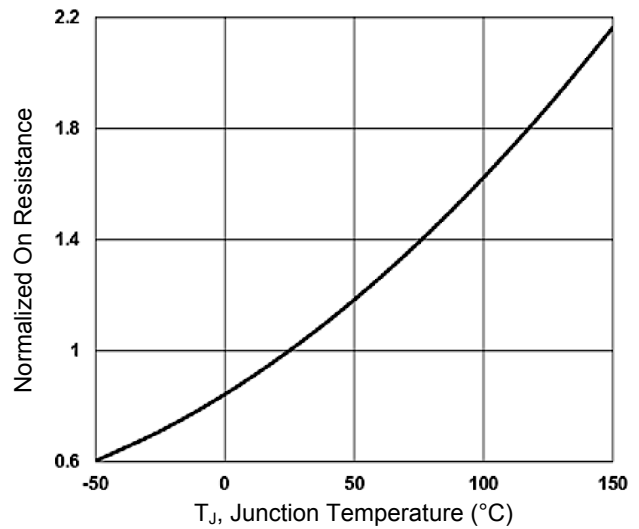


Figure 2. Normalized R_{DS(ON)} vs. T_j

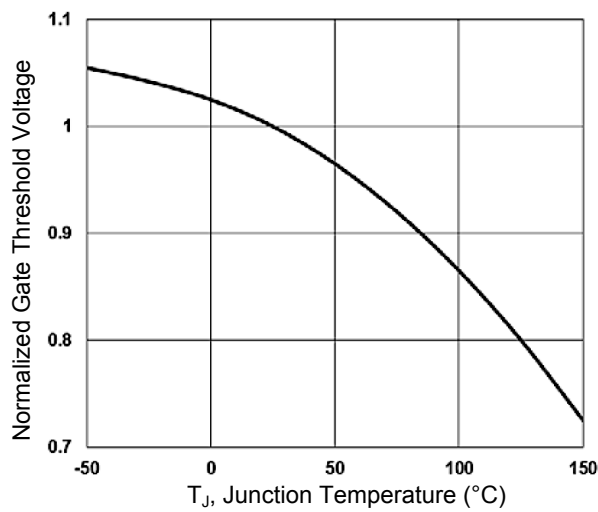


Figure 3. Normalized V_{th} vs. T_j

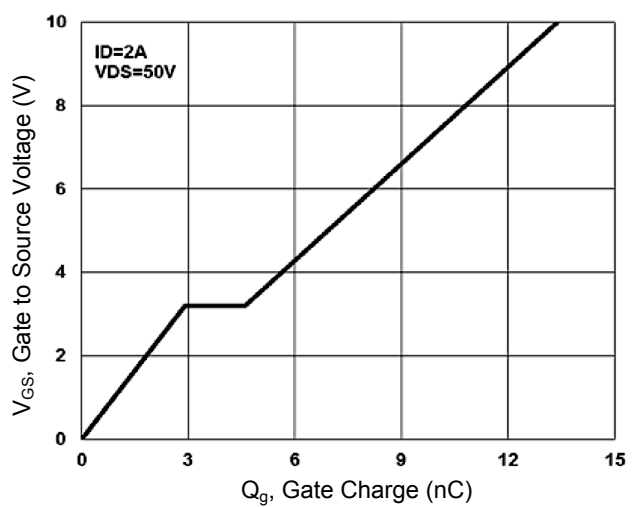


Figure 4. Gate Charge Waveform

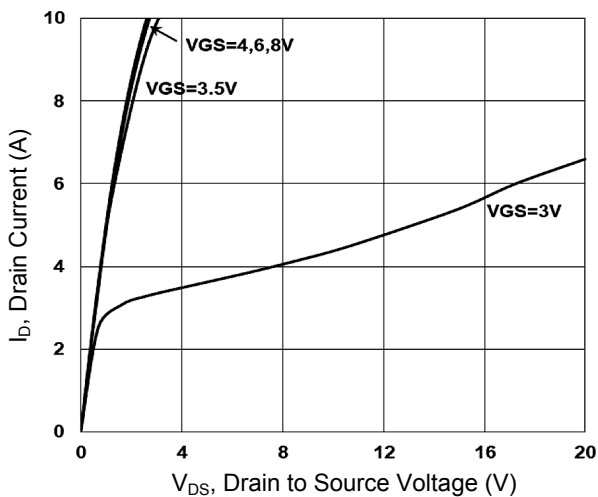


Figure 5. Typical Output Characteristics

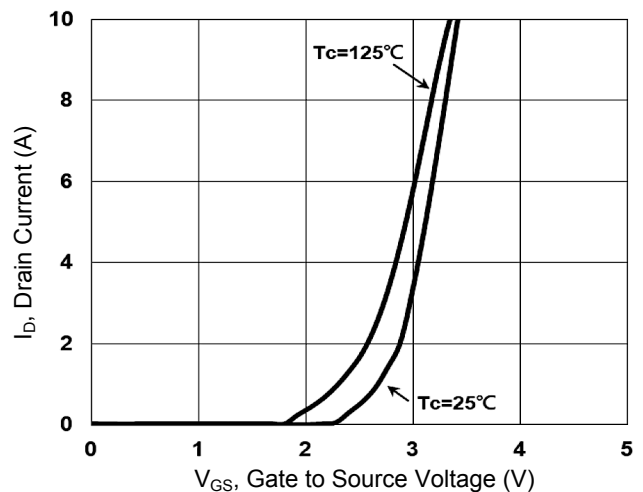
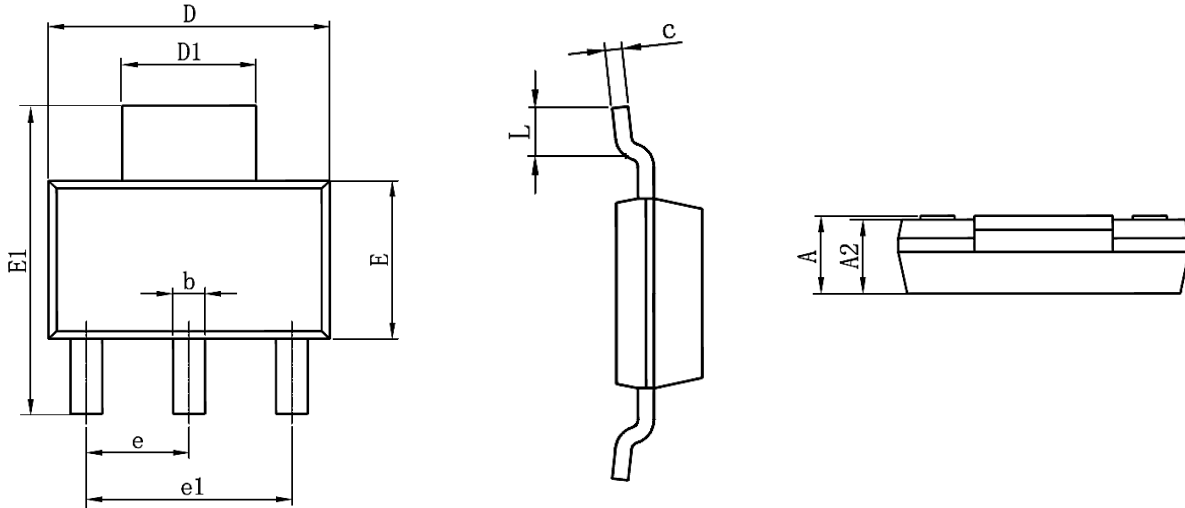


Figure 6. Transfer Characteristics

Package Outline Dimensions (SOT-223)



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min	Max	Min	Max
A	1.50	1.80	0.059	0.071
A2	1.45	1.80	0.057	0.071
b	0.60	0.84	0.024	0.033
c	0.20	0.35	0.008	0.014
D	6.20	6.70	0.244	0.264
D1	2.90	3.10	0.114	0.122
E	3.30	3.70	0.130	0.146
E1	6.70	7.30	0.264	0.287
e	2.30 TYP		0.091 TYP	
e1	4.40	4.70	0.173	0.185
L	0.70	1.10	0.028	0.043

Order Information

Device	Package	Marking	Packaging	SPQ
GSFL28110	SOT-223	L28110	Tape & Reel	3,000 Pcs / Reel