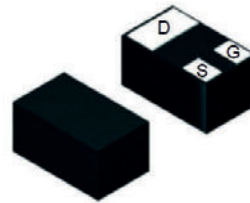
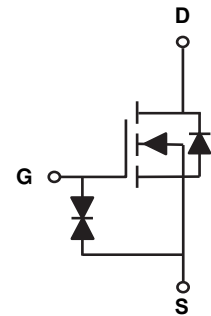


Main Product Characteristics

$V_{(BR)DSS}$	20V
$R_{DS(ON)}$	380m Ω (max.)
I_D	0.75A



SOT-883



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 GSFW0200 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}	20	V
Gate-Source Voltage	V_{GS}	± 12	V
Drain Current-Continuous ¹	I_D	0.75	A
Pulsed Drain Current	I_{DM}	1.8	A
Power Dissipation ¹	P_D	0.15	W
Thermal Resistance from Junction to Ambient ¹	$R_{\theta JA}$	833	$^{\circ}\text{C}/\text{W}$
Junction Temperature	T_J	150	$^{\circ}\text{C}$
Storage Temperature	T_{stg}	-55 to +150	$^{\circ}\text{C}$

Electrical Characteristics (@ 25°C unless otherwise specified)

Parameter	Symbol	Test Conditions	Min	Typ	Max	Units
On / Off Characteristics						
Drain-Source Breakdown Voltage	$V_{(BR)DSS}$	$V_{GS}=0V, I_D=250\mu A$	20	-	-	V
Gate-Threshold Voltage ²	$V_{GS(th)}$	$V_{DS}=V_{GS}, I_D=250\mu A$	0.35	-	1.1	V
Zero Gate Voltage Drain Current	I_{DSS}	$V_{DS}=20V, V_{GS}=0V$	-	-	1.0	μA
Gate-Body Leakage Current	I_{GSS}	$V_{GS} = \pm 10V, V_{DS}=0V$	-	-	± 20	μA
Drain-Source On-Resistance ²	$R_{DS(ON)}$	$V_{GS}=4.5V, I_D=0.65A$	-	-	380	m Ω
		$V_{GS}=2.5V, I_D=0.55A$	-	-	450	m Ω
		$V_{GS}=1.8V, I_D=0.45A$	-	-	800	m Ω
Forward Transconductance	g_{fs}	$V_{DS} = 10V, I_D = 0.8A$	-	1.6	-	S
Dynamic and Switching Characteristics⁴						
Input Capacitance	C_{iss}	$V_{DS}=16V, V_{GS}=0V, F=1MHz$	-	79	120	pF
Output Capacitance	C_{oss}		-	13	30	
Reverse Transfer Capacitance	C_{rss}		-	9	10	
Turn-on Delay Time ³	$t_{d(on)}$	$V_{GS}=4.5V, V_{DS}=10V, I_D=0.5A, R_{GEN}=10\Omega$	-	6.7	-	nS
Turn-on Rise Time ³	t_r		-	4.8	-	
Turn-off Delay Time ³	$t_{d(off)}$		-	17.3	-	
Turn-off Fall Time ³	t_f		-	7.4	-	
Source-Drain Ratings and Characteristics⁴						
Diode Forward Voltage ³	V_{SD}	$I_S=0.15A, V_{GS}=0V$	-	-	1.2	V

Notes:

1. Surface mounted on FR4 board using the minimum recommended pad size.
2. Pulse test: pulse width=300 μs , duty cycle=2%.
3. Switching characteristics are independent of operating junction temperatures.
4. Guaranteed by design, not subject to producing test.

Typical Characteristics

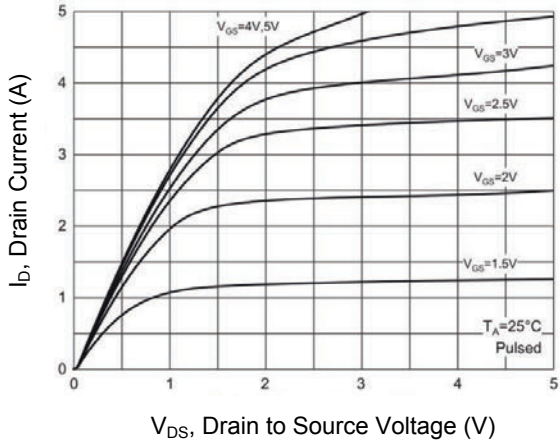


Figure 1. Output Characteristics

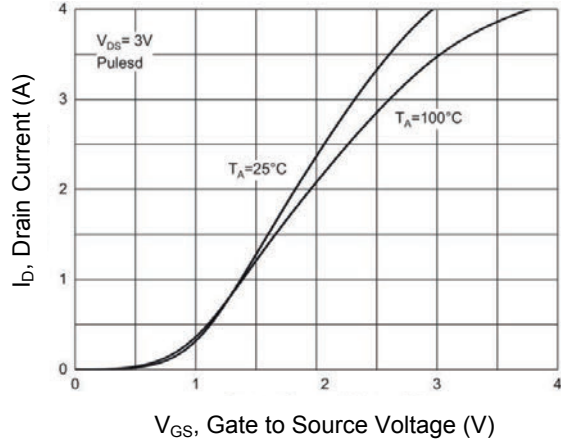


Figure 2. Transfer Characteristics

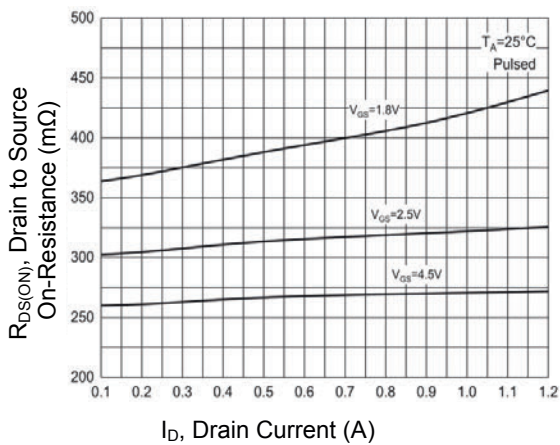


Figure 3. On-Resistance vs. Drain Current

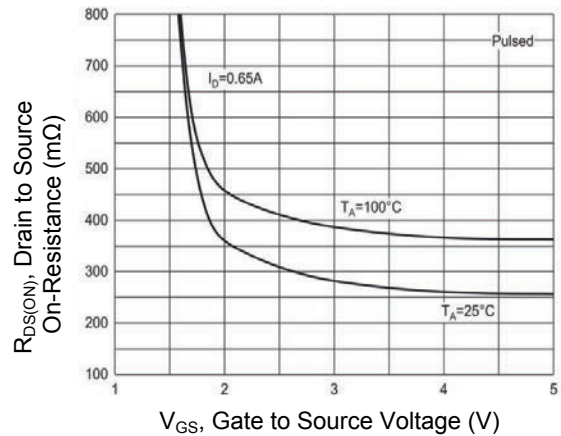


Figure 4. On-Resistance vs. Gate-Source Voltage

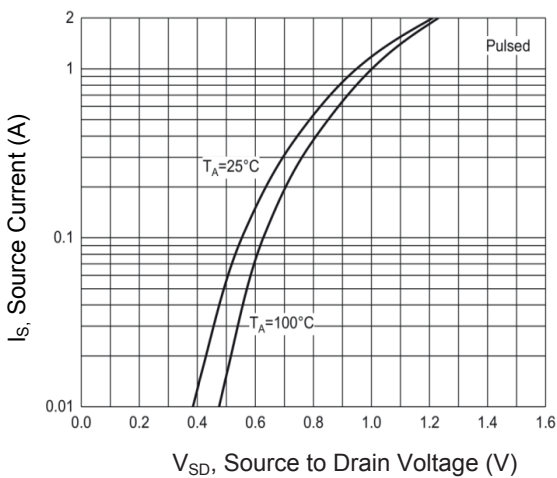


Figure 5. Source Current vs. Source to Drain Voltage

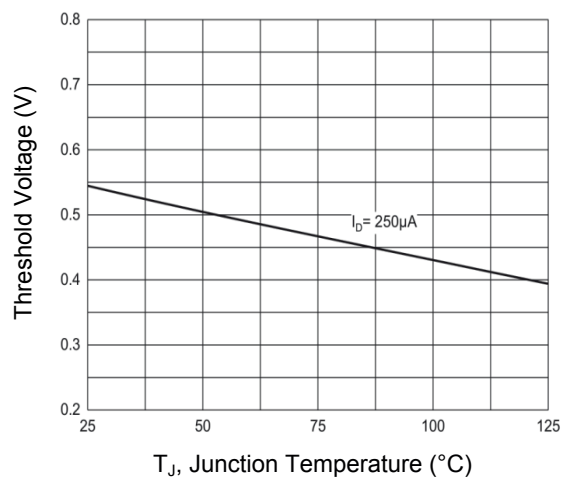
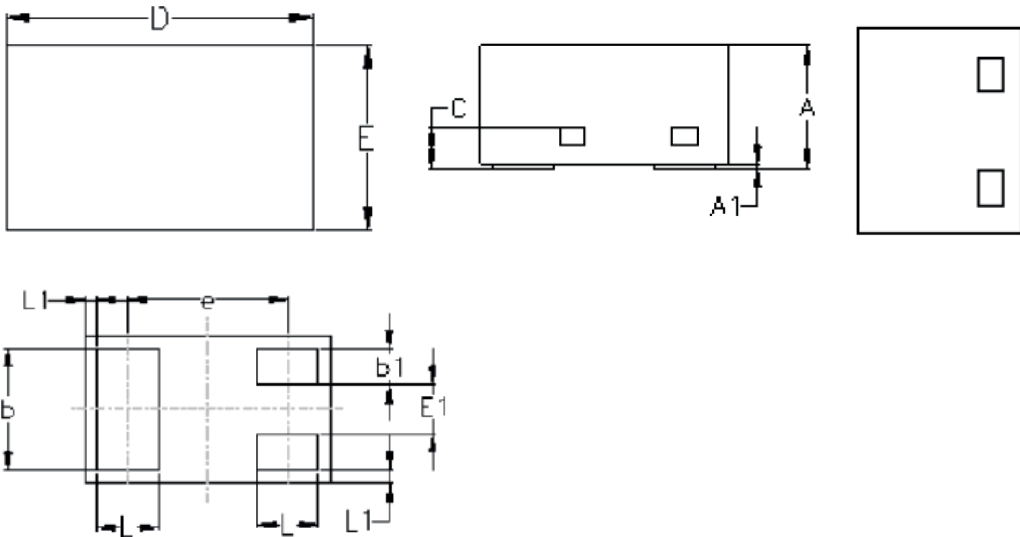


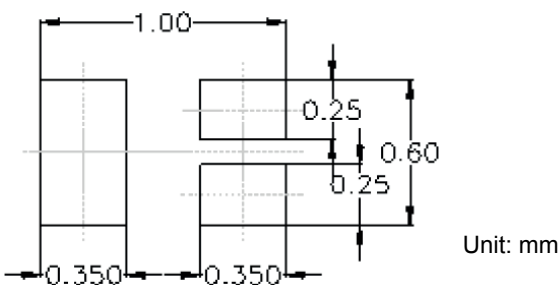
Figure 6. Threshold Voltage

Package Outline Dimensions (SOT-883)



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min.	Max.	Min.	Max.
A	0.45	0.55	0.018	0.022
A1	0.00	0.05	0.000	0.002
b	0.45	0.55	0.018	0.022
b1	0.10	0.20	0.004	0.008
C	0.12	0.18	0.005	0.007
D	0.95	1.05	0.037	0.041
E	0.55	0.65	0.022	0.026
E1	0.15	0.25	0.006	0.010
e	0.65 BSC		0.026 BSC	
L	0.20	0.30	0.008	0.012
L1	0.05 REF		0.002 REF	

Recommended Pad Layout



Order Information

Device	Package	Marking	Carrier	Quantity
GSFW0200	SOT-883	34	Tape & Reel	10,000 pcs / 7" Reel