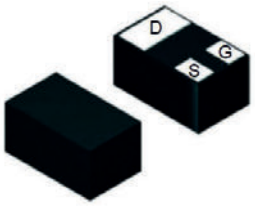
GOOD-ARK SEMICONDUCTOR

GSFW0600

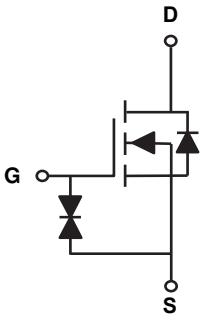
60V N-Channel MOSFET

Main Product Characteristics

$V_{(BR)DSS}$	60V
$R_{DS(ON)}$	3.0Ω (max.)
I_D	0.34A



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 GSFW0600 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[1]	I_D	0.34	A
Pulsed Drain Current (V_{GS}=10V, t_p=10us)[1]	I_{DM}	800	mA
Power Dissipation	P_D	0.35	W
Thermal Resistance from Junction to Ambient	$R_{\theta JA}$	357	℃/W
Junction Temperature	T_J	150	℃
Storage Temperature	T_{stg}	-55 to +150	℃

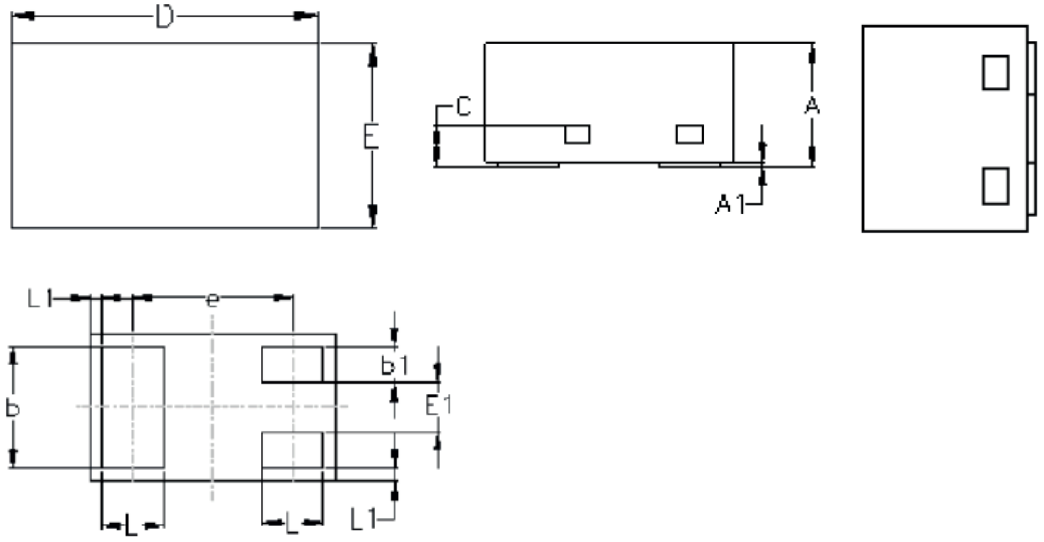
Note:

1. Surface mounted on 1 in^2 pad area, t ≤ 10 sec.

Electrical Characteristics (@ 25°C unless otherwise specified)

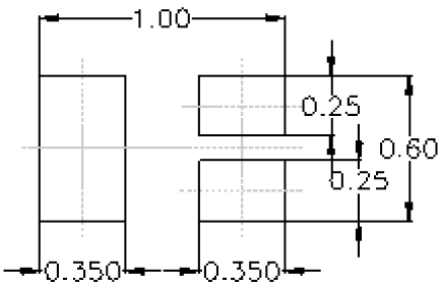
Parameter	Symbol	Test Conditions	Min	Typ	Max	Units
On / Off Characteristics						
Drain-Source Breakdown Voltage	$V_{(BR)DSS}$	V_{GS}=0V, I_D=10uA	60	-	-	V
Gate Threshold Voltage	$V_{GS(th)}$	V_{DS}=V_{GS}, I_D=250uA	1.0	-	2.5	V
Gate Leakage Current	I_{GSS}	V_{DS}=0V, V_{GS}=±20V	-	-	±10	uA
		V_{DS}=0V, V_{GS}=±5V	-	-	±100	nA
Drain Leakage Current	I_{DSS}	V_{DS}=60V, V_{GS}=0V	-	-	1	uA
On-State Resistance	$R_{DS(ON)}$	V_{GS}=10V, I_D=500mA,	-	-	3.0	Ω
		V_{GS}=4.5V, I_D=200mA	-	-	4.0	
Forward Transconductance	gfs	V_{DS}=10V, I_D=200mA	80	-	-	mS
Dynamic and Switching Characteristics						
Input Capacitance	C_{iss}	V_{GS}=0V, V_{DS}=25V, F=1MHz	-	28	-	pF
Output Capacitance	C_{oss}		-	1.6	-	
Reverse Transfer Capacitance	C_{rss}		-	1.1	-	
Turn-on Delay Time	$t_{d(on)}$	V_{DS}=30V, R_L=150Ω, R_G=3.9Ω, V_{GEN}=10V, I_{DS}=200mA	-	3.8	-	nS
Turn-on Rise Time	t_r		-	3.5	-	
Turn-off Delay Time	$t_{d(off)}$		-	12.4	-	
Turn-off Fall Time	t_f		-	44.4	-	
Total Gate Charge	Q_g	V_{GS}=10V, I_{DS}=500mA, V_{DS}=30V	-	1.2	-	nC
Gate-Source Charge	Q_{gs}		-	0.5	-	
Gate-Drain Charge	Q_{gd}		-	0.1	-	
Source-Drain Ratings and Characteristics						
Diode Forward Voltage	V_{SD}	V_{GS}=0V, I_S=200mA	-	-	1.3	V

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



Unit: mm

Order Information

Device	Package	Marking	Carrier	Quantity
GSFW0600	SOT-883	RK	Tape & Reel	10,000 pcs / 7" Reel