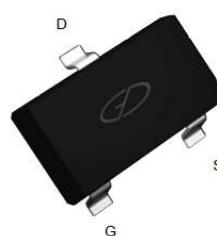
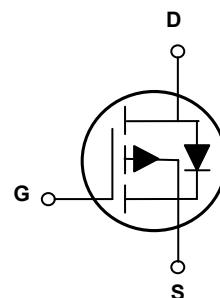


Main Product Characteristics

$V_{(BR)DSS}$	-30V
$R_{DS(ON)}$	80mΩ
I_D	-3.0A



SOT-23



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 SSF3365 utilizes the latest techniques to achieve ultra high cell density and low on-resistance. These features make this device extremely efficient and reliable for use in battery protection, load switch, power management and a wide variety of other applications.

Absolute Maximum Ratings ($T_A=25^\circ\text{C}$ unless otherwise specified)

Parameter	Symbol	Limit	Unit
Drain-Source Voltage	V_{DS}	-30	V
Gate-Source Voltage	V_{GS}	± 20	V
Drain Current-Continuous@ Current-Pulsed (Note 1)	I_D (25°C)	-3	A
	I_D (70°C)	-2.5	A
	I_{DM}	-12	A
Maximum Power Dissipation	P_D	1.25	W
Operating Junction and Storage Temperature Range	T_J, T_{STG}	-55 To 150	$^\circ\text{C}$

THERMAL CHARACTERISTICS

Thermal Resistance, Junction-to-Ambient (Note 2)	$R_{\theta JA}$	100	$^\circ\text{C/W}$
--	-----------------	-----	--------------------

ELECTRICAL CHARACTERISTICS (T_A=25°C unless otherwise noted)

Parameter	Symbol	Condition	Min	Typ	Max	Unit
OFF CHARACTERISTICS						
Drain-Source Breakdown Voltage	BV _{DSS}	V _{GS} =0V I _D =-250μA	-30			V
Zero Gate Voltage Drain Current	I _{DSS}	V _{DS} =-24V, V _{GS} =0V			-1	μA
Gate-Body Leakage Current	I _{GSS}	V _{GS} =±20V, V _{DS} =0V			±100	nA
ON CHARACTERISTICS (Note 3)						
Gate Threshold Voltage	V _{GS(th)}	V _{DS} =V _{GS} , I _D =-250μA	-1			V
Drain-Source On-State Resistance	R _{DS(ON)}	V _{GS} =-10V, I _D =-3A		64	80	mΩ
		V _{GS} =-4.5V, I _D =-2.5A		100	140	
Forward Transconductance	g _{Fs}	V _{DS} =-10V, I _D =-3A	3			S
DYNAMIC CHARACTERISTICS (Note 4)						
Input Capacitance	C _{iss}	V _{DS} =-15V, V _{GS} =0V, F=1.0MHz		600		PF
Output Capacitance	C _{oss}			150		PF
Reverse Transfer Capacitance	C _{rss}			95		PF
SWITCHING CHARACTERISTICS (Note 4)						
Turn-on Delay Time	t _{d(on)}	V _{DD} =-15V, I _D =-1A V _{GS} =-10V, R _{GEN} =6Ω		10		nS
Turn-on Rise Time	t _r			9		nS
Turn-Off Delay Time	t _{d(off)}			25		nS
Turn-Off Fall Time	t _f			8		nS
Total Gate Charge	Q _g	V _{DS} =-15V, I _D =-3A, V _{GS} =-10V		10		nC
Gate-Source Charge	Q _{gs}			2		nC
Gate-Drain Charge	Q _{gd}			2		nC
DRAIN-SOURCE DIODE CHARACTERISTICS						
Diode Forward Voltage (Note 3)	V _{SD}	V _{GS} =0V, I _S =-1.25A			-1.2	V

NOTES:

1. Repetitive Rating: Pulse width limited by maximum junction temperature.
2. Surface Mounted on 1in² FR4 Board, t ≤ 10 sec.
3. Pulse Test: Pulse Width ≤ 300μs, Duty Cycle ≤ 2%.
4. Guaranteed by design, not subject to production testing.

TYPICAL ELECTRICAL AND THERMAL CHARACTERISTICS

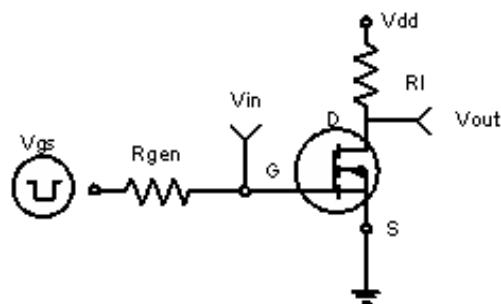


Figure 1. Switching Test Circuit

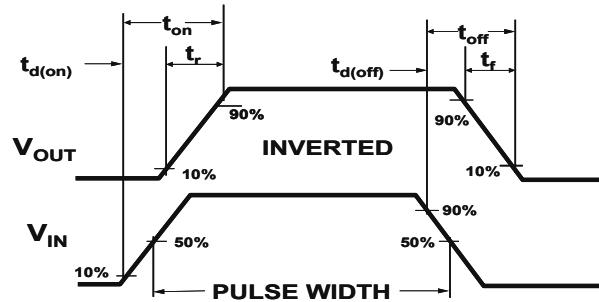


Figure 2. Switching Waveforms

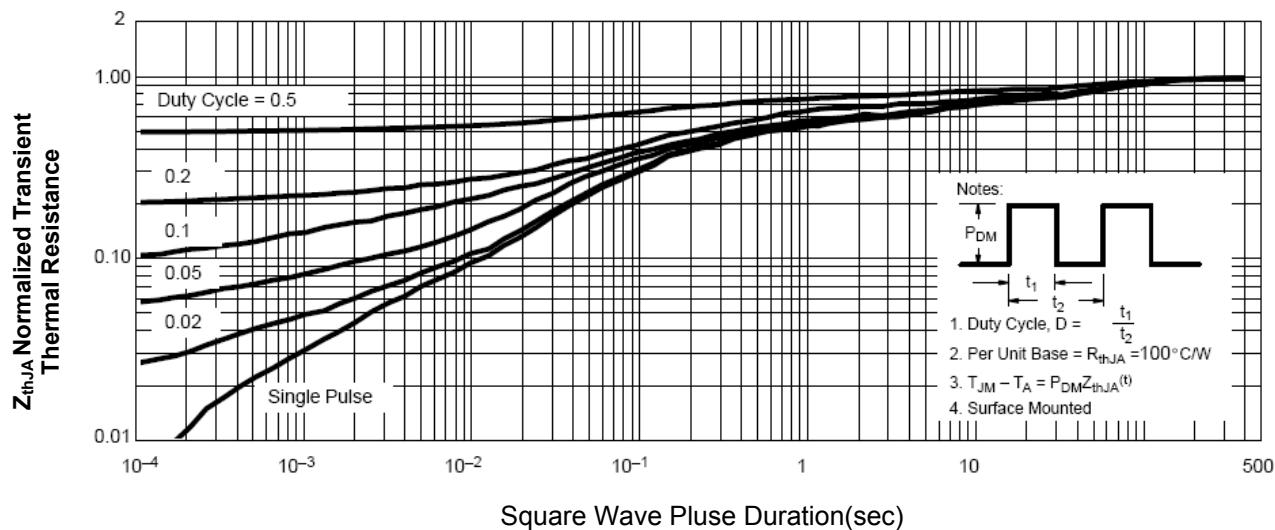
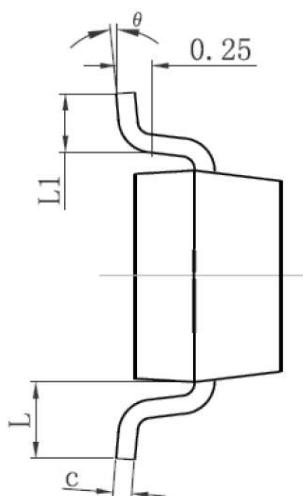
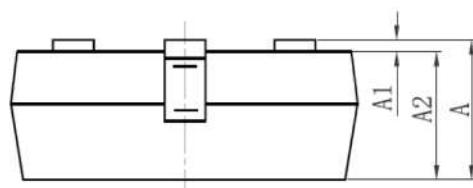
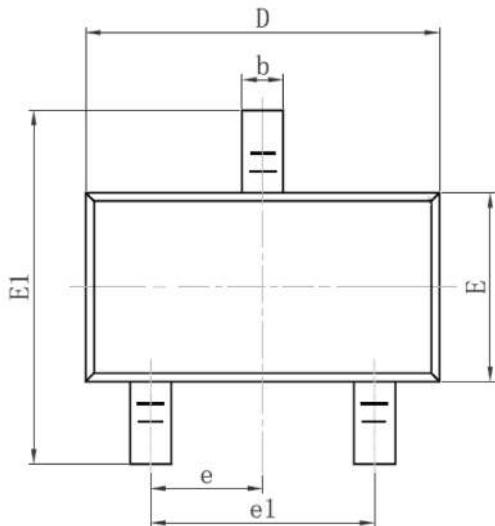


Figure 3. Normalized Maximum Transient Thermal Impedance

SOT-23 PACKAGE INFORMATION

Dimensions in Millimeters (UNIT: mm)



Symbol	Dimensions in Millimeters	
	MIN.	MAX.
A	0.900	1.150
A1	0.000	0.100
A2	0.900	1.050
b	0.300	0.500
c	0.080	0.150
D	2.800	3.000
E	1.200	1.400
E1	2.250	2.550
e	0.950TYP	
e1	1.800	2.000
L	0.550REF	
L1	0.300	0.500
θ	0°	8°

NOTES

1. All dimensions are in millimeters..
2. Tolerance $\pm 0.10\text{mm}$ (4 mil) unless otherwise specified.
3. Package body sizes exclude mold flash and gate burrs. Mold flash at the non-lead sides should be less than 5 mils.
4. Dimension L is measured in gauge plane.
5. Controlling dimension is millimeter, converted inch dimensions are not necessarily exact.