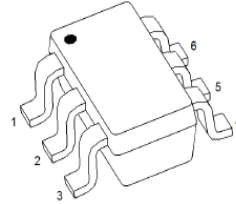


Main Product Characteristics

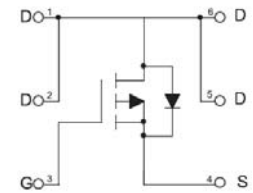
V_{DSS}	-30V
$R_{DS(on)}$	87 m Ω Max@-4.5V
I_D	-4.1A



SOT-23-6L



Marking



Schematic Diagram

Features and Benefits

- Advanced MOSFET process technology
- Ideal for DC-DC converter, power management in portable battery, computer, printer, cellular and general purpose applications
- Low on-resistance with low gate charge
- Fast switching and reverse body recovery



Description

SSF3407 utilizes the latest trench processing techniques to achieve high cell density, low on-resistance and high repetitive avalanche rating. These features make this device extremely efficient and reliable for use in battery protection, power switching 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}	-30	V
Gate-Source Voltage	V_{GS}	± 20	V
Continuous Drain Current	I_D	-4.1	A
Power Dissipation	P_D	350	mW
Thermal Resistance from Junction to Ambient	$R_{\theta JA}$	357	$^\circ\text{C}/\text{W}$
Junction Temperature	T_J	150	$^\circ\text{C}$
Storage Temperature	T_{stg}	-55 to +150	$^\circ\text{C}$

Electrical Characteristics (T_A=25°C unless otherwise specified)

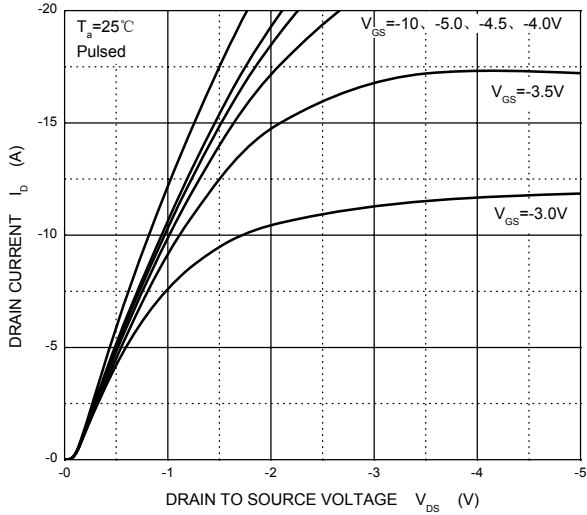
Parameter	Symbol	Test Condition	Min	Typ	Max	Units
Static characteristics						
Drain-Source Breakdown Voltage	V _{(BR) DSS}	V _{GS} = 0V, I _D = -250μA	-30			V
Zero Gate Voltage Drain Current	I _{DSS}	V _{DS} = -24V, V _{GS} = 0V			-1	μA
Gate-Source Leakage Current	I _{GSS}	V _{GS} = ±20V, V _{DS} = 0V			±100	nA
Drain-Source On-Resistance (note 1)	R _{DS(on)}	V _{GS} = -10V, I _D = -4.1A		50	60	mΩ
		V _{GS} = -4.5V, I _D = -3A		68	87	mΩ
Forward Transconductance (note 1)	g _{fs}	V _{DS} = -5V, I _D = -4A	5.5			S
Gate Threshold Voltage	V _{GS(th)}	V _{DS} = V _{GS} , I _D = -250μA	-1	-1.4	-3	V
Diode Forward Voltage (note 1)	V _{SD}	I _S = -1A, V _{GS} = 0V			-1	V
Dynamic Characteristics (note 2)						
Input Capacitance	C _{iss}	V _{DS} = -15V, V _{GS} = 0V, f = 1MHz		700		pF
Output Capacitance	C _{oss}			120		pF
Reverse Transfer Capacitance	C _{rss}			75		pF
Switching Characteristics (note 2)						
Turn-on Delay Time	t _{d(on)}	V _{GS} = -10V, V _{DS} = -15V, R _L = 3.6Ω, R _{GEN} = 3Ω		8.6		ns
Turn-on Rise Time	t _r			5.0		ns
Turn-off Delay Time	t _{d(off)}			28.2		ns
Turn-off Fall Time	t _f			13.5		ns

Notes:

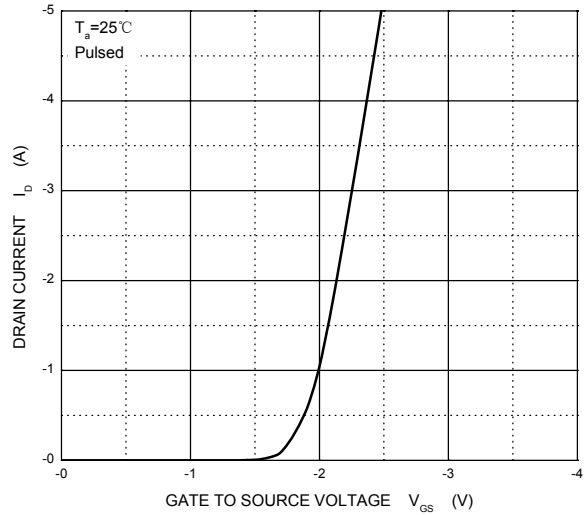
1. Pulse test: Pulse width ≤300μs, duty cycle ≤2%.
2. These parameters have no way to verify.

Typical Electrical and Thermal Characteristics

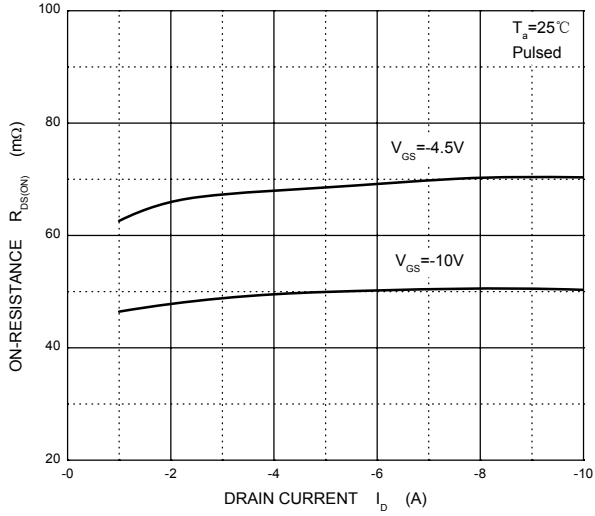
Output Characteristics



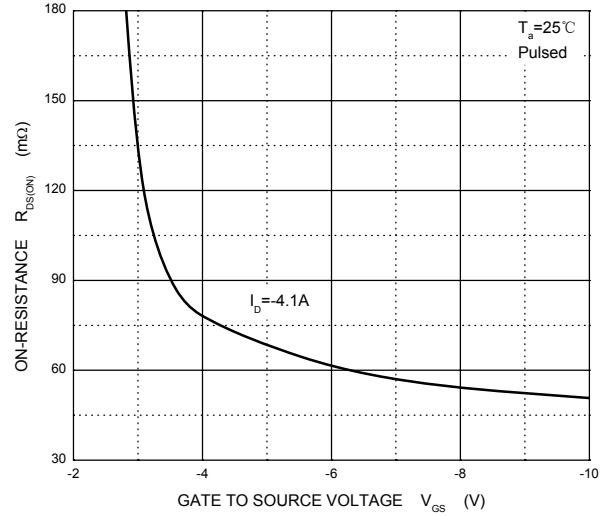
Transfer Characteristics



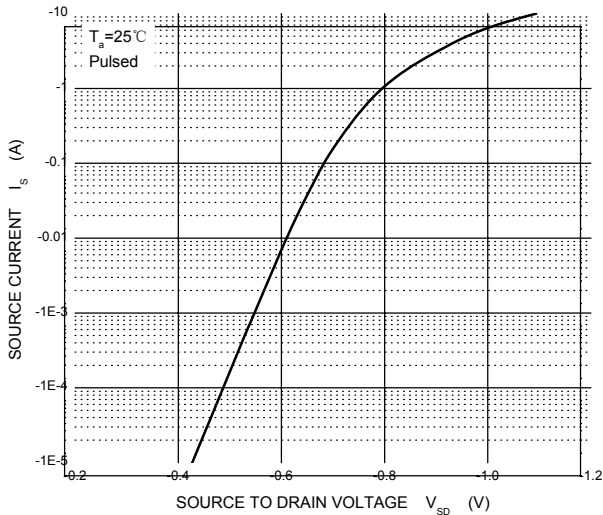
$R_{DS(ON)}$ — I_D



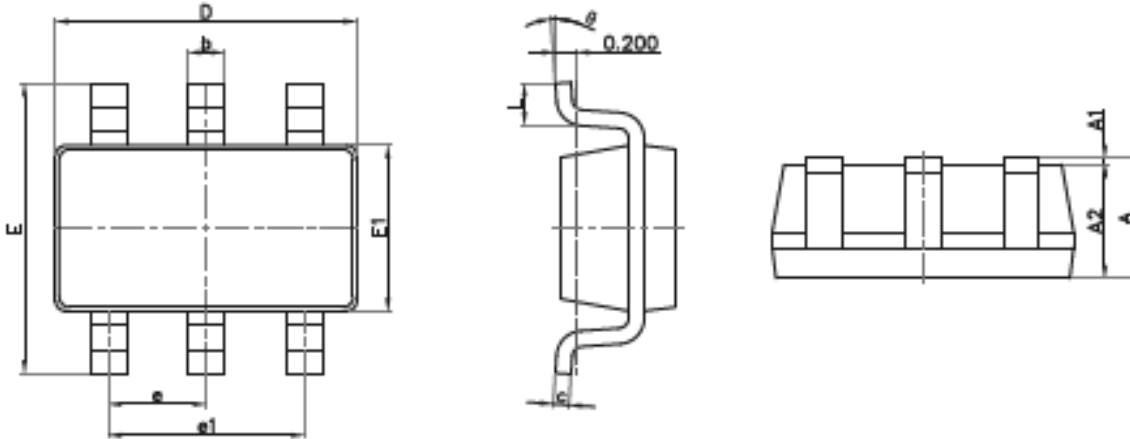
$R_{DS(ON)}$ — V_{GS}



I_S — V_{SD}

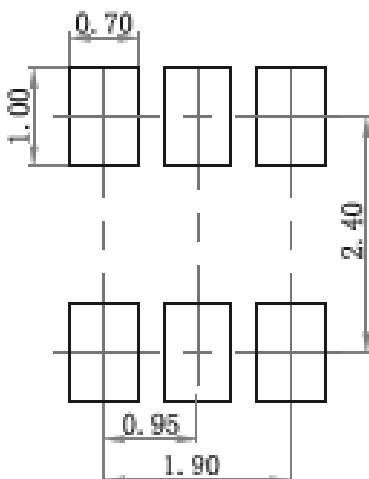


Package Outline Dimensions (SOT-23-6L)



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min.	Max.	Min.	Max.
A	1.050	1.250	0.041	0.049
A1	0.000	0.100	0.000	0.004
A2	1.050	1.150	0.041	0.045
b	0.300	0.500	0.012	0.020
c	0.100	0.200	0.004	0.008
D	2.820	3.020	0.111	0.119
E1	1.500	1.700	0.059	0.067
E	2.650	2.950	0.104	0.116
e	0.950(BSC)		0.037(BSC)	
e1	1.800	2.000	0.071	0.079
L	0.300	0.600	0.012	0.024
θ	0°	8°	0°	8°

Suggested Pad Layout



Note:

1. Controlling dimension: in millimeters.
2. General tolerance: $\pm 0.05\text{mm}$.
3. The pad layout is for reference purposes only.