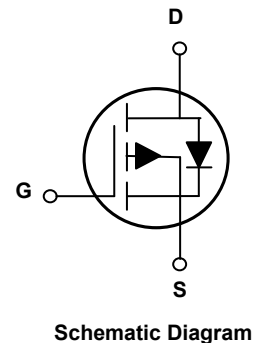
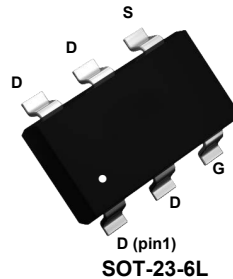


Main Product Characteristics

BV_{DSS}	-20V
$R_{DS(ON)}$	35mΩ (Max.)
I_D	-5A



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 SSF2429 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	Max.	Unit
Drain-Source Voltage	V_{DS}	-20	V
Gate-Source Voltage	V_{GS}	± 12	V
Drain Current-Continuous ¹	I_D	-5	A
Drain Current-Pulsed ¹	I_{DM}	-20	A
Maximum Power Dissipation	P_D	1.4	W
Thermal Resistance Junction-to-Ambient ²	$R_{\theta JA}$	90	$^{\circ}\text{C/W}$
Operating Junction Temperature Range	T_J	-55 To +150	$^{\circ}\text{C}$
Storage Temperature Range	T_{STG}	-55 To +150	$^{\circ}\text{C}$

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

Parameter	Symbol	Conditions	Min.	Typ.	Max.	Unit
Off Characteristics						
Drain-Source Breakdown Voltage	BV _{DSS}	V _{GS} =0V, I _D =250uA	-20	-	-	V
Zero Gate Voltage Drain Current	I _{DSS}	V _{DS} =-20V, V _{GS} =0V	-	-	-1	μA
Gate-Body Leakage Current	I _{GSS}	V _{GS} =±12V, V _{DS} =0V	-	-	±100	nA
On Characteristics						
Gate Threshold Voltage ³	V _{GS(th)}	V _{GS} =V _{DS} , I _D =250uA	-0.5	-0.7	-1	V
Drain Static-Source On-Resistance ³	R _{DS(ON)}	V _{GS} =-4.5V, I _D =-5A	-	29	35	mΩ
		V _{GS} =-2.5V, I _D =-3A	-	37	48	mΩ
Gate Resistance ³	R _g	V _{DS} =0V, f=1mHz	-	14	-	Ω
Forward Transconductance ³	g _{FS}	V _{DS} =-10V, I _D =-3A	4	-	-	S
Dynamic and Switching Characteristics						
Input Capacitance ⁴	C _{iss}	V _{DS} =-10V, V _{GS} =0V, F=1MHz	-	688	-	pF
Output Capacitance ⁴	C _{oss}		-	124	-	
Reverse Transfer Capacitance ⁴	C _{rss}		-	115	-	
Turn-On Delay Time ⁴	t _{d(on)}	V _{DD} =-10V, R _{GEN} =6Ω V _{GS} =-4.5V, I _D =-1A	-	5.8	-	nS
Rise Time ⁴	t _r		-	2.2	-	
Turn-Off Delay Time ⁴	t _{d(off)}		-	95	-	
Fall Time ⁴	t _f		-	45	-	
Total Gate Charge ⁴	Q _g	V _{DS} =-10V, I _D =-4.5A V _{GS} =-5V	-	17.4	-	nC
Gate-Source Charge ⁴	Q _{gs}		-	1.9	-	
Gate-Drain Charge ⁴	Q _{gd}		-	2.5	-	
Drain-Source Diode Characteristics and Maximum Ratings						
Diode Forward Voltage ³	V _{SD}	V _{GS} =0V, I _S =-1.3A	-	-0.65	-1.3	V
Reverse Recovery Time	T _{rr}	V _R =-10V, I _D =-4.5A di/dt=100A/us	-	9.35	-	nS
Reverse Recovery Charge	Q _{rr}		-	1.87	-	nC

Notes:

1. Repetitive rating: pulse width limited by maximum junction temperature.
2. Surface mounted on 1in² FR4 Board, $t \leq 10$ sec.
3. Pulse test: pulse width $\leq 300\mu s$, duty cycle $\leq 2\%$.
4. Guaranteed by design, not subject to production testing.

Typical Electrical and Thermal Characteristic Curves

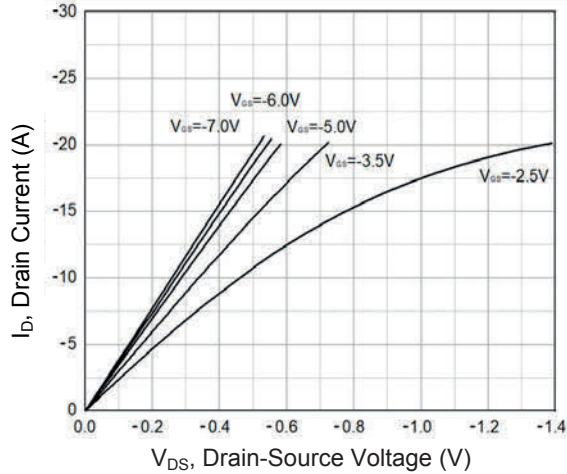


Figure 1. Output Characteristics

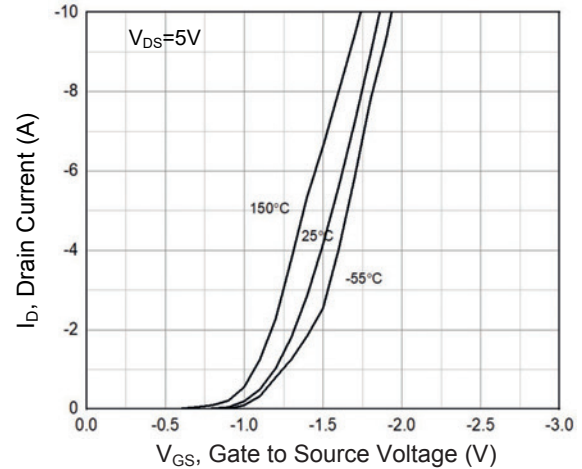


Figure 2. Transfer Characteristics

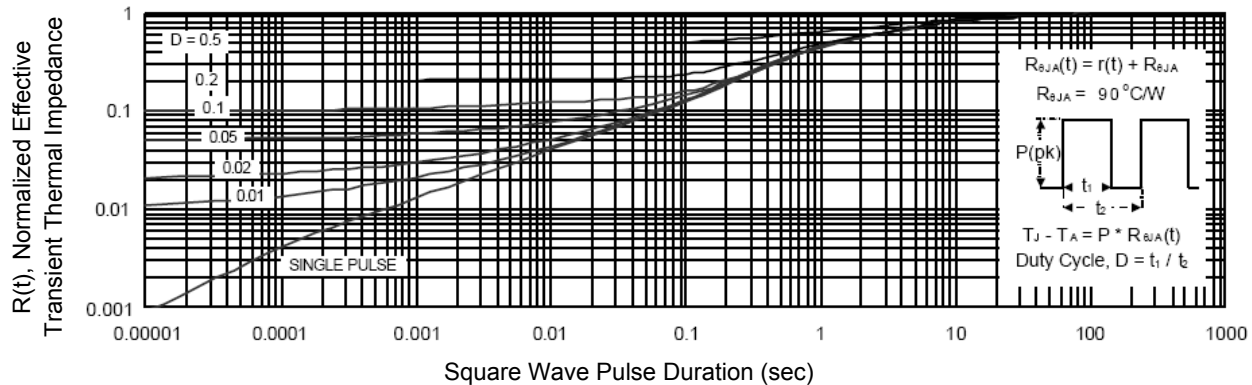
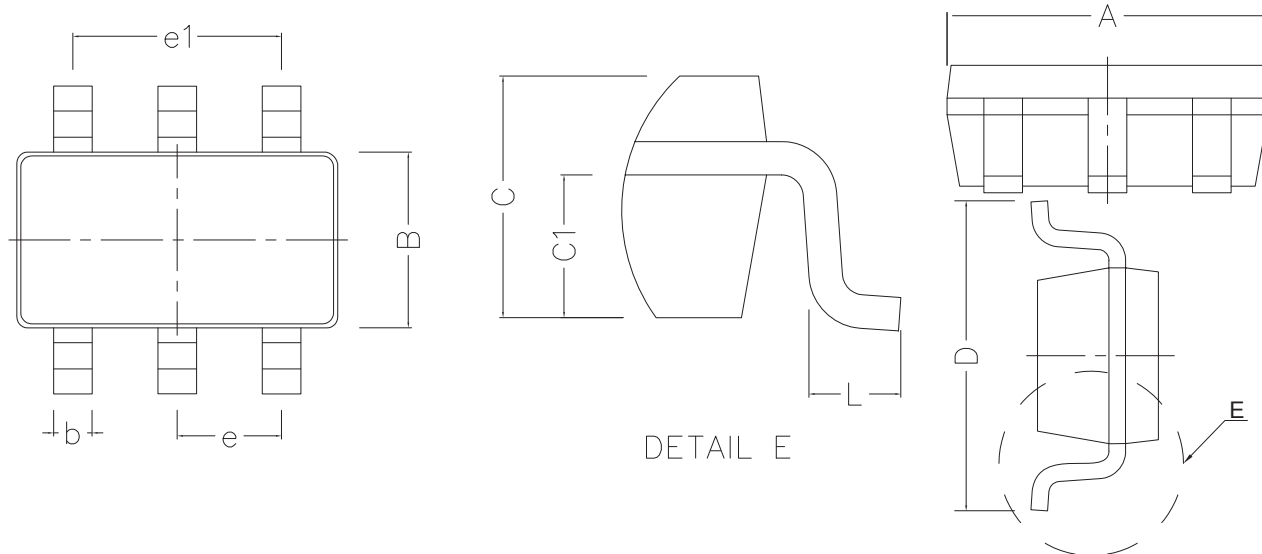


Figure 3. Normalized Maximum Transient Thermal Impedance

Package Outline Dimensions (SOT-23-6L)



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min.	Max.	Min.	Max.
A	2.82	3.02	0.111	0.119
B	1.50	1.70	0.059	0.067
C	1.05	1.15	0.041	0.045
C1	0.60	0.70	0.024	0.028
D	2.65	2.95	0.104	0.116
L	0.30	0.60	0.012	0.024
b	0.28	0.42	0.011	0.017
e	0.95 TYP		0.037 TYP	
e1	1.90 TYP		0.075 TYP	

Order Information

Device	Package	Marking	Carrier	Quantity
SSF2429	SOT-23-6L	2429	Tape & Reel	3,000 pcs / 7" Reel