

Product Summary

$V_{(BR)DSS}$	$R_{DS(on)TYP}$	I_D
30V	27mΩ@10V	5.8A
	30mΩ@4.5V	
	40mΩ@2.5V	

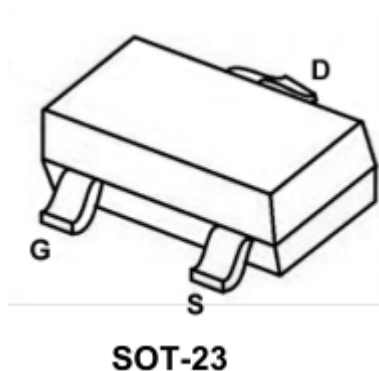
Feature

- TrenchFET Power MOSFET
- Excellent $R_{DS(on)}$ and Low Gate Charge

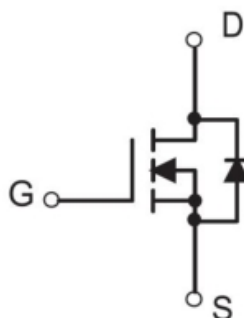
Application

- DC/DC Converter
- Load Switch for Portable Devices
- Battery Switch

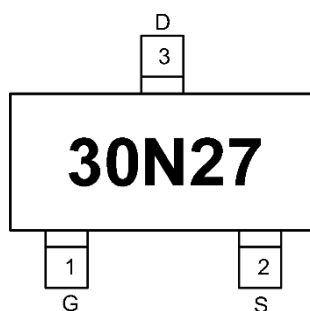
Package



Circuit diagram



Marking



Absolute maximum ratings

($T_a=25^{\circ}\text{C}$ unless otherwise noted)

Parameter	Symbol	Value	Unit
Drain-Source Voltage	V_{DS}	30	V
Gate-Source Voltage	V_{GS}	± 12	V
Continuous Drain Current	I_D	5.8	A
Pulsed Drain Current ¹	I_{DM}	30	A
Power Dissipation	P_D	0.35	W
Thermal Resistance from Junction to Ambient	$R_{\theta JA}$	357	$^{\circ}\text{C/W}$
Junction Temperature	T_J	150	$^{\circ}\text{C}$
Storage Temperature	T_{STG}	-55~ +150	$^{\circ}\text{C}$

Electrical characteristics

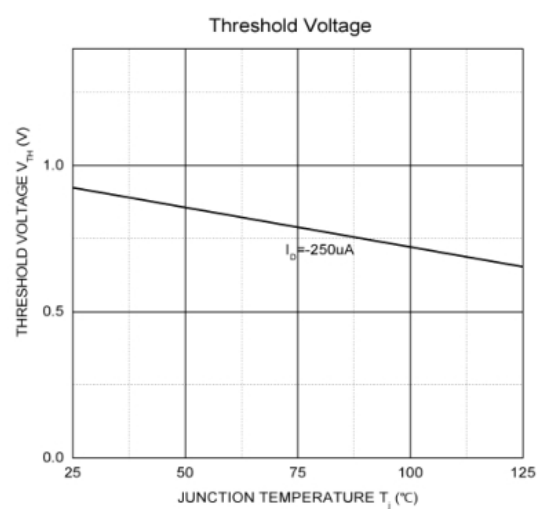
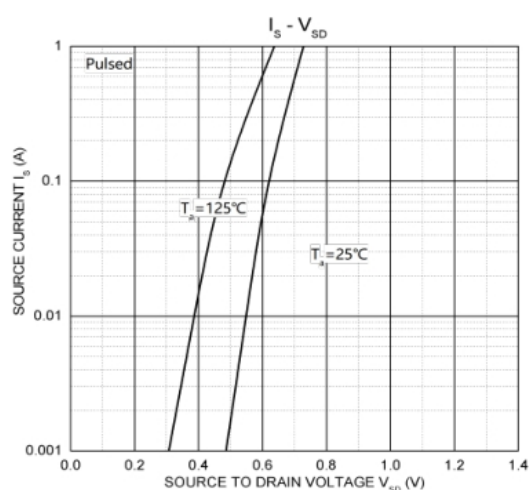
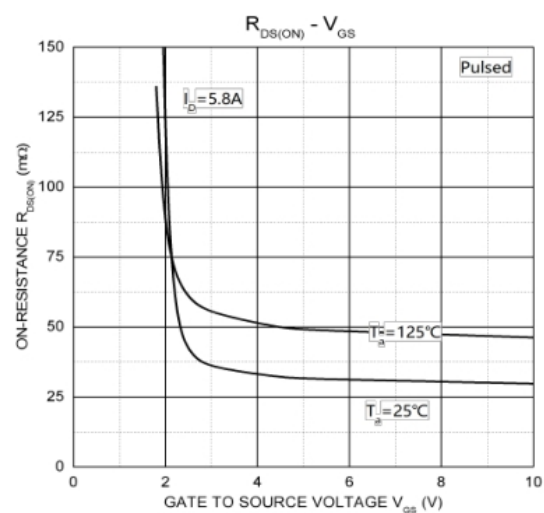
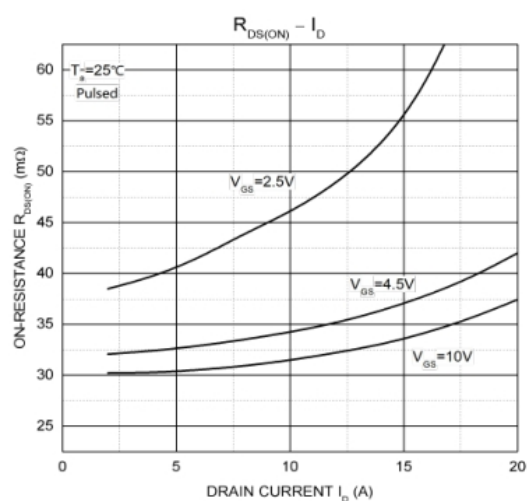
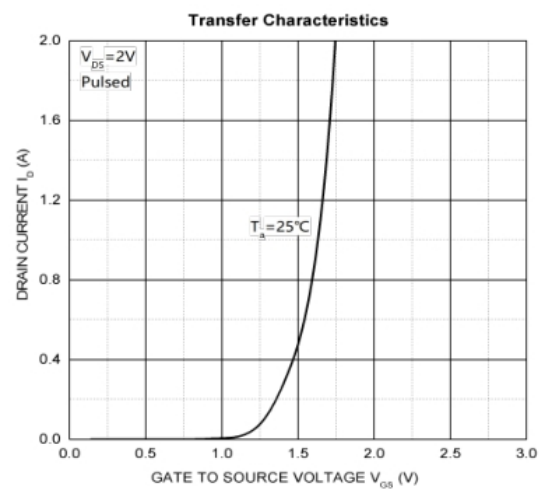
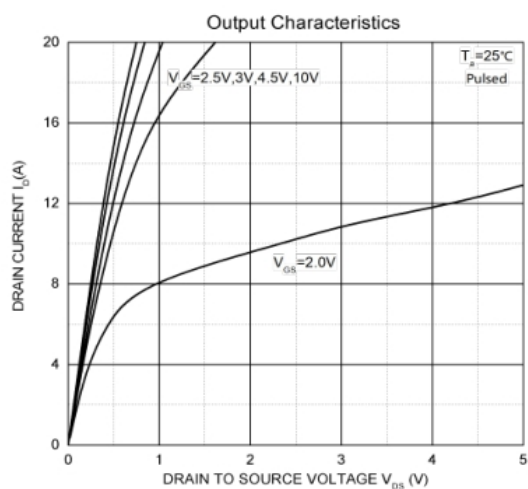
($T_A=25^{\circ}\text{C}$, unless otherwise noted)

Parameter	Symbol	Test Condition	Min.	Typ.	Max.	Unit
Static Characteristics						
Drain-Source Breakdown Voltage	BV (BR)DSS	V _{GS} = 0V, I _D =250μA	30			V
Zero Gate Voltage Drain Current	I _{DSS}	V _{DS} =24V, V _{GS} = 0V			1	uA
Gate-Source Leakage	I _{GSS}	V _{GS} = ±12V, V _{DS} =0V			±0.1	uA
Gate-Source Threshold Voltage	V _{GS(th)}	V _{DS} =V _{GS} , I _D =250μA	0.7		1.4	V
Drain-Source On-Resistance ²	R _{DS(on)}	V _{GS} =10V, I _D =5.8A		27	35	mΩ
		V _{GS} =4.5V, I _D =5A		30	40	
		V _{GS} =2.5V, I _D =4A		40	50	
Dynamic Characteristics						
Input Capacitance	C _{iss}	V _{DS} =15V, V _{GS} =0V, f=1MHz			1050	pF
Output Capacitance	C _{Oss}			99		
Reverse Transfer Capacitance	C _{rss}			77		
Gate resistance	R _g	V _{DS} =0V,V _{GS} =0V,f=1MHz			3.6	Ω
Switching Characteristics						
Turn-on Delay Time	T _{d(on)}	V _{GS} =10V, V _{DS} =15V, R _L =2.7Ω, R _{GEN} =3Ω			5	nS
Turn-on Rise Time	T _r				7	
Turn-off Delay Time	T _{d(off)}				40	
Turn-off Fall Time	T _f				6	
Source-Drain Diode Characteristics						
Body Diode Voltage ³	V _{SD}	I _S =1A, V _{GS} = 0V		07	1.3	V

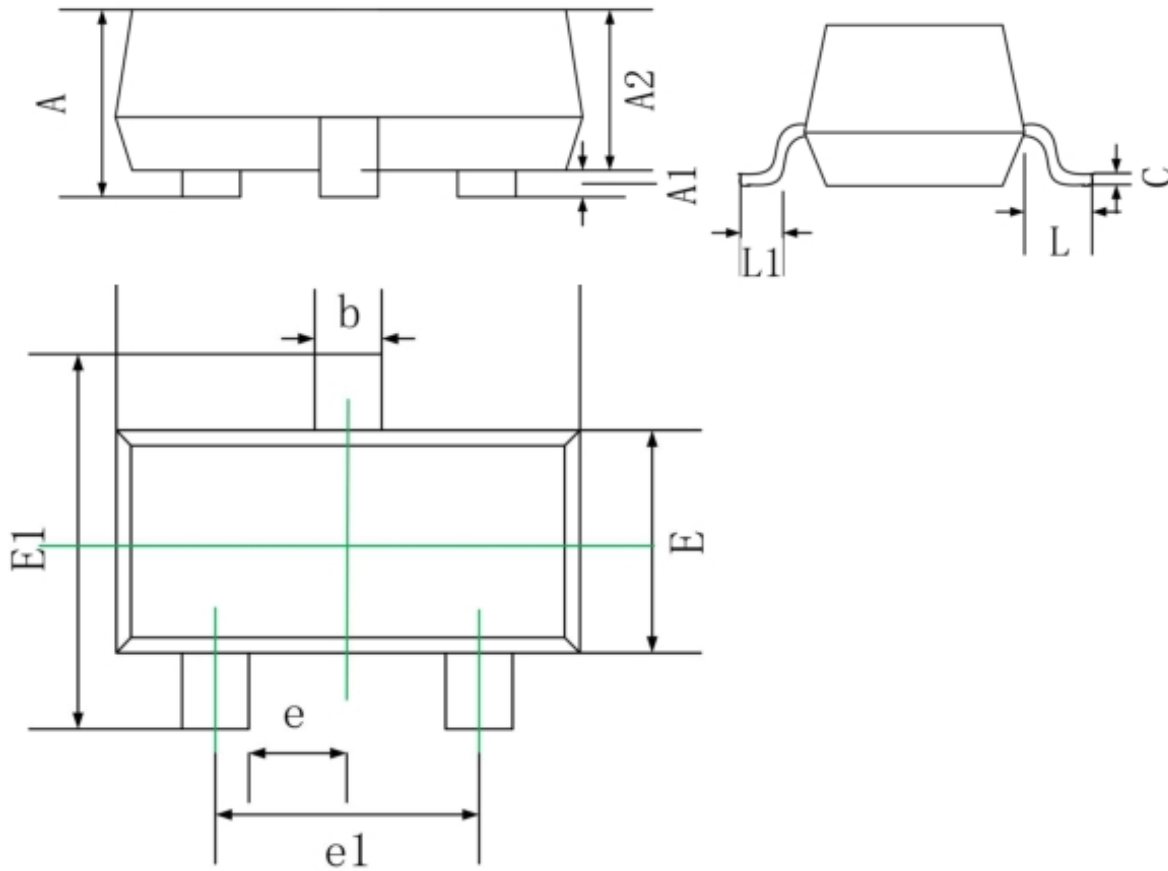
Note:

1. Repetitive Rating : Pulse width limited by maximum junction temperature.
2. Surface Mounted on FR4 Board, $t < 5$ sec.
3. Pulse Test : Pulse Width $\leq 300\mu s$, Duty Cycle $\leq 2\%$.
4. Guaranteed by design, not subject to production testing.

Typical Characteristics



SOT-23 Package Information



Symbol	Dimensions In Millimeters	
	Min.	Max.
A	0.90	1.15
A1	0.00	0.10
A2	0.90	1.05
b	0.30	0.50
c	0.08	0.15
D	2.80	3.00
E	1.20	1.40
E1	2.25	2.55
e	0.95 REF.	
e1	1.80	2.00
L	0.55 REF.	
L1	0.30	0.50