

Product Summary

$V_{(BR)DSS}$	$R_{DS(on)TYP}$	I_D
30V	38mΩ@4.5V	3.6A
	45mΩ@2.5V	

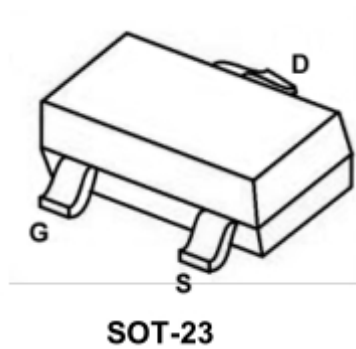
Feature

- TrenchFET Power MOSFET

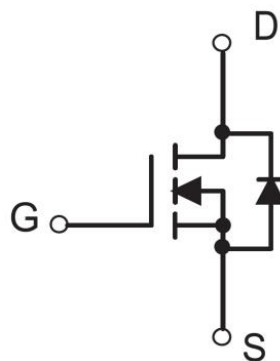
Applications

- DC/DC Converter
- Load Switch for Portable Devices

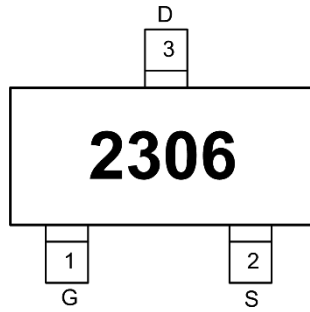
Package



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}	± 20	V
Continuous Drain Current	I_D	3.6	A
Pulsed Drain Current	I_{DM}	15	A
Maximum Power Dissipation	P_D	0.35	W
Thermal Resistance from Junction to Ambient($t \leq 5s$)	$R_{\theta JA}$	357	$^{\circ}\text{C/W}$
Junction Temperature	T_J	150	$^{\circ}\text{C}$
Storage Temperature	T_{STG}	-55~ +150	$^{\circ}\text{C}$

Electrical characteristics

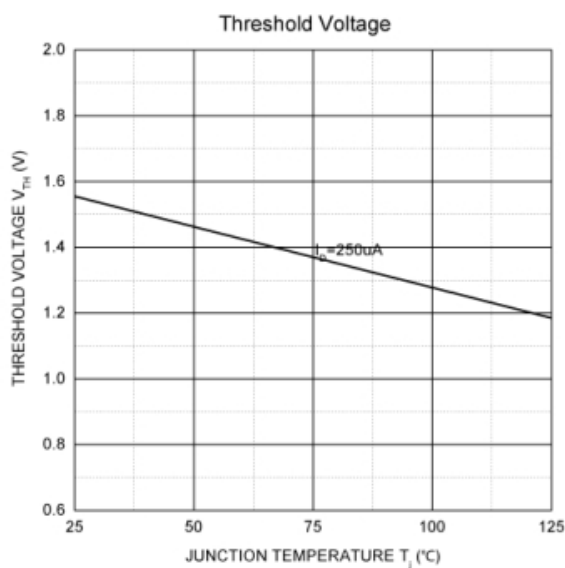
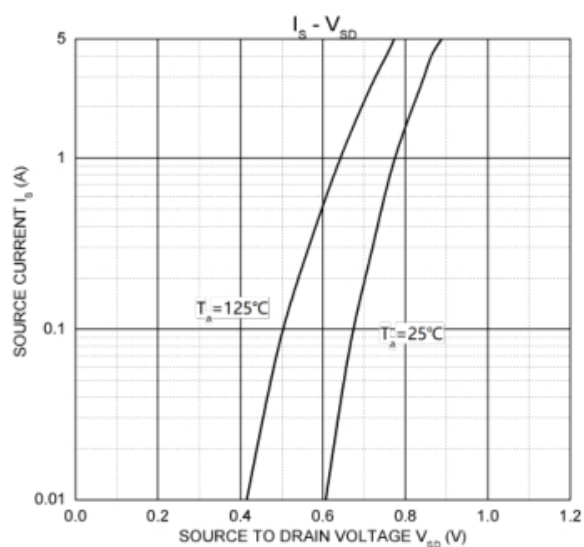
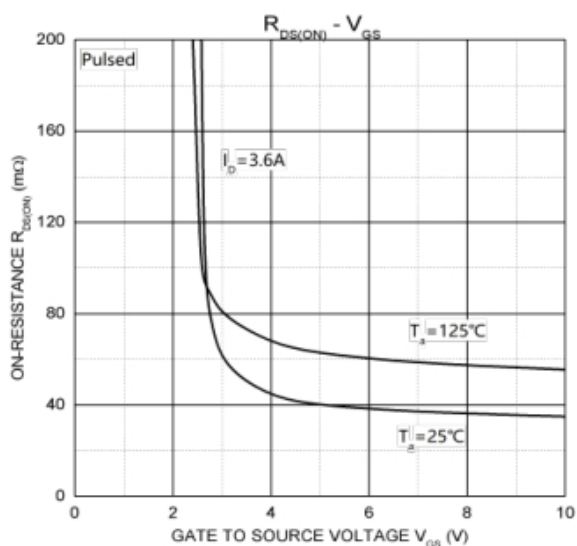
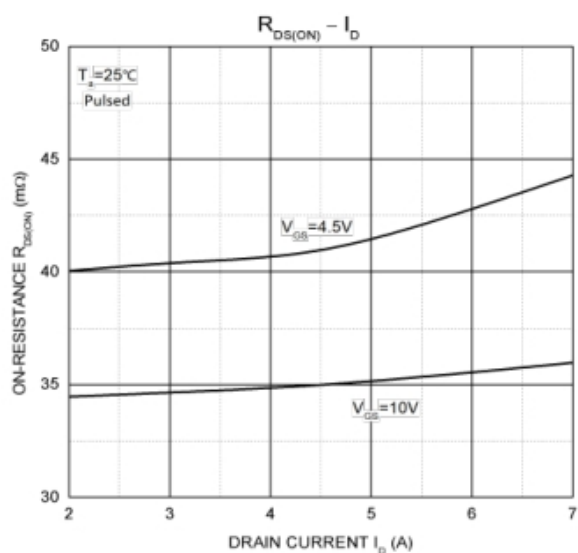
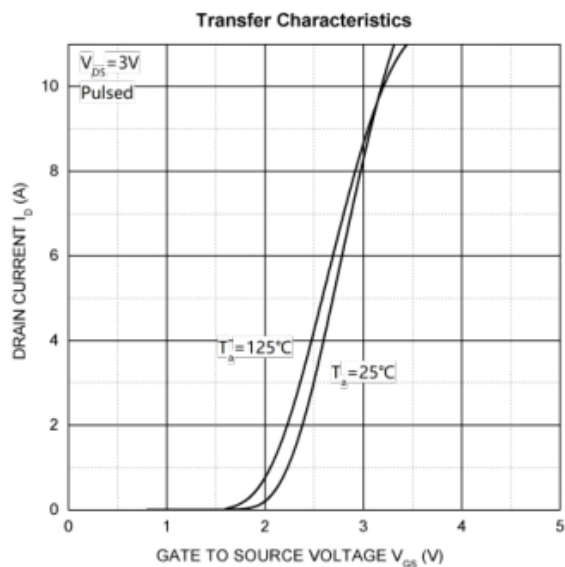
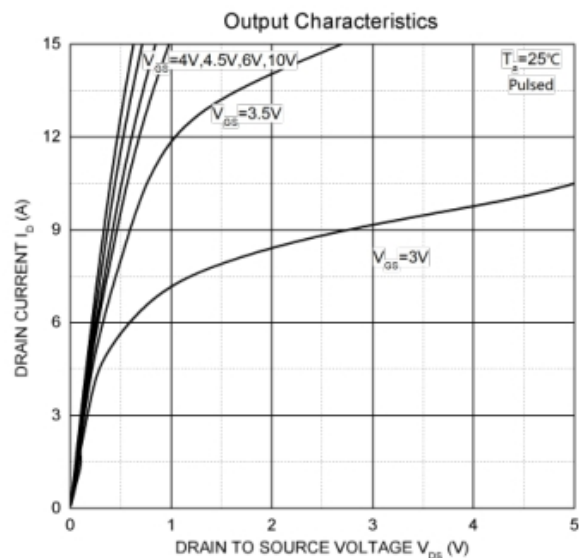
($T_A=25^{\circ}\text{C}$, unless otherwise noted)

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} =30V, V _{GS} = 0V			0.5	uA
Gate-body leakage current	I _{GSS}	V _{GS} = ±20V, V _{DS} = 0V			±100	uA
Gate threshold voltage	V _{GS(th)}	V _{DS} =V _{GS} , I _D =250μA	1	1.5	2	V
Drain-source on-resistance	R _{DS(on)}	V _{GS} =10V, I _D =3.5A		38	47	mΩ
		V _{GS} =4.5V, I _D =2.8A		45	65	
Forward tranconductance	g _{FS}	V _{DS} =4.5V, I _D =2.5A		7		S
Dynamic Characteristics						
gate charge	Q _g	V _{DS} =15V, V _{GS} =5V, I _D =2.5A		3.0	4.5	nC
Total Gate Charge	Q _{gs}	V _{DS} =15V, V _{GS} =10V, I _D =2.5A		6	9	
Gate-source charge				1.6		
Gate-Drain Charge	Q _{gd}			0.6		
Gate resistance	R _g	f =1.0MHz	2.5	5	7.5	Ω
Input capacitance ²⁾	C _{iss}	V _{DS} =15V, V _{GS} =0V, f =1MHz		305		pF
Output capacitance ²⁾	C _{oss}			65		
Reverse transfer capacitance ²⁾	C _{rss}			29		
Turn-on Delay Time	T _{d(on)}	V _{DD} =15V, R _L =15Ω, I _D ≈ 1A, V _{GEN} =10V, R _G =6Ω		7	11	nS
Turn-on Rise Time	T _r			12	18	
Turn-Off Delay Time	T _{d(off)}			14	25	
Turn-Off Fall Time	t _f			6	10	
Source-Drain Diode Characteristics						
Body diode voltage	V _{SD}	I _S =1.25A, V _{GS} =0V		0.8	1.2	V

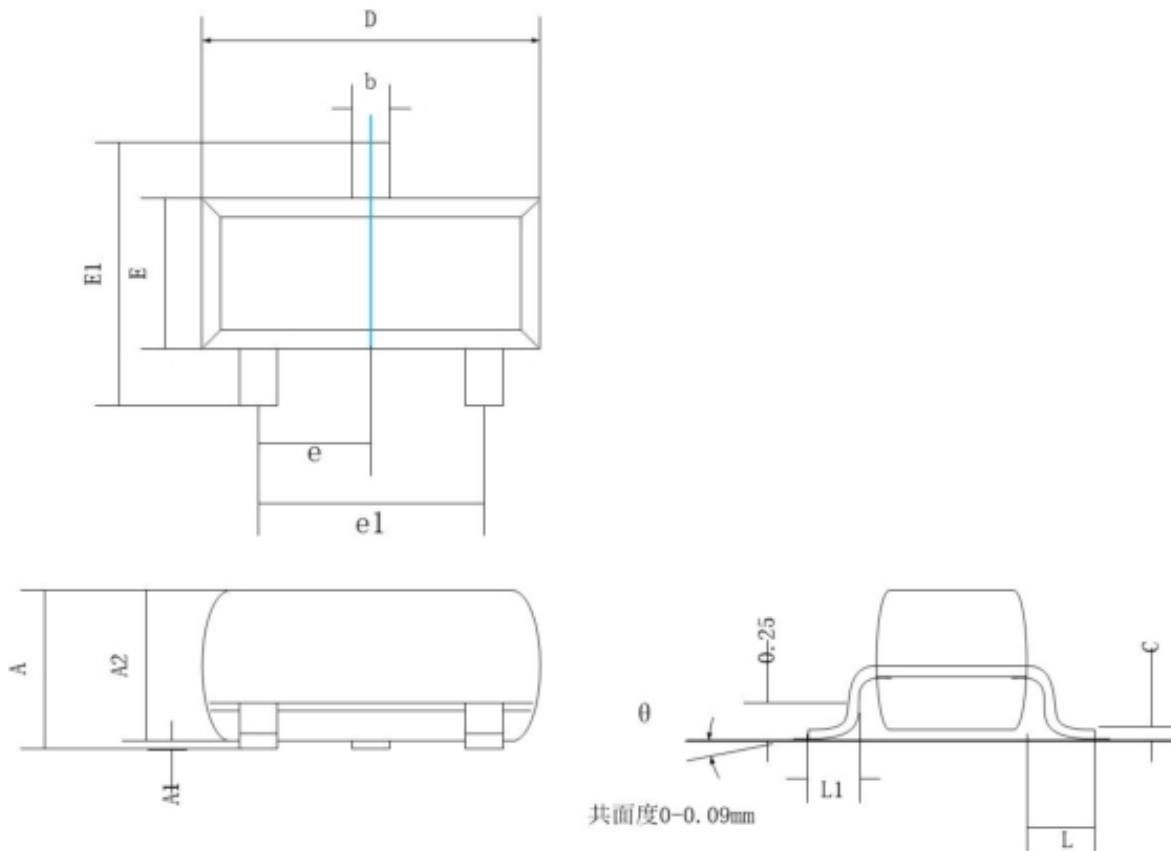
Notes:

1. Pulse Test: Pulse width $\leq 300\mu s$, duty cycle $\leq 2\%$.
2. These parameters have no way to verify.

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
θ	0°	8°