

Product Summary

$V_{(BR)DSS}$	$R_{DS(on)TYP}$	I_D
-20V	38mΩ@-4.5V	-4A
	48mΩ@-2.5V	

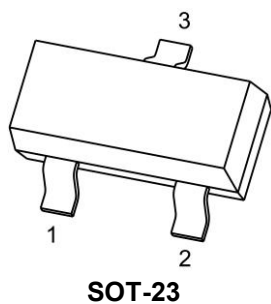
Feature

- TrenchFET Power MOSFET
- Excellent $R_{DS(on)}$ and Low Gate Charge
- ESD Protected:2KV

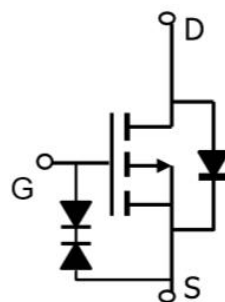
Application

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

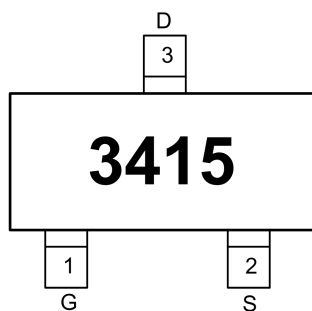
Package:



Circuit diagram



Marking



Absolute maximum ratings (Ta=25°C unless otherwise noted)

Parameter	Symbol	Value	Unit
Drain-Source Voltage	V_{DS}	-20	V
Gate-Source Voltage	V_{GS}	± 8	V
Continuous Drain Current	I_D	-4	A
Maximum Pulsed Drain to Source Diode Forward Current	I_{DM}	-20	A
Power Dissipation	P_D	0.35	W
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~ +150	$^{\circ}\text{C}$

Electrical characteristics (Ta=25 °C, unless otherwise noted)

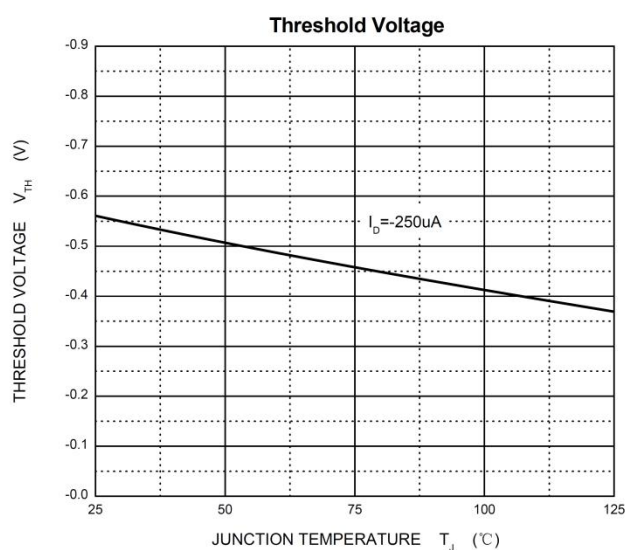
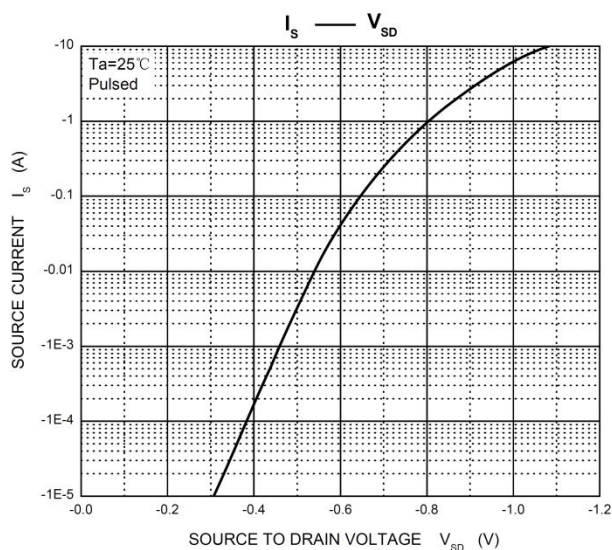
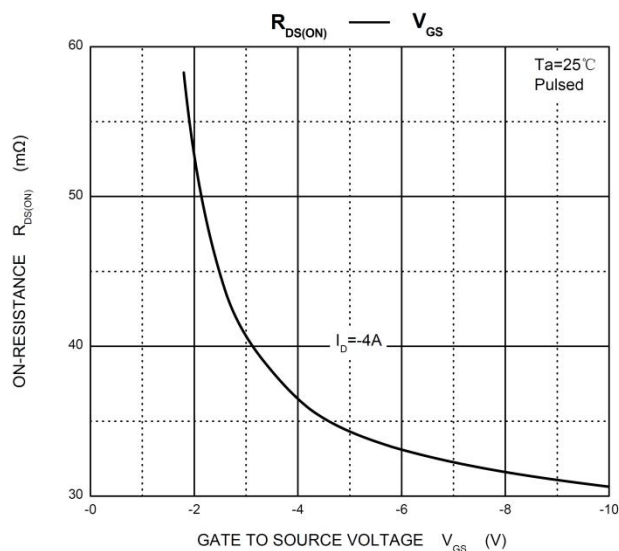
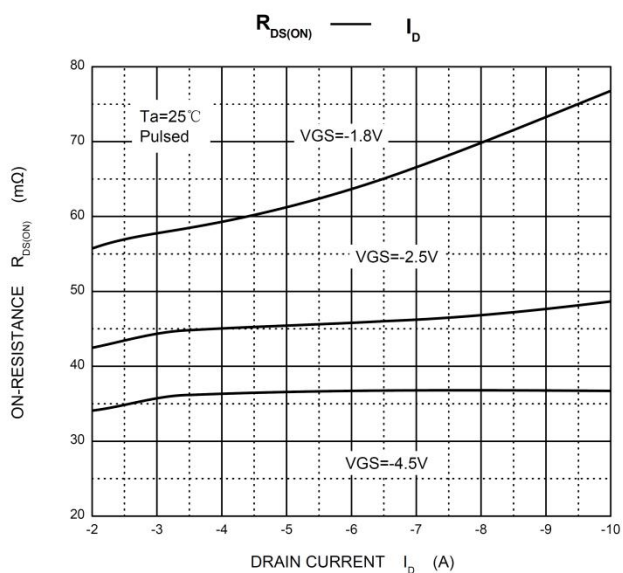
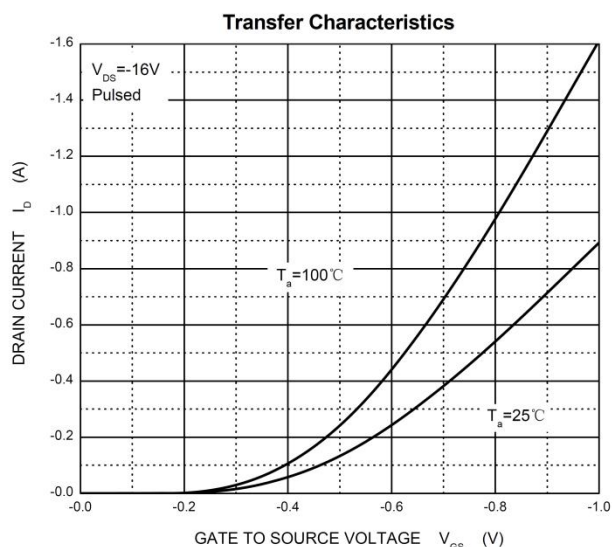
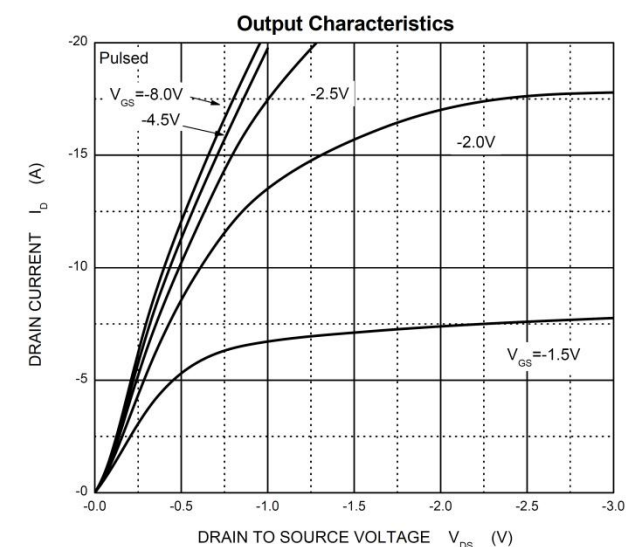
Parameter	Symbol	Test Condition	Min.	Typ.	Max.	Unit
Static Characteristics						
Drain-source breakdown voltage	V _{(BR)DSS}	V _{GS} = 0V, I _D =-250μA	-20			V
Zero gate voltage drain current	I _{DSS}	V _{DS} =-20V,V _{GS} = 0V			-1	μA
Gate-body leakage current	I _{GSS}	V _{GS} =±8V, V _{DS} = 0V			±10	μA
Gate threshold voltage	V _{GS(th)}	V _{DS} =V _{GS} , I _D =-250μA	-0.4	-0.65	-1	V
Drain-source on-resistance ¹⁾	R _{DS(on)}	V _{GS} =-4.5V, I _D =-4A		38	48	mΩ
		V _{GS} =-2.5V, I _D =-3A		48	65	
Dynamic characteristics						
Input Capacitance	C _{iss}	V _{DS} =-10V,V _{GS} =0V,f =1MHz		950		pF
Output Capacitance	C _{oss}			165		
Reverse Transfer Capacitance	C _{rss}			120		
Switching Characteristics						
Turn-on delay time	t _{d(on)}	V _{GS} =-4.5V,V _{DS} =-10V, R _L =2.5Ω,R _{GEN} =3Ω		12		ns
Turn-on rise time	t _r			10		
Turn-off delay time	t _{d(off)}			19		
Turn-off fall time	t _f			25		
Source-Drain Diode characteristics						
Diode Forward voltage ²⁾	V _{SD}	V _{GS} =0V, I _S =-4A			-1.2	V

Note:

- 1) Repetitive Rating : Pulse width limited by maximum junction temperature.
- 2) Pulse Test : Pulse Width $\leq 300\mu s$, Duty Cycle $\leq 2\%$.

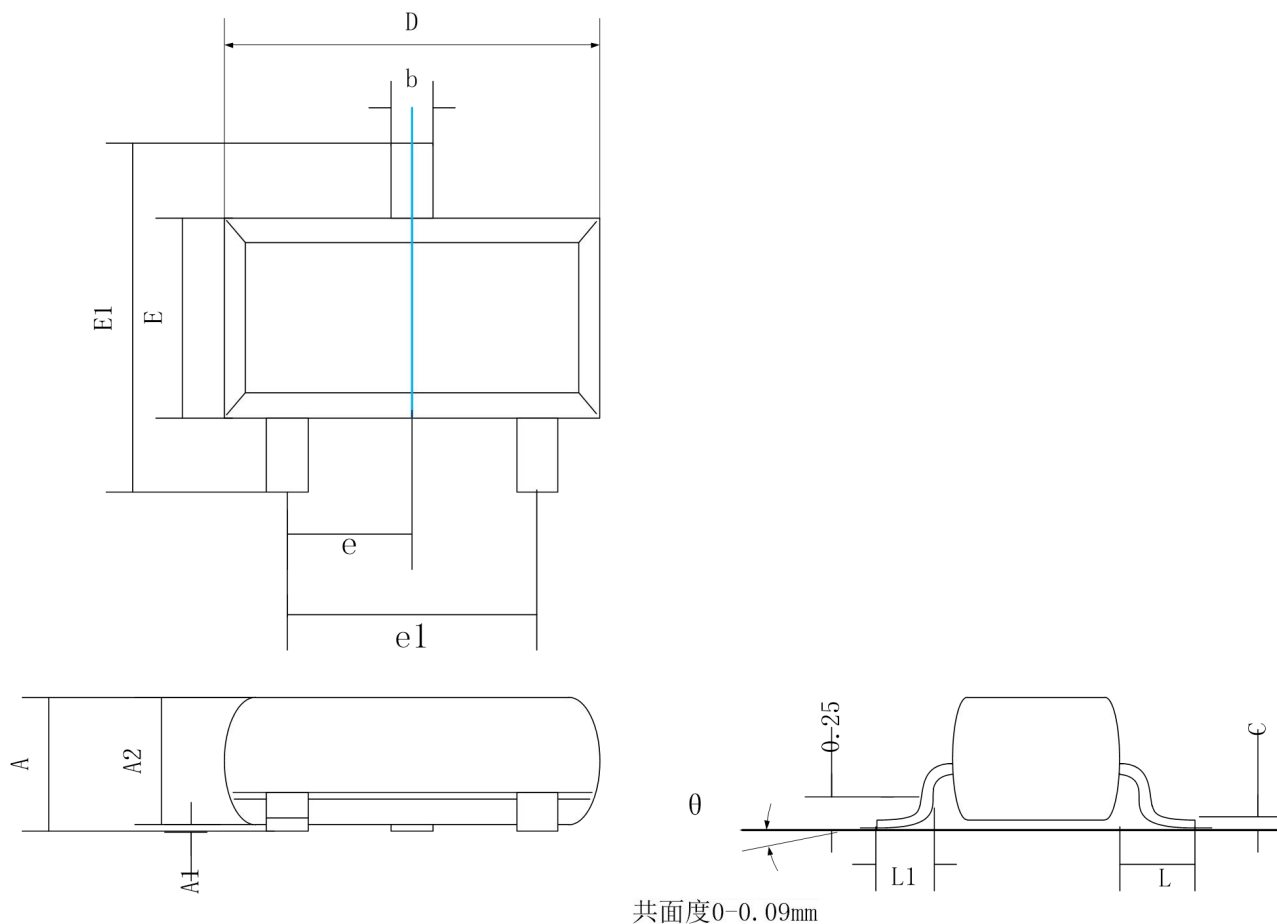


Typical Characteristics





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°