

Product Summary

$V_{(BR)DSS}$	$R_{DS(on)TYP}$	I_D
-30V	11mΩ@-10V	-13A
	14mΩ@-4.5V	

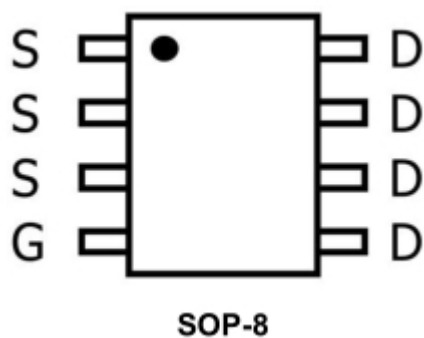
Feature

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

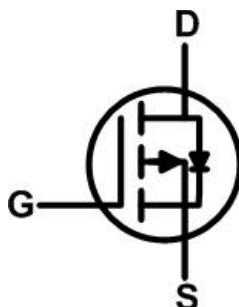
Applications

- Advanced trench process technology
- High density cell design for ultra-low on-resistance
- High power and current handing capability
- Ideal for Lion battery pack applications

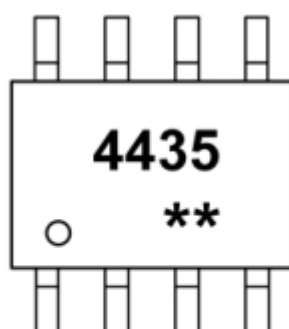
Package



Circuit diagram



Marking



4435 =Device Code
** =Week Code

Absolute maximum ratings

(T_a=25°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	-13	A
Pulsed Drain Current ¹⁾	I _{DM}	-50	A
Power Dissipation	P _D	2.5	W
Thermal Resistance from Junction to Ambient ²⁾	R _{θJA}	50	°C/W
Junction Temperature	T _J	150	
Storage Temperature	T _{STG}	-55~ +150	°C

Electrical characteristics

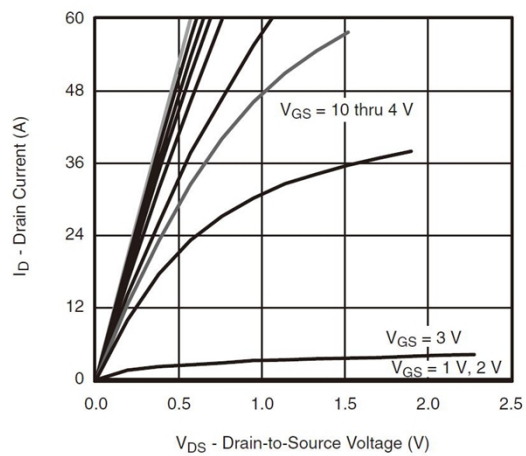
($T_A=25^{\circ}\text{C}$, unless otherwise noted)

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			-1	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	-1.0	-1.6	-2.0	V
Drain-source on-resistance	R _{DS(on)}	V _{GS} = -10V, I _D = -10A		11	15	mΩ
		V _{GS} = -5V, I _D = -7A		14	25	
Dynamic Characteristics ⁴⁾						
Input capacitance	C _{iss}	V _{DS} = -15V, V _{GS} =0V, f=1MHz		2550		pF
Output capacitance	C _{oss}			450		
Reverse transfer capacitance	C _{rss}			390		
Switching Characteristics ⁴⁾						
Turn-on Delay Time	T _{d(on)}	V _{GEN} =-10V, V _{DD} = -15V, R _{GEN} =3.3Ω, I _D = -1A		33.8		nS
Turn-on Rise Time	T _r			35.8		
Turn-Off Delay Time	T _{d(off)}			72.8		
Turn-Off Fall Time	t _f			10.6		
Total gate charge	Q _g	V _{DS} = -15V, V _{GS} =-4.5V, I _D = -10A		20		pF
Gate-source charge	Q _{gs}			5.1		
Gate-drain charge	Q _{gd}			7.3		
Source-Drain Diode Characteristics						
Body Diode Voltage	V _{DS}	I _S = -1A, V _{GS} = 0V			-1	V

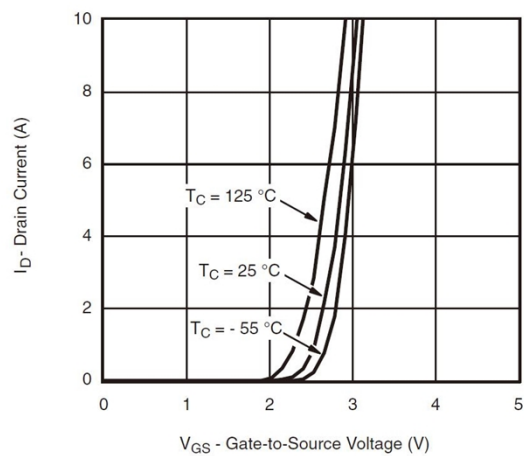
Notes:

1. Repetitive rating: Pulse width limited by junction temperature.
2. Surface mounted on FR4 board, $t \leq 10s$.

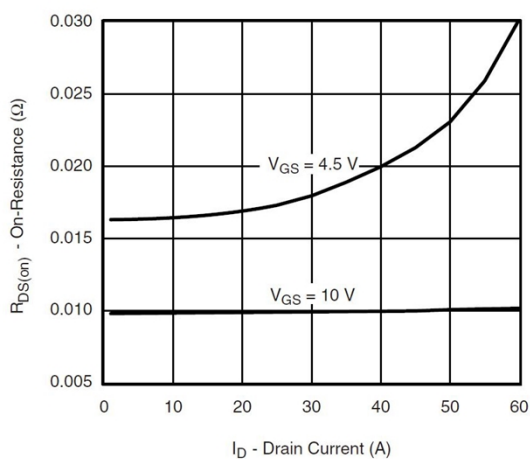
Typical Characteristics



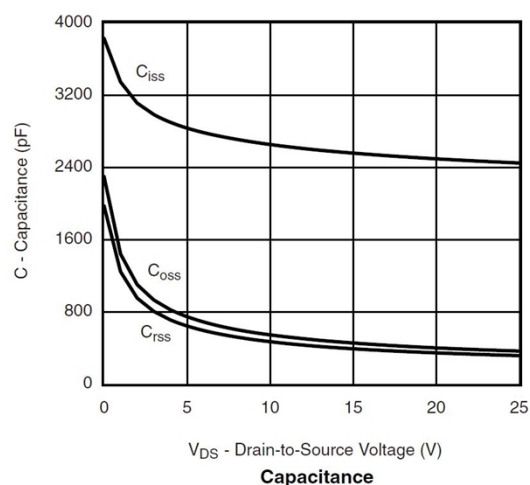
Output Characteristics



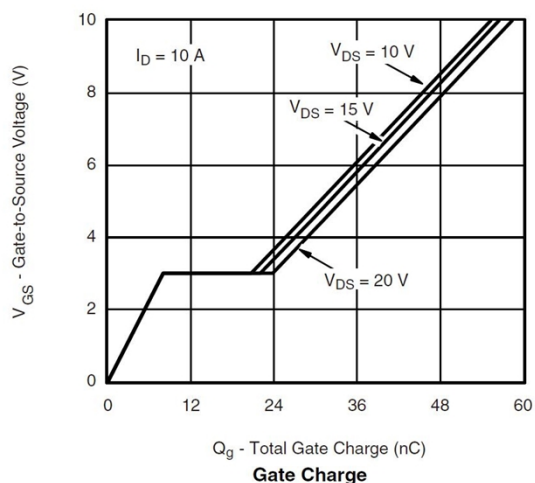
Transfer Characteristics



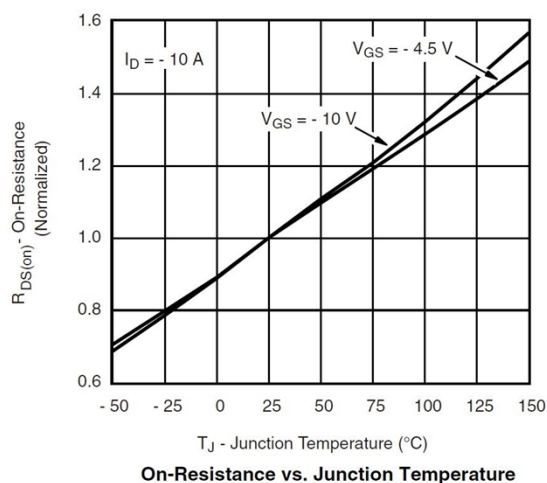
On-Resistance vs. Drain Current



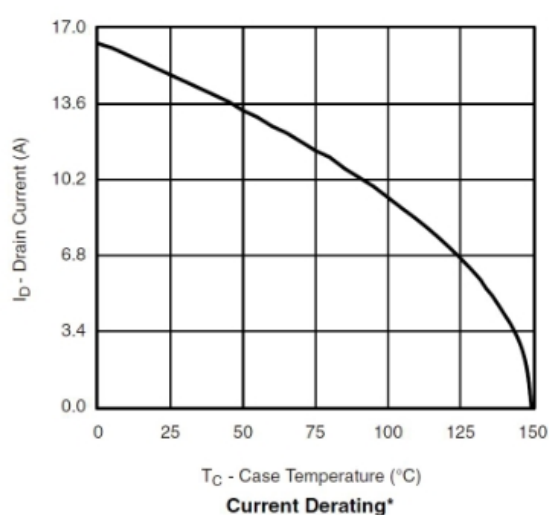
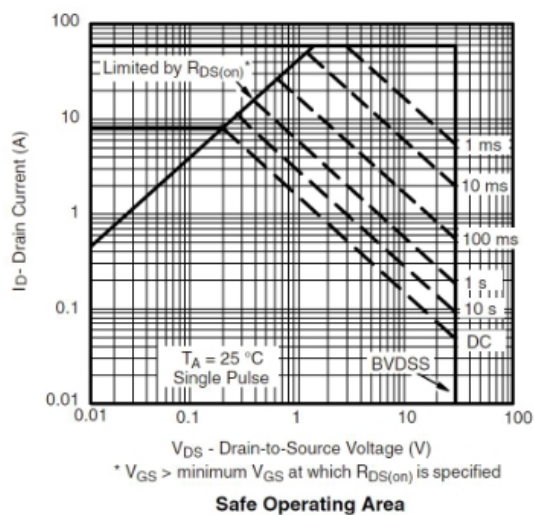
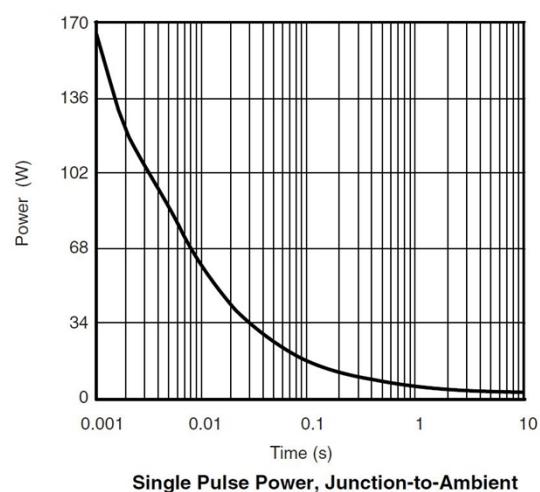
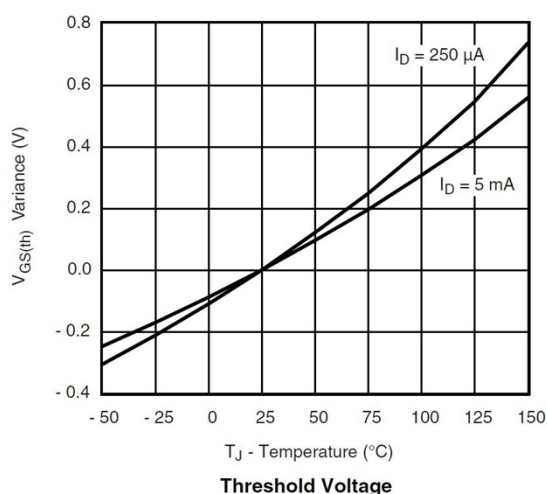
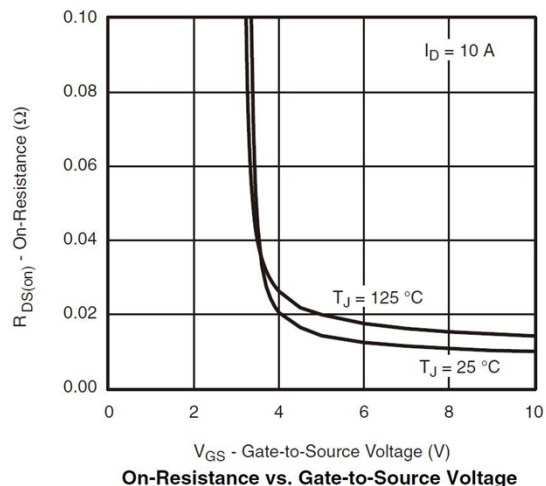
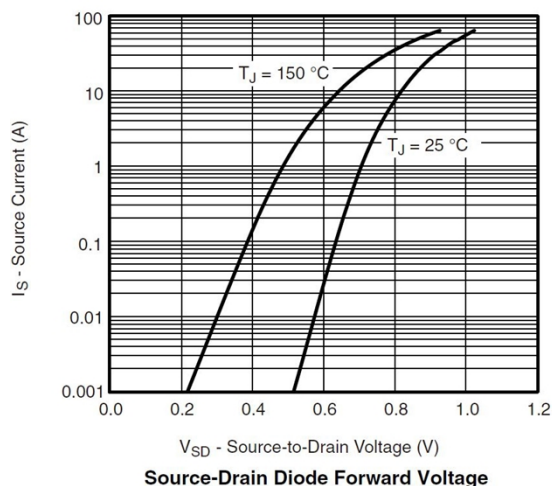
Capacitance

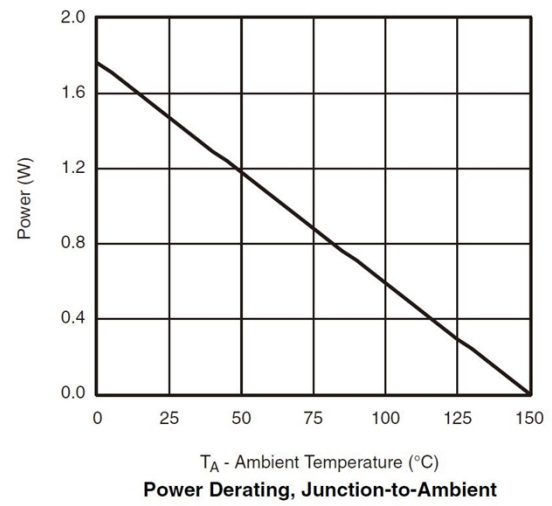
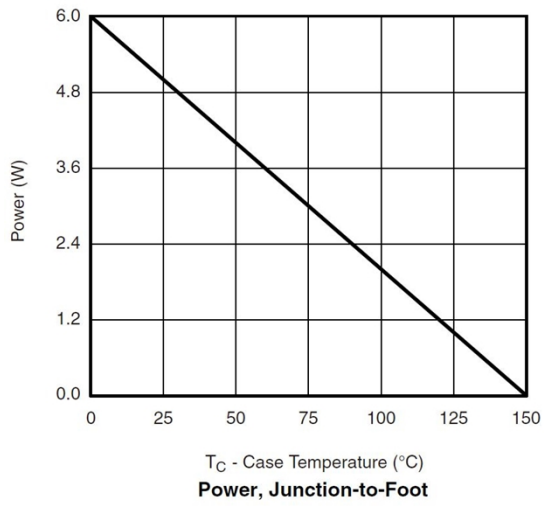


Gate Charge

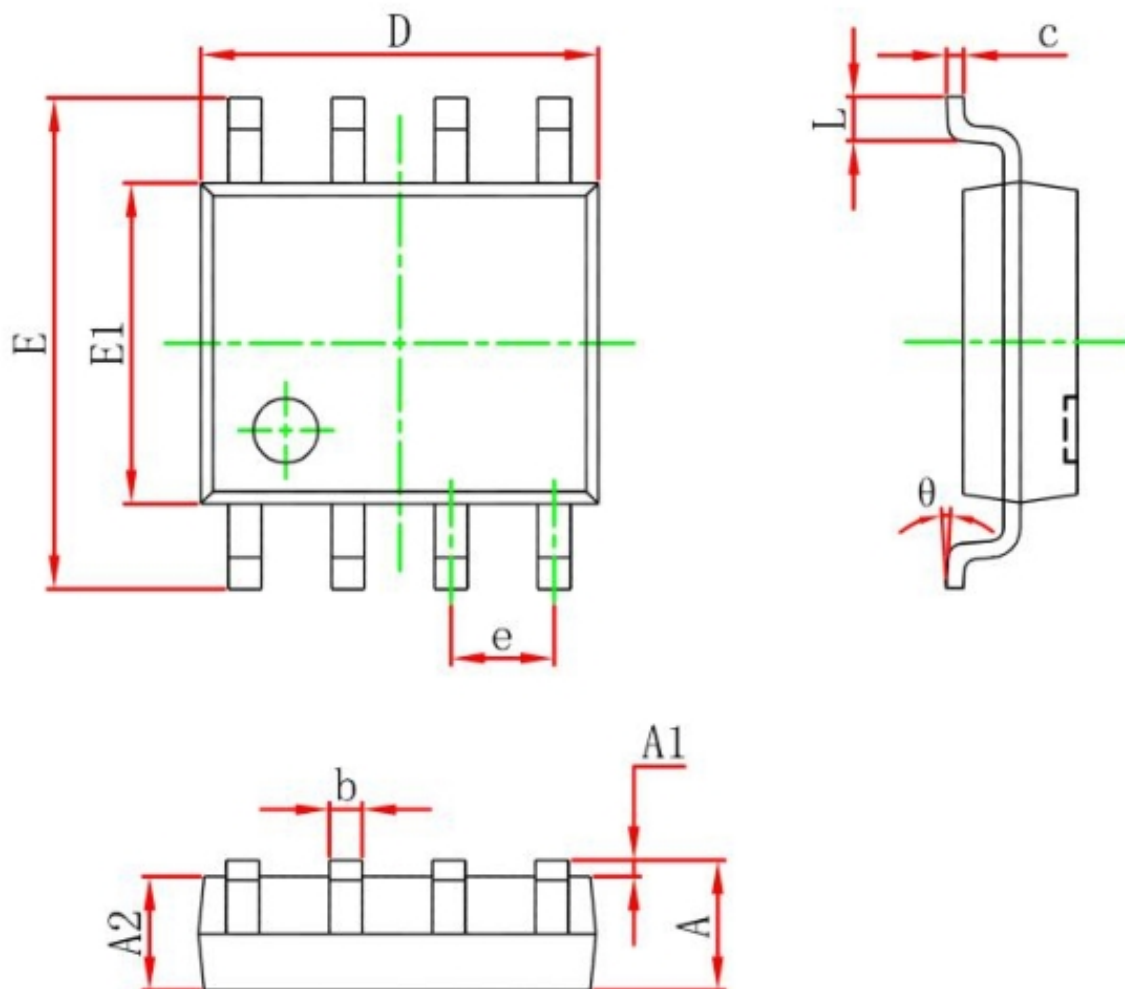


On-Resistance vs. Junction Temperature





SOP-8 Package Information



Symbol	Dimensions In Millimeters	
	Min.	Max.
A	1.35	1.75
A1	0.10	0.25
A2	1.35	1.55
b	0.33	0.51
c	0.17	0.25
D	4.80	5.00
e	1.27 REF.	
E	5.80	6.20
E1	3.80	4.00
L	0.40	1.27
θ	0°	8°