

Product Summary

$V_{(BR)DSS}$	$R_{DS(on)TYP}$	I_D
-30V	18m Ω @-10V	-9.1A
	26m Ω @-4.5V	

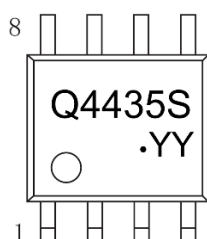
Feature

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

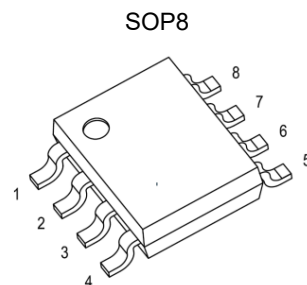
Application

- Load Switch for Portable Devices
- Battery Switch

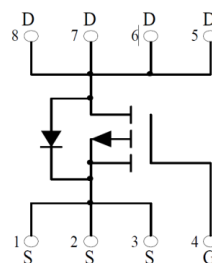
MARKING:



Q4435S = Device code
 YY = Date Code
 Solid dot = Pin1 indicator
 Solid dot = Green molding compound device,
 If none, the normal device.



Schematic diagram



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	-9.1	A
Pulsed Drain Current	I_{DM}	-27	A
Power Dissipation	P_D	2.7	W
Thermal Resistance from Junction to Ambient($t \leq 10s$)	$R_{\theta JA}$	46	$^{\circ}\text{C/W}$
Thermal Resistance from Junction to Board	$R_{\theta JB}$	8.6	$^{\circ}\text{C/W}$
Thermal Resistance from Junction to Case	$R_{\theta JC}$	4	$^{\circ}\text{C/W}$
Junction Temperature	T_J	150	$^{\circ}\text{C}$
Storage Temperature	T_{STG}	-55~ +150	$^{\circ}\text{C}$

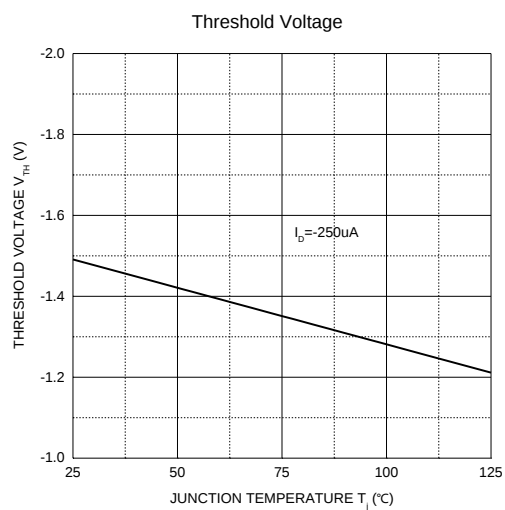
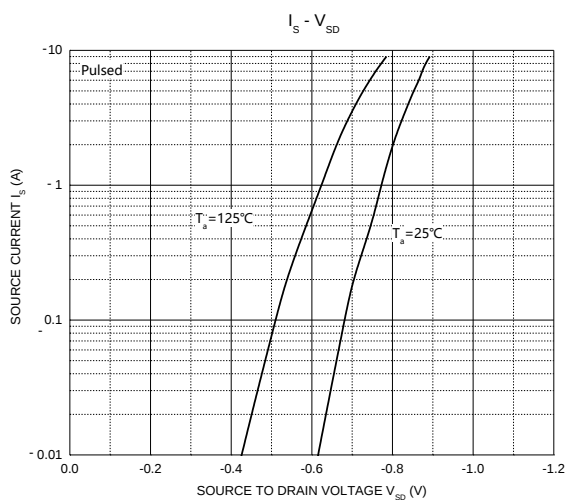
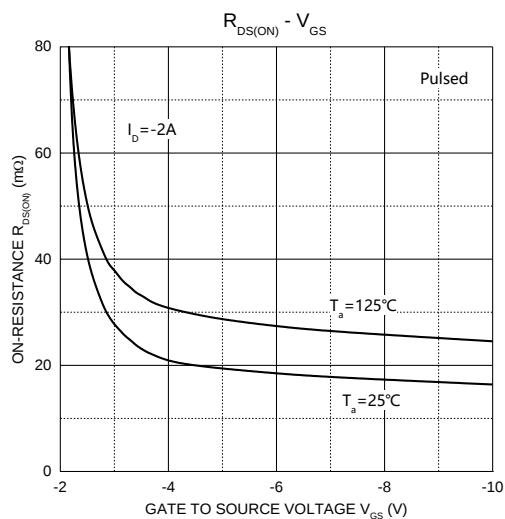
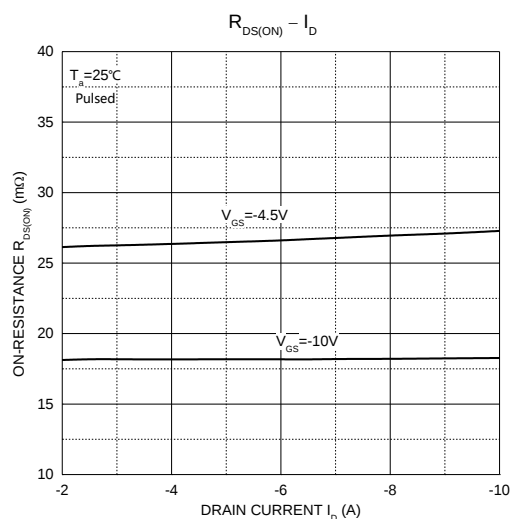
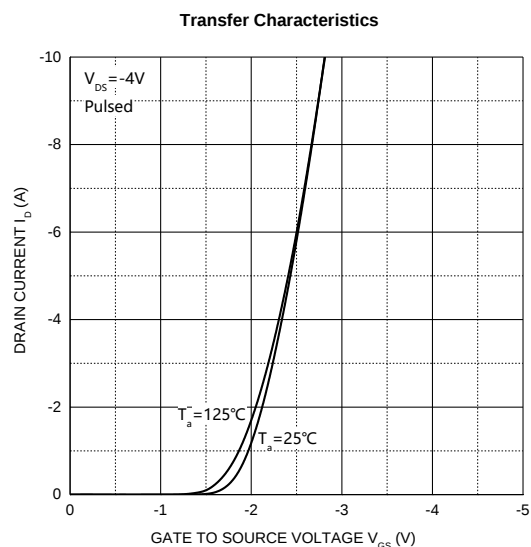
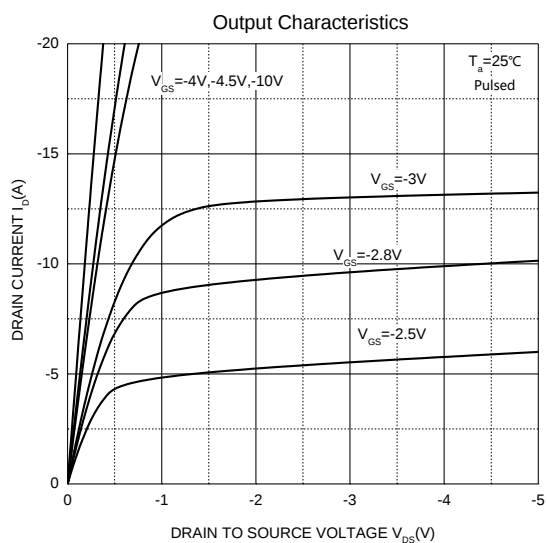
MOSFET ELECTRICAL CHARACTERISTICS ($T_a=25^{\circ}\text{C}$ unless otherwise noted)

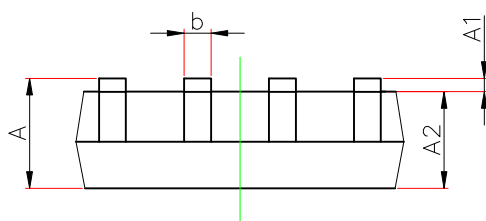
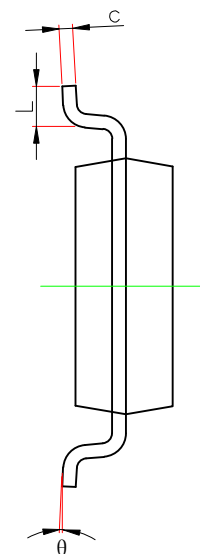
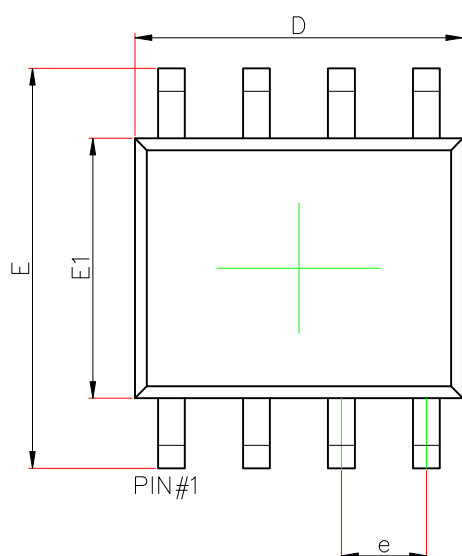
Parameter	Symbol	Test Condition	Min	Type	Max	Unit
Static Characteristics						
Drain-source breakdown voltage	$V_{(BR)DSS}$	$V_{GS} = 0V, I_D = -250\mu A$	-30			V
Zero gate voltage drain current	I_{DSS}	$V_{DS} = -30V, V_{GS} = 0V$			-1	μA
Gate-body leakage current	I_{GSS}	$V_{GS} = \pm 20V, V_{DS} = 0V$			± 0.1	μA
On characteristics ⁽¹⁾						
Gate threshold voltage	$V_{GS(th)}$	$V_{DS} = V_{GS}, I_D = -250\mu A$	-1.0	-1.5	-3.0	V
Drain-source on-resistance	$R_{DS(on)}$	$V_{GS} = -10V, I_D = -9.1A$		18	24	m Ω
		$V_{GS} = -4.5V, I_D = -6.9A$		26	35	
Forward tranconductance	g_{FS}	$V_{DS} = -10V, I_D = -9.1A$		12		S
Dynamic characteristics ⁽²⁾						
Input capacitance	C_{iss}	$V_{DS} = -15V, V_{GS} = 0V, f = 1MHz$		1400		pF
Output capacitance	C_{oss}			163		
Reverse transfer capacitance	C_{rss}			145		
Switching characteristics ⁽²⁾						
Total gate charge	Q_g	$V_{DS} = -15V, V_{GS} = -4.5V, I_D = -9.1A$			25	nC
Gate-source charge	Q_{gs}				7	
Gate-drain charge	Q_{gd}				12	
Turn-on delay time	$t_{d(on)}$	$V_{DD} = -15V, I_D = -1A, V_{GS} = -10V, R_G = 1\Omega, R_L = 15\Omega$			15	ns
Turn-on rise time	t_r				15	
Turn-off delay time	$t_{d(off)}$				70	
Turn-off fall time	t_f				25	
Drain-Source Diode Characteristics						
Drain-source diode forward voltage ⁽¹⁾	V_{SD}	$V_{GS} = 0V, I_S = -2A$			-1.2	V
Continuous drain-source diode forward current	I_S				-9.1	A
Pulsed drain-source diode forward current	I_{SM}				-27	

Notes:

1. Pulse test; pulse width $\leq 300\mu s$, duty cycle $\leq 2\%$.
2. Guaranteed by design, not subject to production testing.

Typical Electrical and Thermal Characteristics



SOP8 Package Information


Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min.	Max.	Min.	Max.
A	1.350	1.750	0.053	0.069
A1	0.100	0.250	0.004	0.010
A2	1.350	1.550	0.053	0.061
b	0.330	0.510	0.013	0.020
c	0.156	0.250	0.006	0.010
D	4.700	5.100	0.185	0.201
e	1.270(BSC)		0.050(BSC)	
E	5.800	6.200	0.228	0.244
E1	3.700	4.100	0.146	0.161
L	0.400	1.270	0.016	0.05
θ	0°	8°	0°	8°