

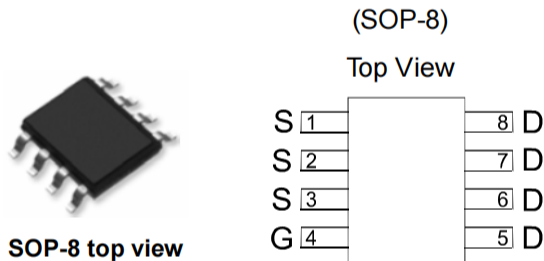
GENERAL FEATURES

- $V_{DS} = -30V, I_D = -9A$
- $R_{DS(ON)} \leq 20m\Omega @ V_{GS} = -10V$
- $R_{DS(ON)} \leq 35m\Omega @ V_{GS} = -4.5V$

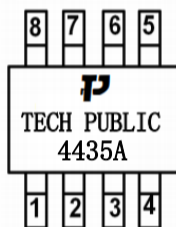
Application

- Load/Power Switching
- Interfacing Switching
- Logic Level Shift

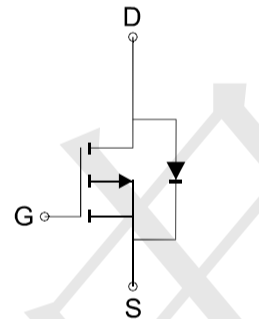
Package and Pin Configuration



Marking:



Circuit diagram



Absolute Maximum Ratings (TA=25°C Unless Otherwise Noted)

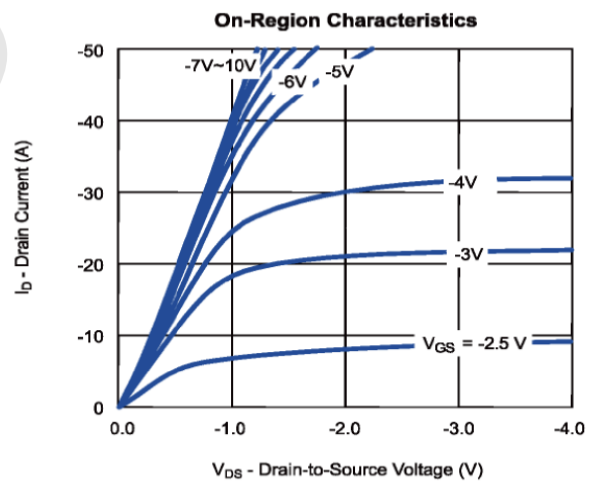
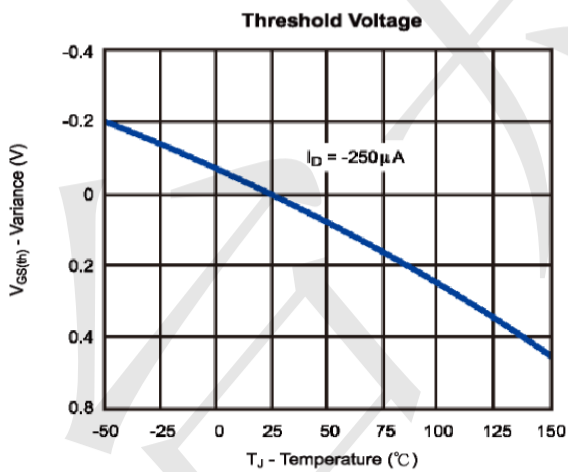
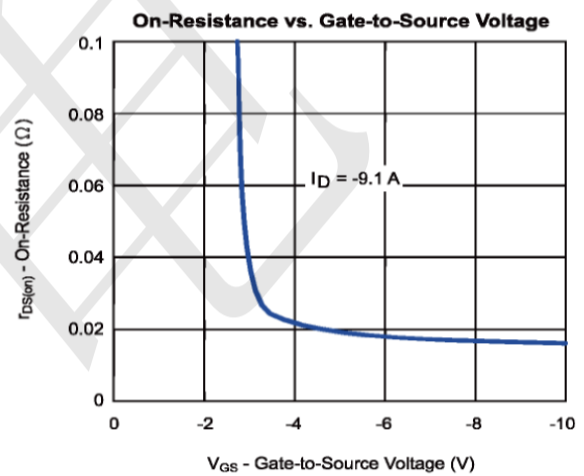
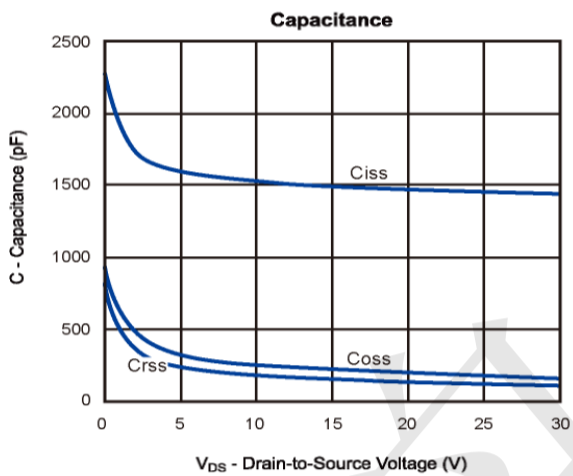
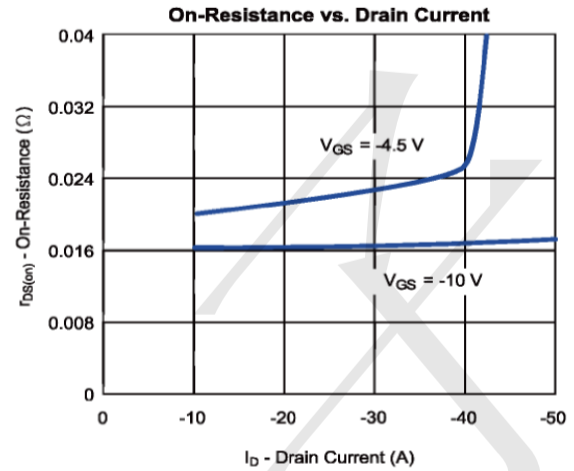
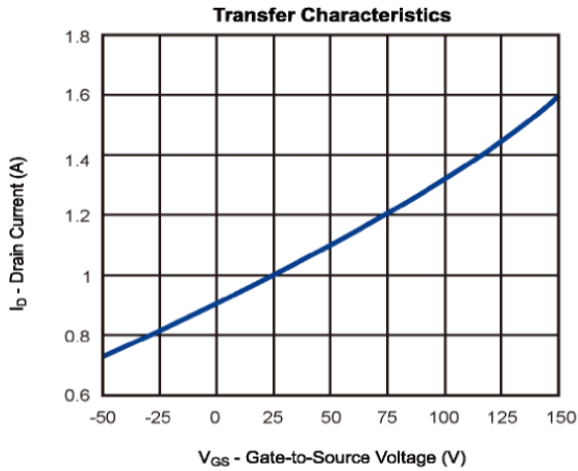
Parameter		Symbol	Maximum Ratings	Unit
Drain-Source Voltage		V_{DS}	-30	V
Gate-Source Voltage		V_{GS}	± 20	V
Continuous Drain Current	$T_A = 25^\circ C$	I_D	-9.0	A
	$T_A = 70^\circ C$		-7.1	
Pulsed Drain Current		I_{DM}	-35	A
Maximum Power Dissipation	$T_A = 25^\circ C$	P_D	2.5	W
	$T_A = 70^\circ C$		1.6	
Operating Junction Temperature		T_J	-55 to 150	$^\circ C$
Thermal Resistance-Junction to Ambient*		$R_{\theta JA}$	50	$^\circ C/W$

Electrical Characteristics ($T_A = 25^\circ\text{C}$ Unless Otherwise Specified)

Symbol	Parameter	Limit	Min	Typ	Max	Unit
STATIC						
$V_{GS(th)}$	Gate Threshold Voltage	$V_{DS}=V_{GS}, I_D=-250\mu\text{A}$	-1	-1.4	-3	V
I_{GSS}	Gate Leakage Current	$V_{DS}=0\text{V}, V_{GS}=\pm 20\text{V}$			± 100	nA
I_{DSS}	Zero Gate Voltage Drain Current	$V_{DS}=-30\text{V}, V_{GS}=0\text{V}$			-1	μA
$I_{D(ON)}$	On-State Drain Current ^a	$V_{DS}=-5\text{V}, V_{GS}=-10\text{V}$	-30			A
$R_{DS(ON)}$	Drain-Source On-State Resistance ^a	$V_{GS}=-10\text{V}, I_D=-9.1\text{A}$		15	20	$\text{m}\Omega$
		$V_{GS}=-4.5\text{V}, I_D=-6.9\text{A}$		25	35	
V_{SD}	Diode Forward Voltage	$I_S=-2.1\text{A}, V_{GS}=0\text{V}$		-0.8	-1.2	V
DYNAMIC						
Q_g	Total Gate Charge	$V_{DS}=-15\text{V}, V_{GS}=-10\text{V}, I_D=-9.1\text{A}$		38		nC
Q_{gs}	Gate-Source Charge			7.7		
Q_{gd}	Gate-Drain Charge			9		
R_g	Gate Resistance	$V_{GS}=0\text{V}, V_{DS}=0\text{V}, f=1\text{MHz}$		6.9		Ω
C_{iss}	Input capacitance	$V_{DS}=-15\text{V}, V_{GS}=0\text{V}, f=1\text{MHz}$		1490		pF
C_{oss}	Output Capacitance			209		
C_{rss}	Reverse Transfer Capacitance			148		
$t_{d(on)}$	Turn-On Delay Time	$V_{DD}=-15\text{V}, R_L=15\Omega$ $I_D=-1\text{A}, V_{GEN}=-10\text{V}$ $R_G=6\Omega$		38.2		ns
t_r	Turn-On Rise Time			16.7		
$t_{d(off)}$	Turn-Off Delay Time			106		
t_f	Turn-Off Fall Time			24.1		

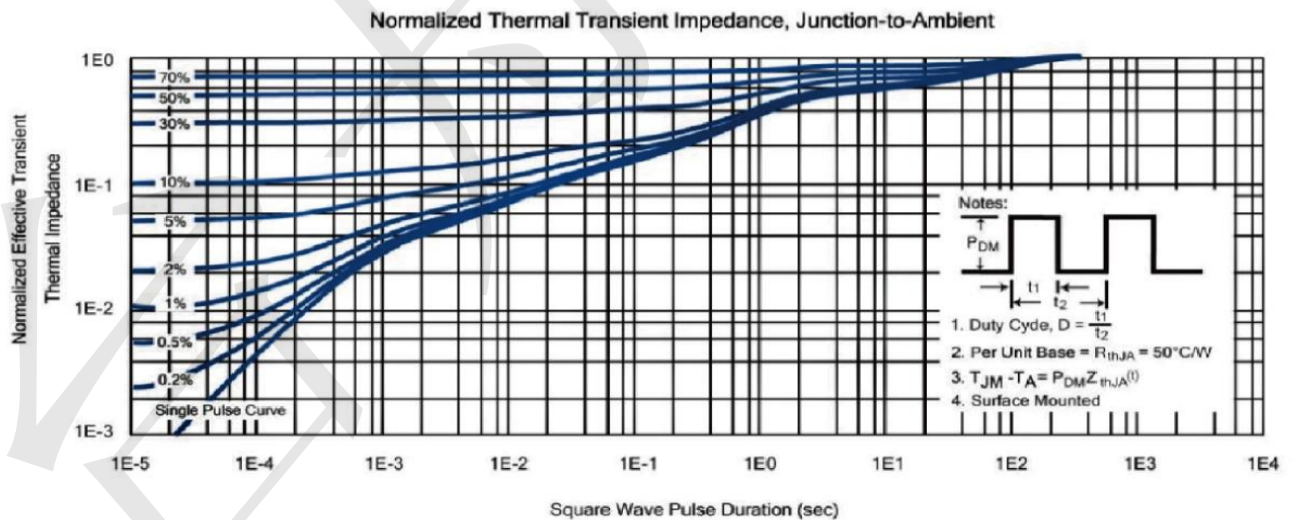
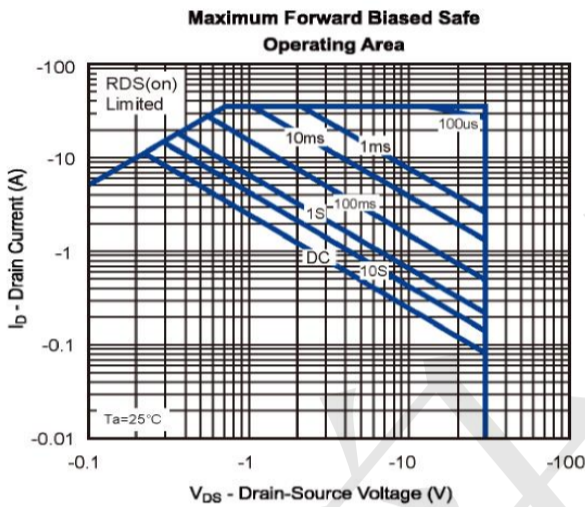
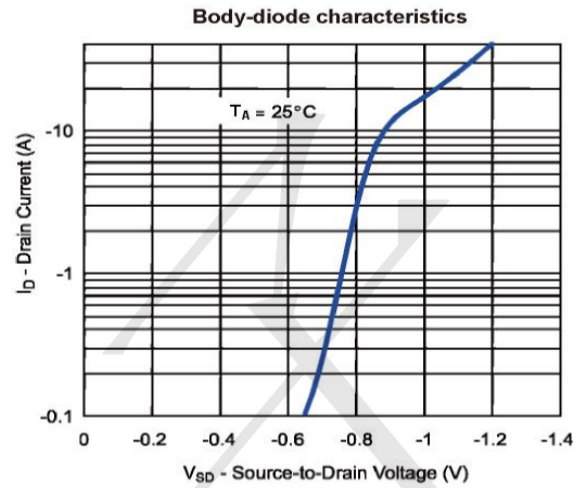
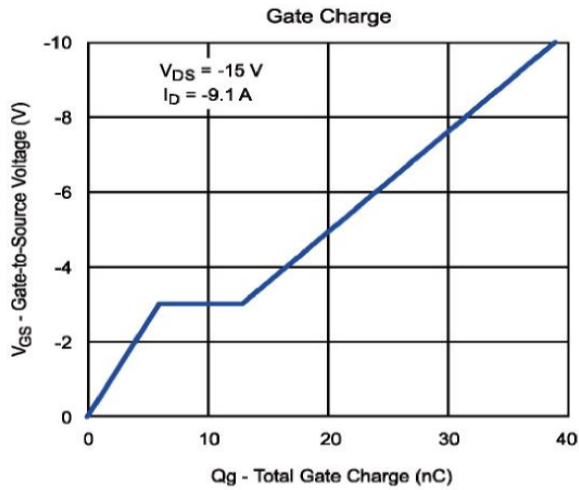
Typical Characteristics

($T_A = 25^\circ\text{C}$ Unless Otherwise Specified)

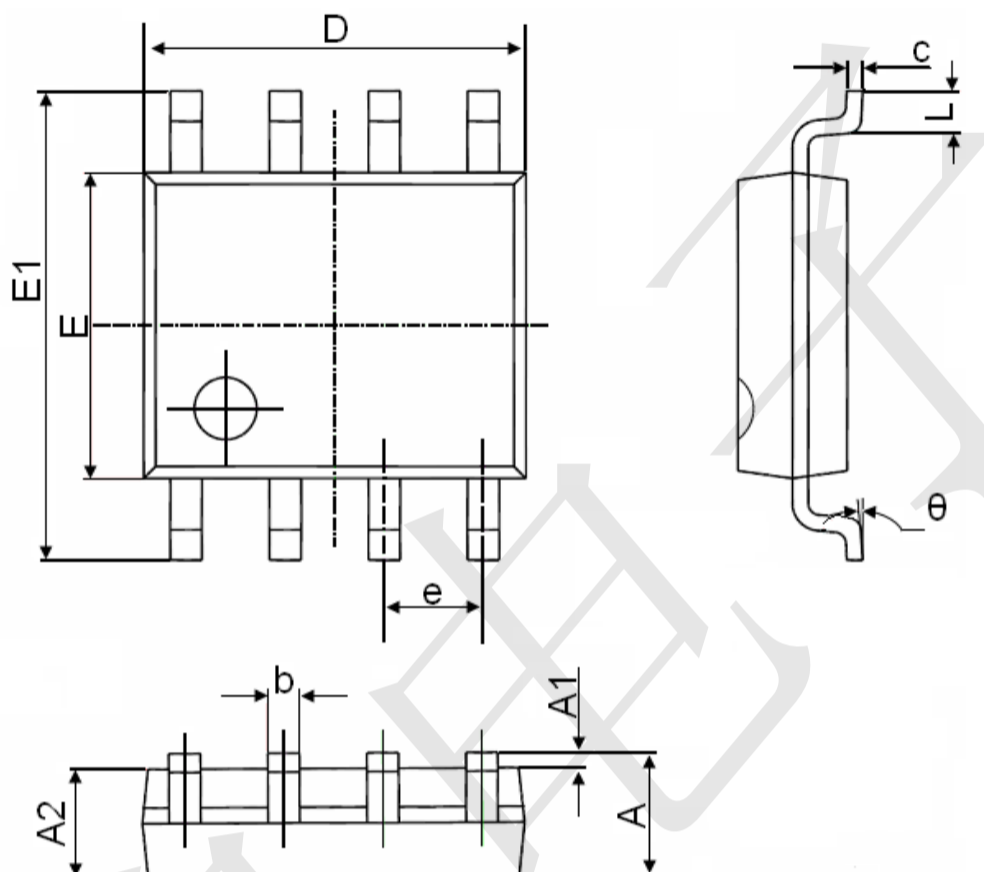


Typical Characteristics

($T_A = 25^\circ\text{C}$ Unless Otherwise Specified)



SOP-8 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	0.170	0.250	0.006	0.010
D	4.700	5.100	0.185	0.200
E	3.800	4.000	0.150	0.157
E1	5.800	6.200	0.228	0.244
e	1.270(BSC)		0.050(BSC)	
L	0.400	1.270	0.016	0.050
θ	0°	8°	0°	8°