**KIA**
SEMICONDUCTORS

-5.3A，-30V
P-CHANNEL MOSFET

9435A

1. Features

- n $R_{DS(on)}$=50mΩ(typ)@ V_{GS}=-10 V
- n Super High Density Cell Design
- n Green device available
- n Reliable and Rugged

2. Applications

- n Power Management in Notebook Computer, Portable Equipment and Battery Powered Systems

3. Symbol

SOP-8

S 1   8 D
S 2   7 D
S 3   6 D
G 4   5 D

Top View

P-Channel MOSFET
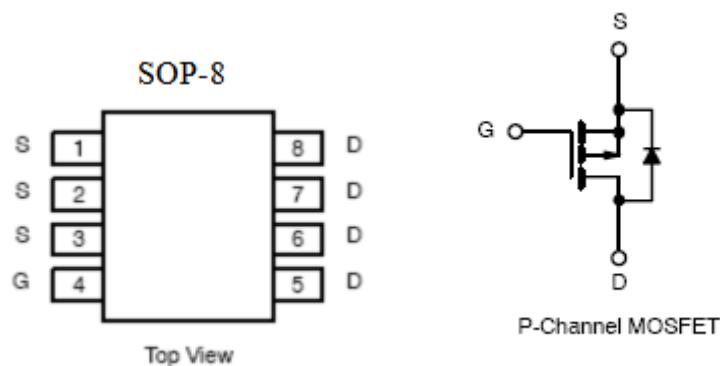
4. Absolute maximum ratings

(T$_A$=25°C,unless otherwise noted)

Parameter		Symbol	Rating	Units
Drain-source voltage		V_{DSS}	-30	V
Gate-source voltage		V_{GS}	±20	V
Continuous drain current V_{GS}@10V	T$_A$=25°C	I_D	-5.3	A
	T$_A$=70°C		-3.3	
Pulsed drain current		I_{DM}	-20	A
Total power dissipation	T$_A$=25°C	P_D	2.5	W
Junction and storage temperature range		T_J,T_{STG}	-55 to150	°C
Thermal resistance-junction to ambient[1]		$R_{\theta JA}$	50	°C/W

5.Electrical characteristics

(T$_J$=25°C,unless otherwise noted)

Parameter	Symbol	Test Conditions	Min	Typ[1]	Max	Units
Drain-Source breakdown voltage	BV$_{DSS}$	V$_{GS}$=0V, I$_D$=-250µA	-30	-	-	V
Drain-Source Leakage Current	I$_{DSS}$	V$_{DS}$=-24V,V$_{GS}$=0V, T$_J$=25°C	-	-	1	µA
		V$_{DS}$=-24V,V$_{GS}$=0V, T$_J$=55°C	-	-	10	
Gate-source leakage current	I$_{GSS}$	V$_{GS}$=±20V,V$_{DS}$=0V	-	-	±100	nA
Gate threshold voltage	V$_{GS(th)}$	V$_{DS}$=V$_{GS}$, I$_D$=250µA	-1.0	-	-3.0	V
Static drain-source on- resistance[2]	R$_{DS(on)}$	V$_{GS}$=-10V,I$_D$=-5.3A	-	50	60	mΩ
		V$_{GS}$=-4.5V,I$_D$=-4.2A	-	80	90	
Total gate charge(-4.5V)	Q$_g$	V$_{DS}$=-15V, V$_{GS}$=-10V I$_D$ =-4.6A	-	20	-	nC
Gate-source charge	Q$_{gs}$		-	4.5	-	
Gate-drain charge	Q$_{gd}$		-	2	-	
Turn-on delay time	t$_{d(on)}$	V$_{DD}$=-25V, R$_G$=6Ω, V$_{GS}$=-10V I$_D$=-2A	-	7.5	-	ns
Rise time	t$_r$		-	8	-	
Turn-off delay time	t$_{d(off)}$		-	34	-	
Fall time	t$_f$		-	11	-	
Input capacitance	C$_{iss}$	V$_{GS}$=0V, V$_{DS}$=-25V F=1.0MHZ	-	840	-	pF
Output capacitance	C$_{oss}$		-	110	-	
Reverse transfer capacitance	C$_{rss}$		-	82	-	
Diode characteristics						
Diode forward voltage[2]	V$_{SD}$	V$_{GS}$=0V,I$_S$=-1.3A, T$_J$=25°C	-	-	1.3	V

Note:1. Guaranteed by design, not subject to production testing;

     2. The data tested by pulsed, pulse width ≤300us,duty cycle ≤2%.

6. Test circuits and waveforms

Output Characteristics
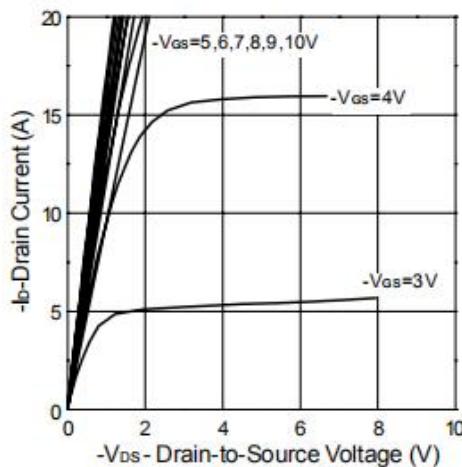
Transfer Characteristics
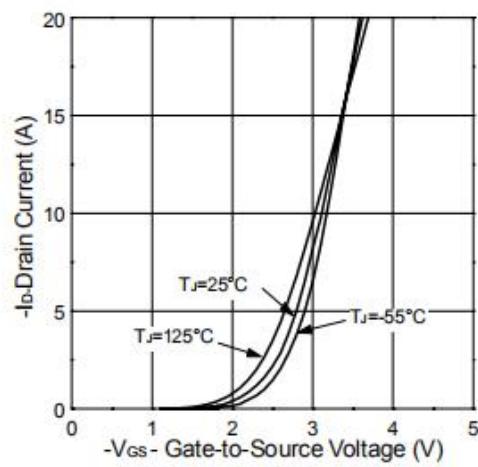
Threshold Voltage vs. Junction Temperature
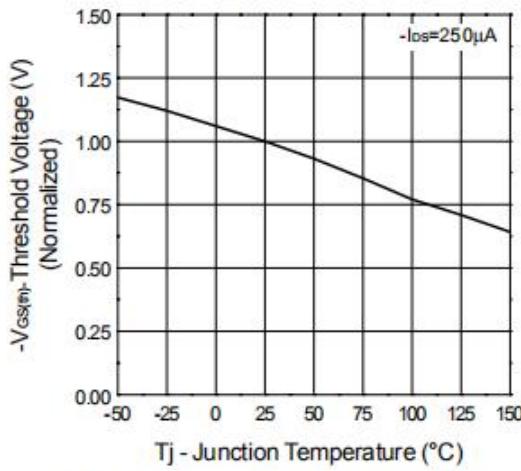
On-Resistance vs. Drain Current
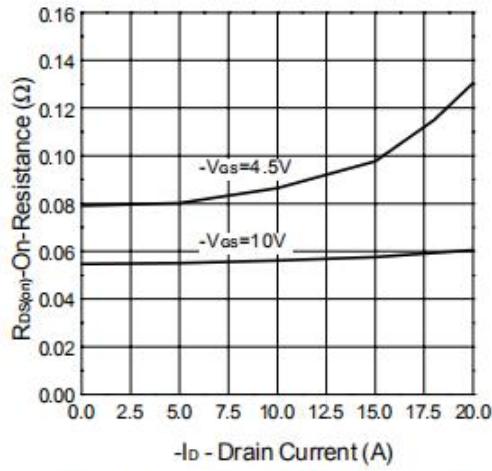
On-Resistance vs. Gate-to-Source Voltage
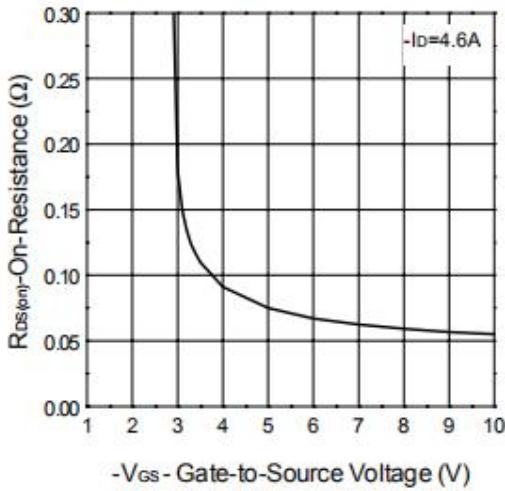
On-Resistance vs. Junction Temperature

Gate Charge

Capacitance

Source-Drain Diode Forward Voltage

Single Pulse Power

Normalized Thermal Transient Impedence, Junction to Ambient