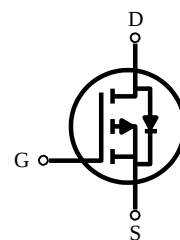
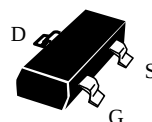


P-Channel High Density Trench MOSFET

FEATURES

- Super high dense cell trench design for low $R_{DS(on)}$.
- Rugged and reliable.
- SOT-23 package.

SOT-23



PRODUCT SUMMARY

V_{DS}	I_D	$R_{DS(on)}$ (m Ω) Max
-30V	-4.3A	55@ $V_{GS} = -10V$
		65@ $V_{GS} = -4.5V$
		75 @ $V_{GS} = -2.5V$

Ordering Information

KNS3401C□D
 □ Package Type : SOT-23
 □ G : Pb Free

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

Parameter	Symbol	Limit	Unit
Drain-Source Voltage	V_{DS}	-30	V
Gate-Source Voltage	V_{GS}	± 12	V
Drain Current-Continuous ^a @ $T_A = 25\text{ }^{\circ}\text{C}$ -Pulse ^b	I_D	-4.3	A
	I_{DM}	-16	A
Drain-Source Diode Forward Current ^a	I_S	-2.2	A
Maximum Power Dissipation ^a	P_D	1.25	W
Operating Junction and Storage Temperature Range	T_J, T_{STG}	- 55 to 150	$^{\circ}\text{C}$

THERMAL CHARACTERISTICS

Parameter	Symbol	Typ ^c	Max	Unit
Thermal Resistance, Junction-to-Ambient ^a	R_{thJA}	75	100	$^{\circ}\text{C/W}$

Note :

a. Surface Mounted on FR4 Board , $t \leq 5\text{sec}$.

b. Pulse Test : Pulse width $\leq 300\mu\text{s}$, Duty Cycle $\leq 2\%$.

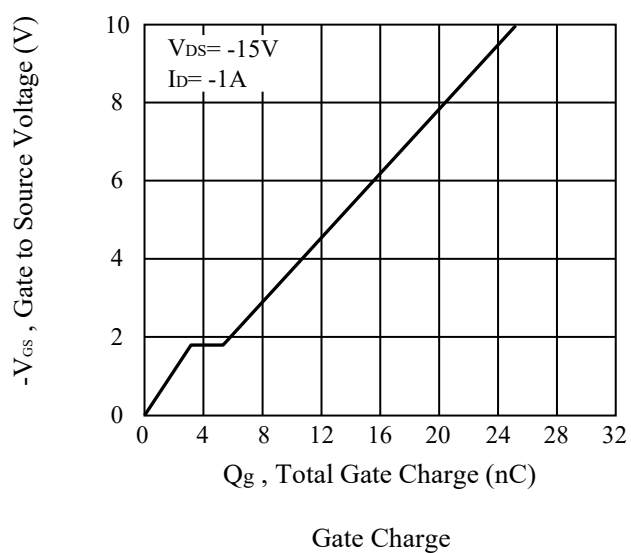
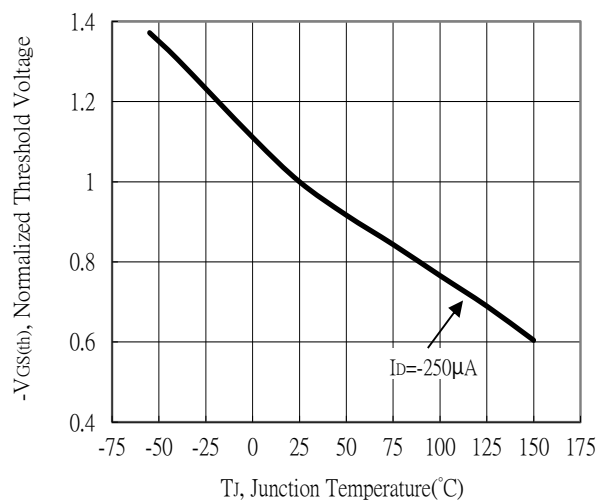
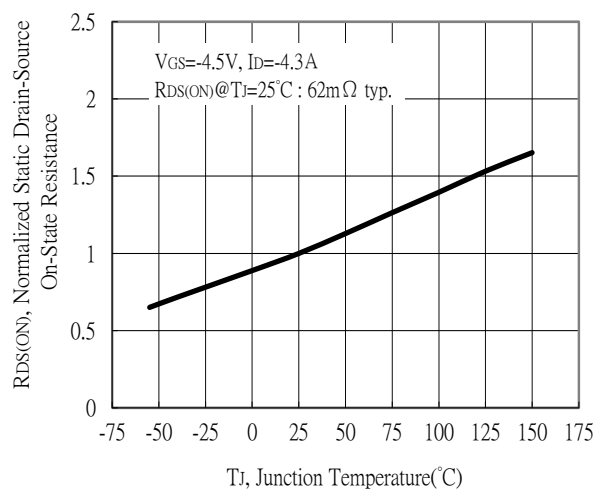
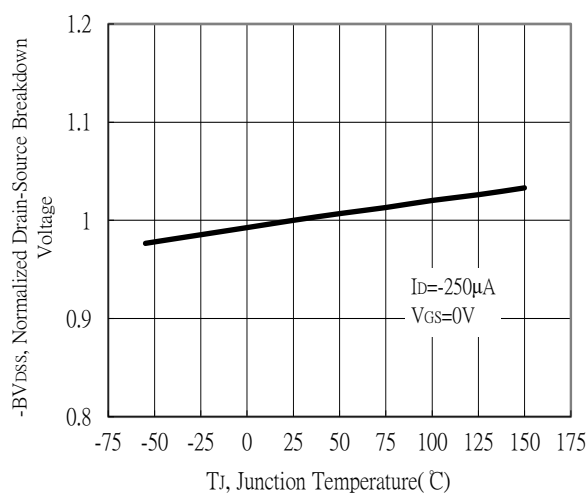
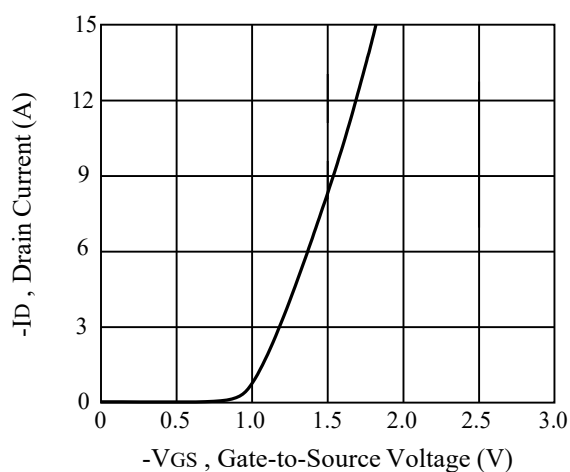
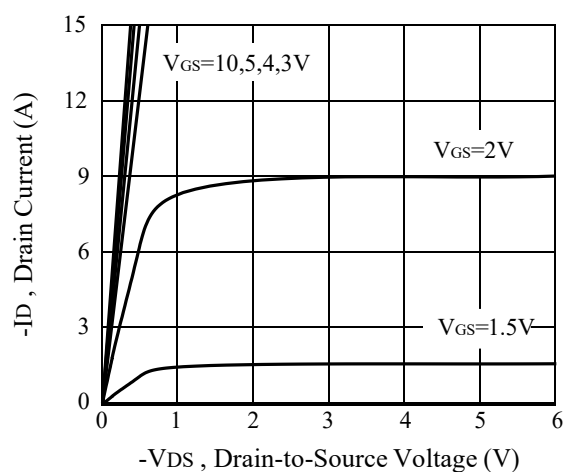
ELECTRICAL CHARACTERISTICS ($T_A = 25\text{ }^{\circ}\text{C}$ unless otherwise noted)

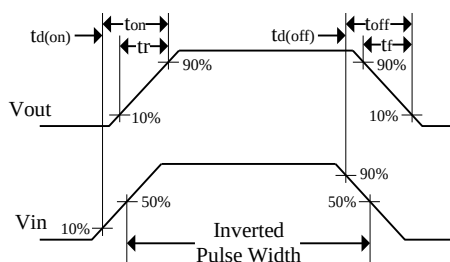
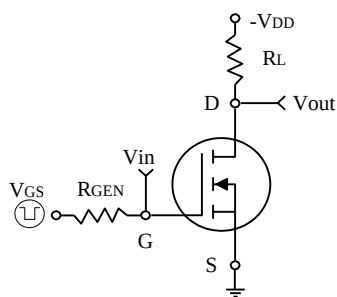
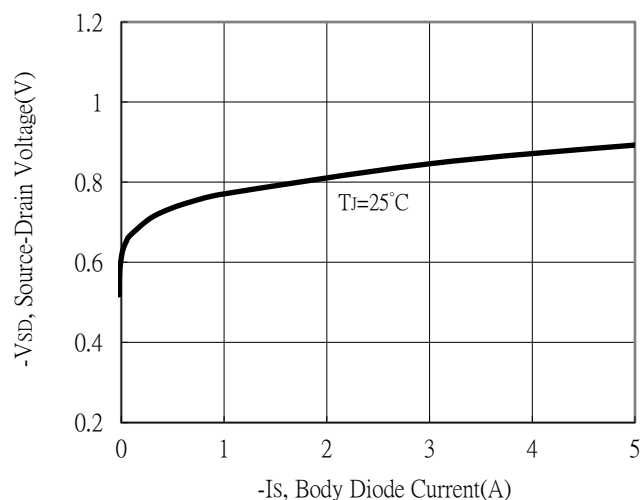
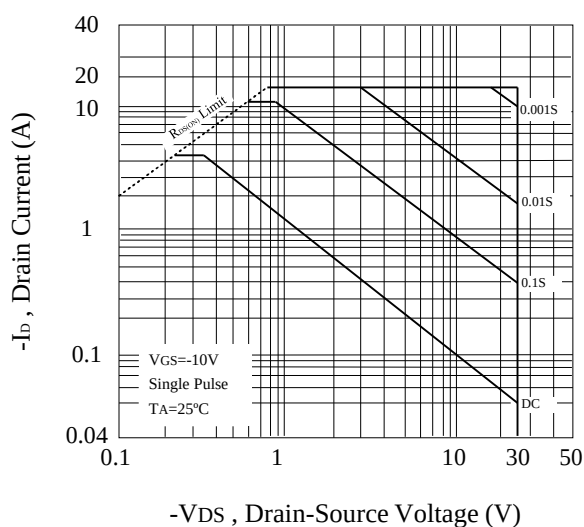
Parameter	Symbol	Condition	Min	Typ ^c	Max	Unit
OFF CHARACTERISTICS						
Drain-Source Breakdown Voltage	BV _{DSS}	V _{GS} = 0V , I _D = -250uA	- 30			V
Zero Gate Voltage Drain Current	I _{DSS}	V _{DS} = -20V , V _{GS} = 0V			-1	uA
Gate-Body Leakage	I _{GSS}	V _{GS} = -12V , V _{DS} = 0V			-100	nA
ON CHARACTERISTICS ^b						
Gate Threshold Voltage	V _{GS(th)}	V _{DS} = V _{GS} , I _D = -250uA	-0.6	-1	-1.5	V
Drain-Source On-State Resistance	R _{DS(on)}	V _{GS} = -10V , I _D = -4.3A		45	55	mΩ
		V _{GS} = -4.5V , I _D = -3.0A		53	64	mΩ
		V _{GS} = -2.5V , I _D = -1.0A		62	75	mΩ
DRAIN-SOURCE DIODE CHARACTERISTICS ^b						
Diode Forward Voltage	V _{SD}	V _{GS} = 0V , I _S = -1.0A			-1.0	V
DYNAMIC CHARACTERISTICS ^c						
Input Capacitance	C _{ISS}	V _{DS} = 15V , V _{GS} = 0V f = 1.0MHz		1078		pF
Output Capacitance	C _{OSS}			155		pF
Reverse Transfer Capacitance	C _{RSS}			126		pF
SWITCHING CHARACTERISTICS ^c						
Turn-On Delay Time	t _{D(ON)}	V _{DD} = -15V , I _D = -1A V _{GEN} = -4.5V R _L = 15 Ω R _{GEN} = 10 Ω		5		ns
Rise Time	t _r			3		ns
Turn-Off Delay Time	t _{D(OFF)}			30		ns
Fall Time	t _f			10		ns
Total Gate Charge	Q _g	V _{DS} = -15V I _D = -1A V _{GS} = -10V		25.2		nC
Gate-Source Charge	Q _{gs}			3.1		nC
Gate-Drain Charge	Q _{gd}			2.3		nC

Note :

b. Pulse Test : Pulse width $\leq 300\mu s$, Duty Cycle $\leq 2\%$.

c. Guaranteed by design, not subject to production testing.





Switching Test Circuit and Switching Waveforms

