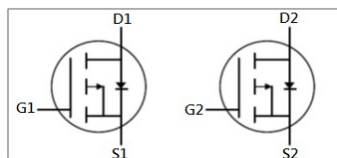
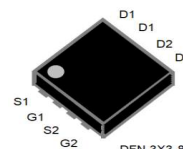


- Simple Drive Requirement
- Fast Switching Characteristic
- Low On-resistance
- RoHS Compliant & Halogen-Free



BV_{DSS}	-30V
$R_{DS(ON)typ}$	17.5mΩ
I_D	-9A



Description

KE9203 is from Kingeavy innovated design and silicon process technology to achieve the lowest possible on- resistance and fast switching performance. It provides the designer with an extreme efficient device for use in a wide range of power applications

Absolute Maximum Ratings@ $T_J=25^{\circ}\text{C}$ (unless otherwise specified)

Symbol	Parameter	Rating	Units
V_{DS}	Drain-Source Voltage	-30	V
V_{GS}	Gate-Source Voltage	± 20	V
$I_D@T_A=25^{\circ}\text{C}$	Drain Current, $V_{GS} @ 10V_3$	-9	A
$I_D@T_A=70^{\circ}\text{C}$	Drain Current, $V_{GS} @ 10V_3$	-7	A
I_{DM}	Pulsed Drain Current ¹	-20	A
$P_D@T_A=25^{\circ}\text{C}$	Total Power Dissipation	2.2	W
T_{STG}	Storage Temperature Range	-55 to 150	$^{\circ}\text{C}$
T_J	Operating Junction Temperature Range	-55 to 150	$^{\circ}\text{C}$

Thermal Data

Symbol	Parameter	Value	Unit
R_{thj-a}	Maximum Thermal Resistance, Junction-ambient ³	55	$^{\circ}\text{C}/\text{W}$

Electrical Characteristics@T_j=25 °C(unless otherwise specified)

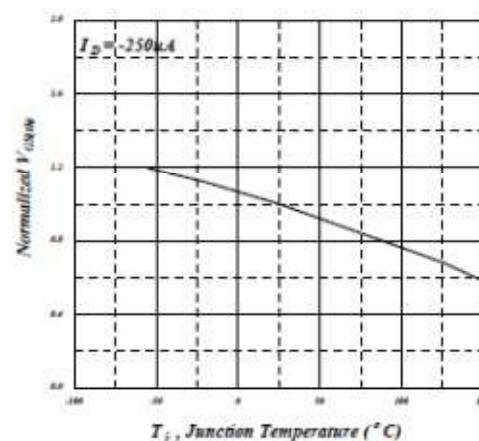
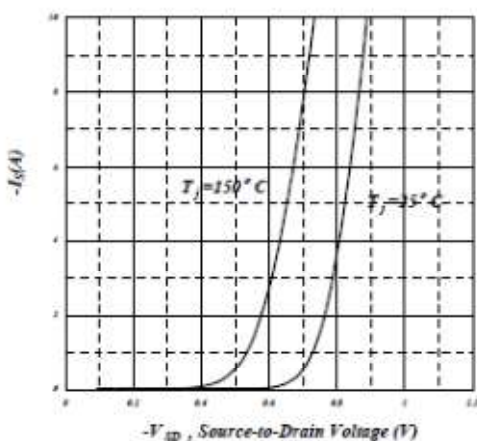
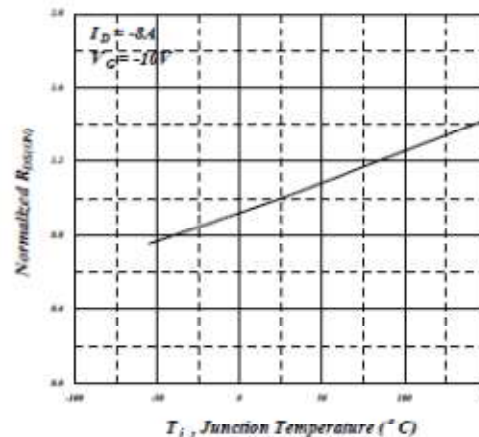
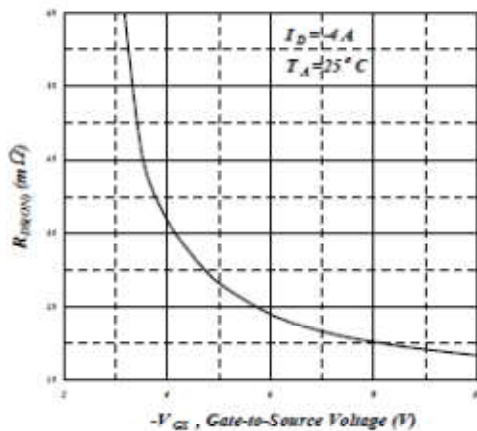
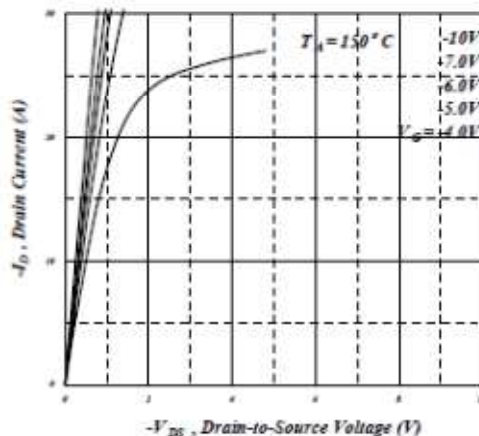
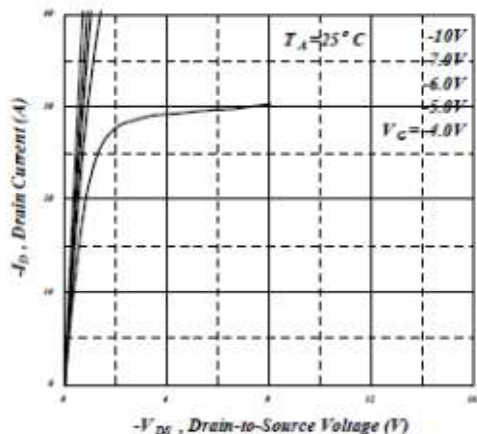
Symbol	Parameter	Test Conditions	Min.	Typ.	Max.	Units
BV _{DSS}	Drain-Source Breakdown Voltage	V _{GS} =0V, I _D =250uA	-30	-	-	V
R _{DS(ON)}	Static Drain-Source On-Resistance ²	V _{GS} =-10V, I _D =-7A	-	17.5	20	mΩ
		V _{GS} =-4.5V, I _D =-5A	-	28.2	32	mΩ
V _{GS(th)}	Gate Threshold Voltage	V _{DS} =V _{GS} , I _D =250uA	-1	-	-2.3	V
g _{fs}	Forward Transconductance	V _{DS} =-5V, I _D =-9A	-	12.5	-	S
I _{DSS}	Drain-Source Leakage Current	V _{DS} =-30V, V _{GS} =0V	-	-	-10	uA
I _{GSS}	Gate-Source Leakage	V _{GS} =±20V, V _{DS} =0V	-	-	±100	nA
Q _g	Total Gate Charge	I _D =-5A	-	12	-	nC
Q _{gs}	Gate-Source Charge	V _{DS} =-15V	-	1.8	-	nC
Q _{gd}	Gate-Drain ("Miller") Charge	V _{GS} =-4.5V	-	8.3	-	nC
t _{d(on)}	Turn-on Delay Time	V _{DS} =-15V	-	12	-	ns
t _r	Rise Time	I _D =-1A	-	8	-	ns
t _{d(off)}	Turn-off Delay Time	R _G =3.3Ω	-	70	-	ns
t _f	Fall Time	V _{GS} =-10V	-	32	-	ns
C _{iss}	Input Capacitance	V _{GS} =0V	-	1220	-	pF
C _{oss}	Output Capacitance	V _{DS} =-15V	-	182	-	pF
C _{rss}	Reverse Transfer Capacitance	f=1.0MHz	-	53	-	pF

Source-Drain Diode

Symbol	Parameter	Test Conditions	Min.	Typ.	Max.	Units
V _{SD}	Forward On Voltage ²	I _S =-1.7A, V _{GS} =0V	-	-	-1.2	V
t _{rr}	Reverse Recovery Time	I _S =-7A, V _{GS} =0V	-	15	-	ns
Q _{rr}	Reverse Recovery Charge	dI/dt=100A/μs	-	6	-	nC

Notes:

- 1.Pulse width limited by Max. junction temperature.
- 2.Pulse test
- 3.Surface mounted on 1 in² copper pad of FR4 board, t ≤10sec ; 135°C/W when mounted on min. copper pad.
4. Starting T_j=25°C, V_{DD}= - 30V, L=0.1mH, R_G=25 Ω



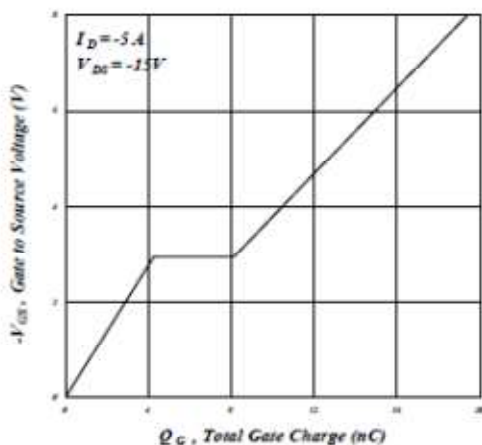


Fig 7. Gate Charge Characteristics

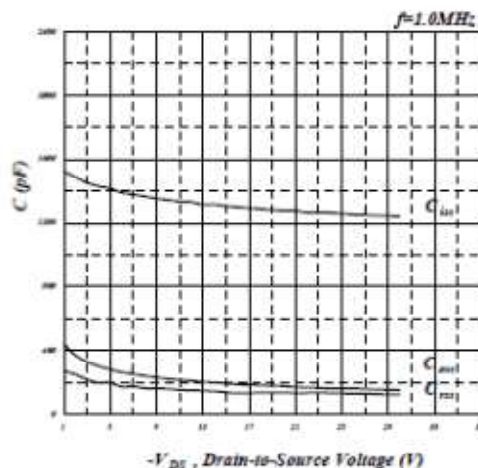


Fig 8. Typical Capacitance Characteristics

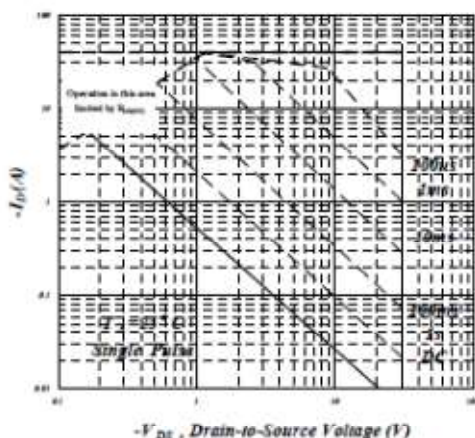


Fig 9. Maximum Safe Operating Area

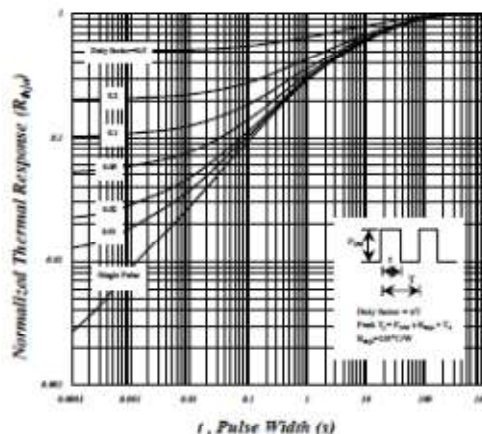


Fig 10. Effective Transient Thermal Impedance

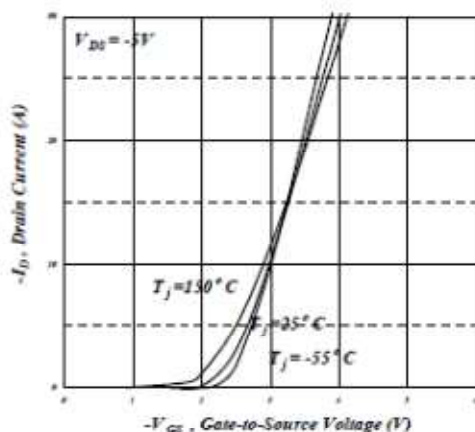


Fig 11. Transfer Characteristics

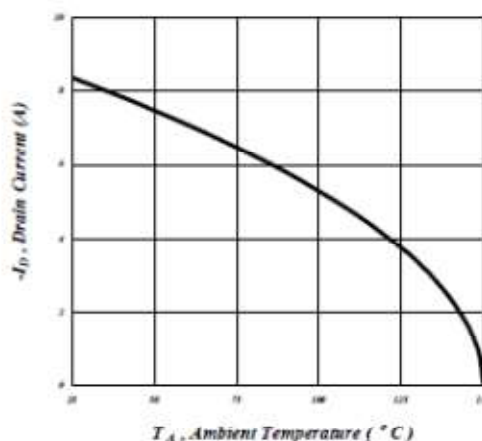
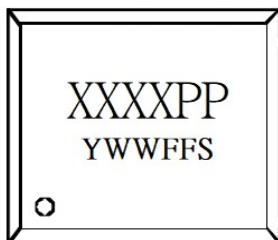


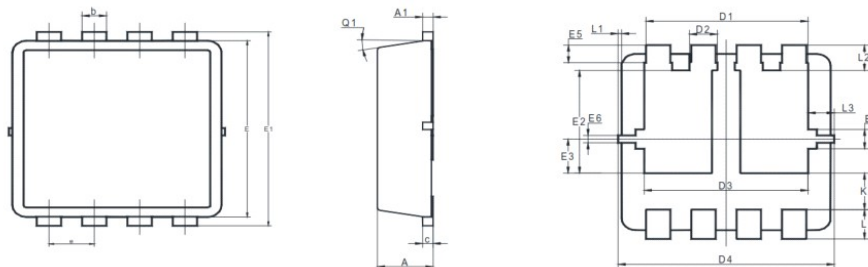
Fig 12. Drain Current v.s. Ambient Temperature

Marking Information



Package	DFN3x3-8	
XXXX	Part Number	
PP	Package Code	
Y	Year	E=2019 , F=2020,
WW	Weeks	Ex. 10/27=44weeks, 11/3=45weeks
FF	Wafer lot	Lot No.
S	Serial	Serial No.
Dot	First pin	

Package Outline: DFN3x3-8



UNIT	A	A1	b	c	D	D1	D2	D3	D4	E	E1	E2	E3	E4
mm	0.9	0.05	0.35	0.25	3.1	2.45	0.5	2.7	3.2	3.1	3.3	1.85	0.68	0.43
	0.7	0	0.24	0.1	2.9	2.25	0.3	2.5	3	2.9	3.1	1.65	0.48	0.23

UNIT	E5	E6	e	K	L	L1	L2	L3	θ1
mm	0.4	0.175	0.7	0.72	0.5	0.1	0.53	0.475	12°
	0.2	0.075	0.6	0.52	0.3	0	0.33	0.275	0°

DFN 3x3 FOOTPRINT:

