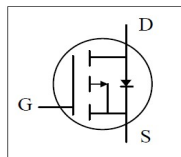
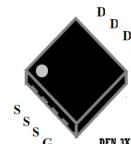


- Simple Drive Requirement
- Small Size & Lower Profile
- RoHS Compliant & Halogen-Free



BV _{DSS}	-30V
R _{DS(ON)} typ	16.2mΩ
I _D	-10A



Description

KE8303 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°C(unless otherwise specified)

Symbol	Parameter	Rating	Units
V _{DS}	Drain-Source Voltage	-30	V
V _{GS}	Gate-Source Voltage	±23	V
I _D @T _A =25°C	Drain Current, V _{GS} @ 10V ₃	-10	A
I _D @T _A =70°C	Drain Current, V _{GS} @ 10V ₃	-8	A
I _{DM}	Pulsed Drain Current ¹	-40	A
P _D @T _A =25°C	Total Power Dissipation	3	W
T _{STG}	Storage Temperature Range	-55 to 150	°C
T _J	Operating Junction Temperature Range	-55 to 150	°C

Thermal Data

Symbol	Parameter	Value	Unit
R _{thj-c}	Maximum Thermal Resistance, Junction-case	5	°C/W
R _{thj-a}	Maximum Thermal Resistance, Junction-ambient ³	40	°C/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 =-9A	-	17	20	mΩ
		V _{GS} =-4.5V, I _D =-6A	-	31	38	mΩ
V _{GS(th)}	Gate Threshold Voltage	V _{DS} =V _{GS} , I _D =250uA	-1	-1.3	-2	V
g _{fs}	Forward Transconductance	V _{DS} =-10V, I _D =-9A	-	11	-	S
I _{DSS}	Drain-Source Leakage Current	V _{DS} =-24V, V _{GS} =0V	-	-	-1	uA
I _{GSS}	Gate-Source Leakage	V _{GS} =±23V, V _{DS} =0V	-	-	±100	nA
Q _g	Total Gate Charge ₂	I _D =-9A	-	9	-	nC
Q _{gs}	Gate-Source Charge	V _{DS} =-15V	-	1.8	-	nC
Q _{gd}	Gate-Drain ("Miller") Charge	V _{GS} =-4.5V	-	5.8	-	nC
t _{d(on)}	Turn-on Delay Time	V _{DS} =-15V	-	9	-	ns
t _r	Rise Time	I _D =-1A	-	5	-	ns
t _{d(off)}	Turn-off Delay Time	R _G =3.3Ω	-	40	-	ns
t _f	Fall Time	V _{GS} =-10V	-	28	-	ns
C _{iss}	Input Capacitance	V _{GS} =0V	-	900	-	pF
C _{oss}	Output Capacitance	V _{DS} =-15V	-	172	-	pF
Crss	Reverse Transfer Capacitance	f=1.0MHz	-	138	-	pF
R _g	Gate Resistance	f=1.0MHz	-	10.5	-	Ω

Source-Drain Diode

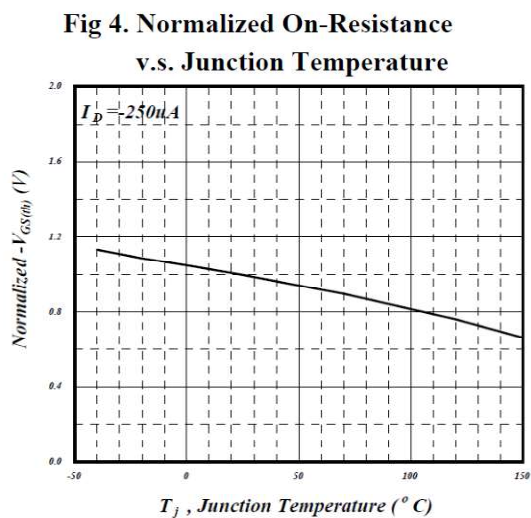
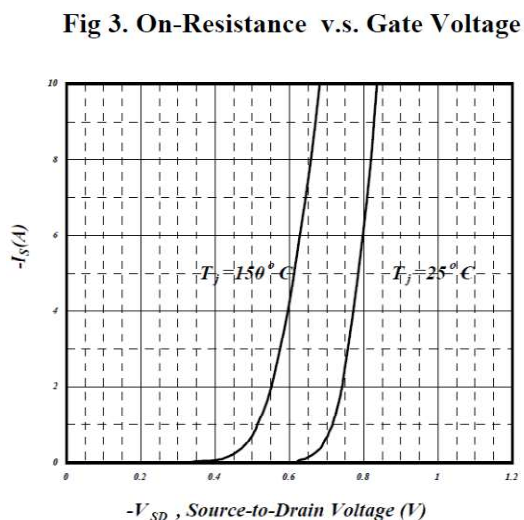
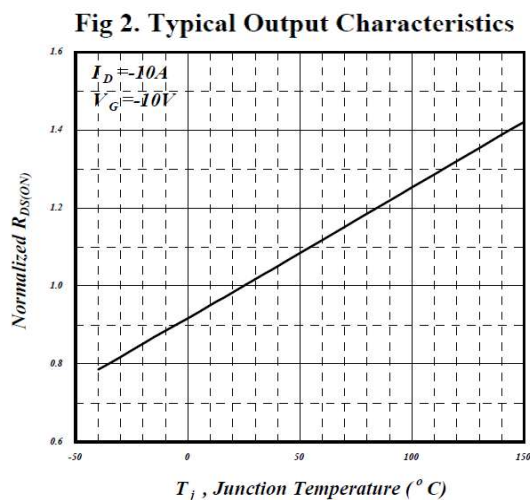
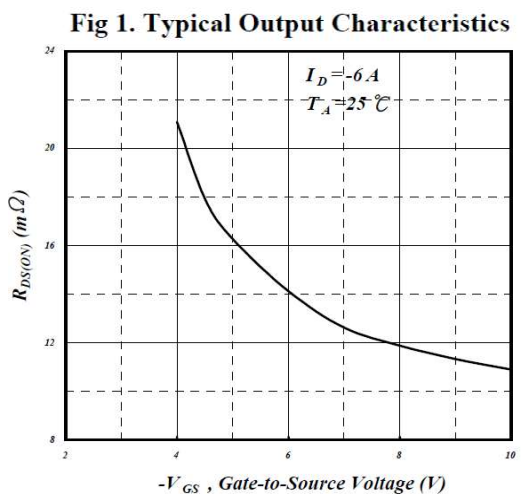
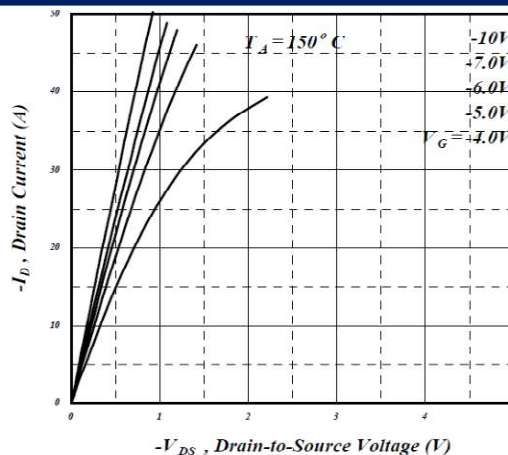
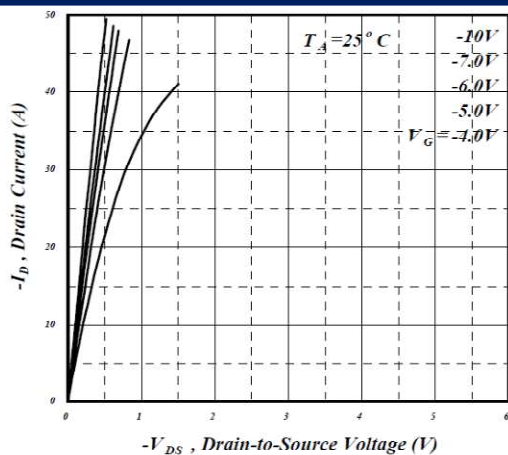
Symbol	Parameter	Test Conditions	Min.	Typ.	Max.	Units
V _{SD}	Forward On Voltage ²	I _S =-1.7A, V _{GS} =0V	-	-	-1.2	V
t _{rr}	Reverse Recovery Time	I _S =-9A, V _{GS} =0V	-	27	-	ns
Q _{rr}	Reverse Recovery Charge	dI/dt=100A/μs	-	19	-	nC

Notes:

1.Pulse width limited by Max. junction temperature.

2.Pulse test

3.Surface mounted on 1 in² 2oz copper pad of FR4 board, t ≤10sec ; 135°C/W when mounted on min. copper pad.



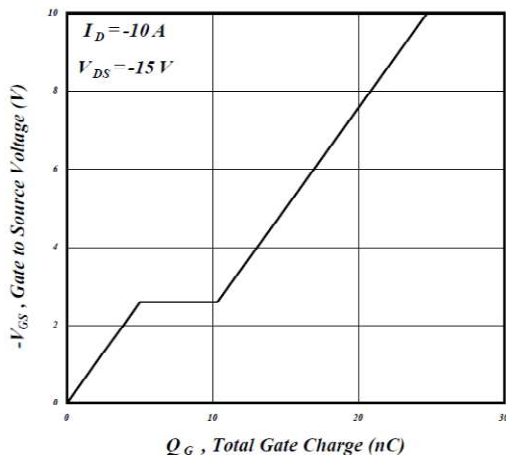


Fig 7. Gate Charge Characteristics

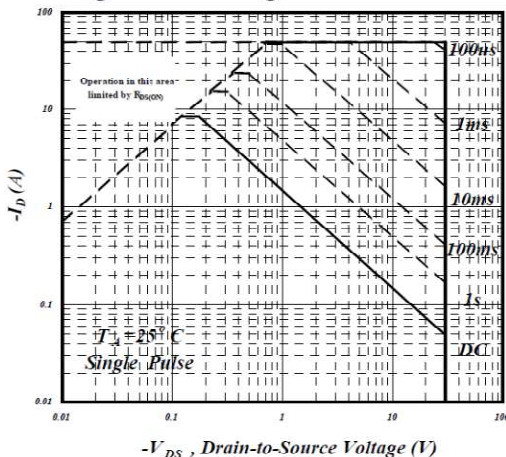


Fig 9. Maximum Safe Operating Area

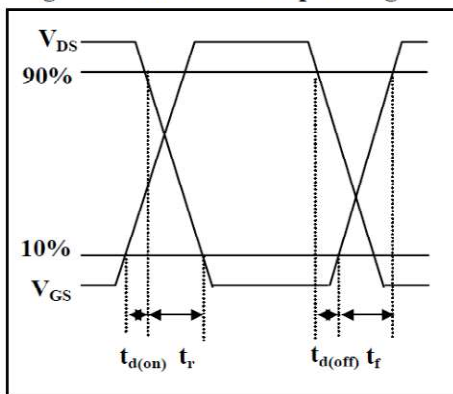


Fig 11. Switching Time Waveform

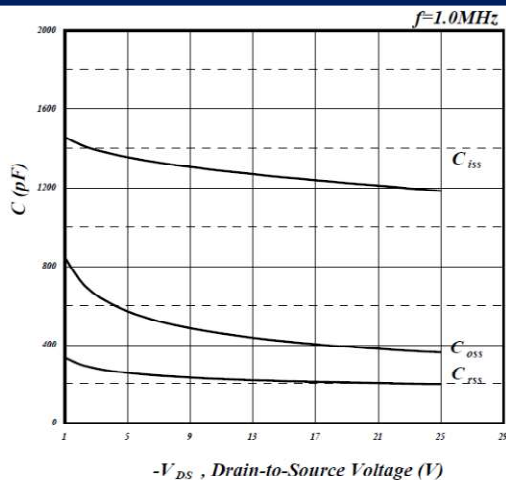


Fig 8. Typical Capacitance Characteristics

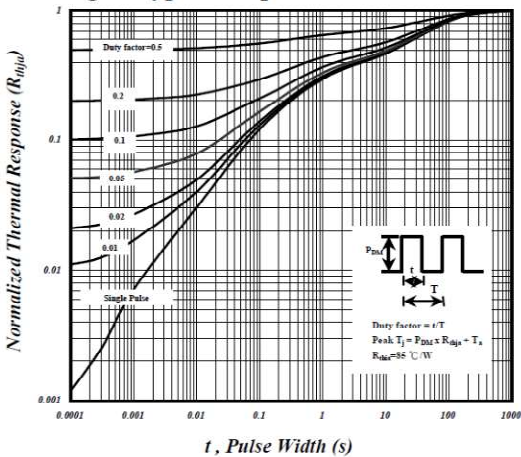


Fig 10. Effective Transient Thermal Impedance

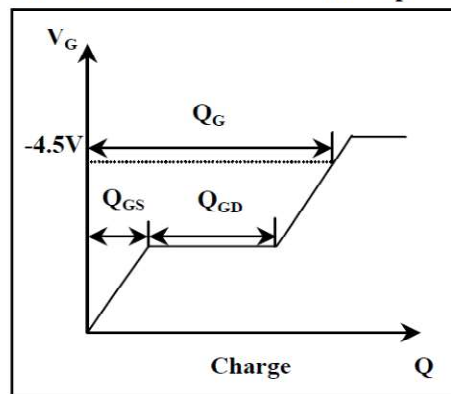
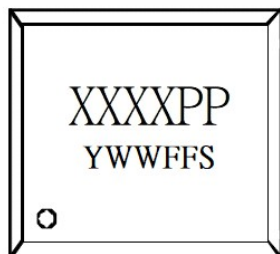


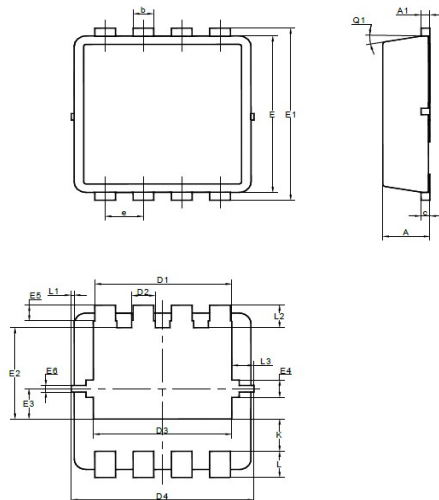
Fig 12. Gate Charge Waveform

Marking Information



Package	DFN3x3	
XXXX	Part Number	
PP	Package Code	
Y	Year	F=2020 , G=2021,
WW	Weeks	Ex. 10/27=44weeks, 11/3=45weeks
FF	Wafer lot	Lot No.
S	Serial	Serial No.
Dot	First pin	

Package Outline : DFN 3x3



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

UNIT	E4	E5	E6	e	K	L	L1	L2	L3	θ1
mm	0.43 0.23	0.4 0.2	0.175 0.075	0.7 0.6	0.72 0.52	0.5 0.3	0.1 0	0.53 0.33	0.475 0.275	12° 0°

DFN3x3 FOOTPRINT: (mm)

