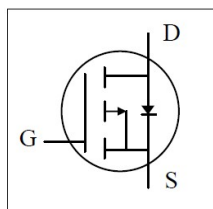
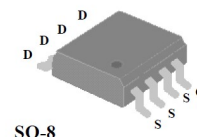


- Simple Drive Requirement
- Fast Switching Characteristic
- Low On-resistance
- RoHS Compliant & Halogen-Free



BVDSS	-30V
RDS(ON)typ	16.5mΩ
ID	-9.5A



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	-9.5	A
I _D @T _A =70°C	Drain Current, V _{GS} @ 10V ₃	-7.5	A
I _{DM}	Pulsed Drain Current ¹	-40	A
P _D @T _A =25°C	Total Power Dissipation	2	W
E _{AS}	Single Pulse Avalanche Energy ⁴	16	mJ
T _{STG}	Storage Temperature Range	-55 to 150	°C
T _J	Operating Junction Temperature Range	150	°C

Thermal Data

Symbol	Parameter	Value	Unit
R _{thj-a}	Maximum Thermal Resistance, Junction-ambient ³	62.5	°C/W

Electrical Characteristics@T_j=25 oC(unless otherwise specified)

Symbol	Parameter	Test Conditions	Min.	Typ.	Max.	Units
BV _{DSS}	Drain-Source Breakdown Voltage	VGS=0V, ID=250uA	-30	-	-	V
RDS(ON)	Static Drain-Source On-Resistance ²	VGS=-10V, ID=-10A	-	16.5	18	mΩ
		VGS=-4.5V, ID=-5A	-	27	30	mΩ
V _{GS(th)}	Gate Threshold Voltage	VDS=VGS, ID=250uA	-1	-	-3	V
g _{fs}	Forward Transconductance	VDS=-5V, ID=-10A	-	18	-	S
I _{DSS}	Drain-Source Leakage Current	VDS=-24V, VGS=0V	-	-	-10	uA
I _{GSS}	Gate-Source Leakage	VGS=±20V, VDS=0V	-	-	±100	nA
Q _g	Total Gate Charge	ID=-5A	-	12	19.2	nC
Q _{gs}	Gate-Source Charge	VDS=-15V	-	4.5	-	nC
Q _{gd}	Gate-Drain ("Miller") Charge	VGS=-4.5V	-	4	-	nC
t _{d(on)}	Turn-on Delay Time	VDS=-15V	-	11	-	ns
t _r	Rise Time	ID=-1A	-	7	-	ns
t _{d(off)}	Turn-off Delay Time	RG=6.8Ω	-	43	-	ns
t _f	Fall Time	VGS=-10V	-	20	-	ns
C _{iss}	Input Capacitance	VGS=0V	-	1300	2080	pF
C _{oss}	Output Capacitance	VDS=-25V	-	190	-	pF
Crss	Reverse Transfer Capacitance	f=1.0MHz	-	135	-	pF

Source-Drain Diode

Symbol	Parameter	Test Conditions	Min.	Typ.	Max.	Units
V _{SD}	Forward On Voltage ²	IS=1.7A, VGS=0V	-	-	-1.2	V
t _{rr}	Reverse Recovery Time	IS=-9A, VGS=0V	-	12	-	ns
Q _{rr}	Reverse Recovery Charge	dI/dt=100A/μs	-	5	-	nC

Notes:

- 1.Pulse width limited by Max. junction temperature.
- 2.Pulse test <300uS, duty cycle<2%
- 3.Surface mounted on 1 in2 2oz copper pad of FR4 board, t <10sec ; 125oC/W when mounted on min. copper pad.
- 4.Start T_j=25℃ ,VDD=30V, L=0.1mH, RG=25Ω

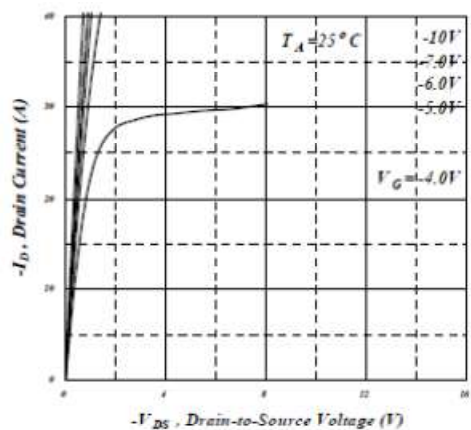


Fig 1. Typical Output Characteristics

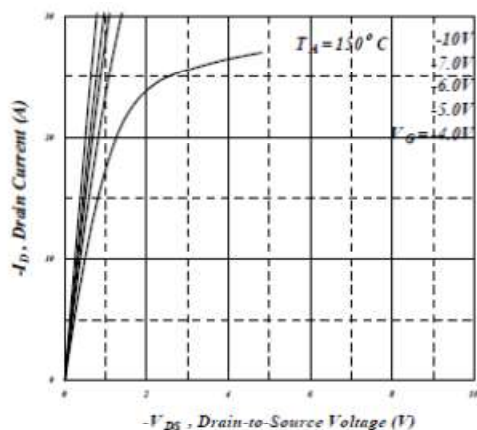


Fig 2. Typical Output Characteristics

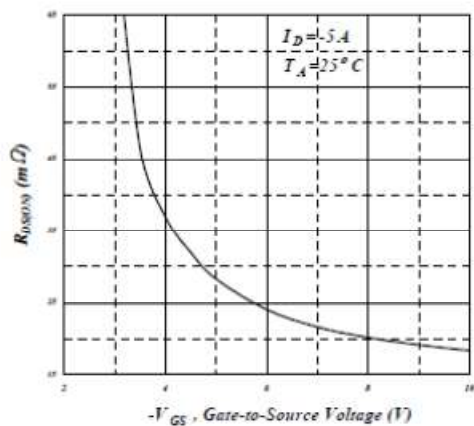


Fig 3. On-Resistance v.s. Gate Voltage

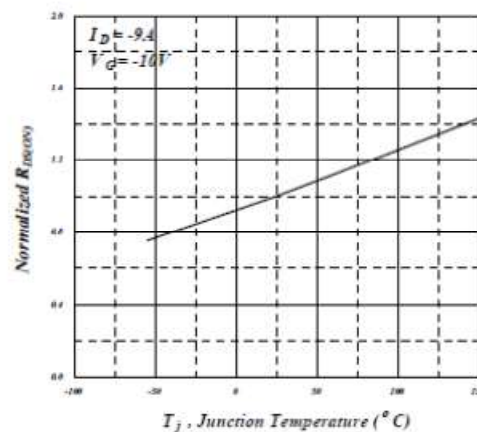


Fig 4. Normalized On-Resistance
v.s. Junction Temperature

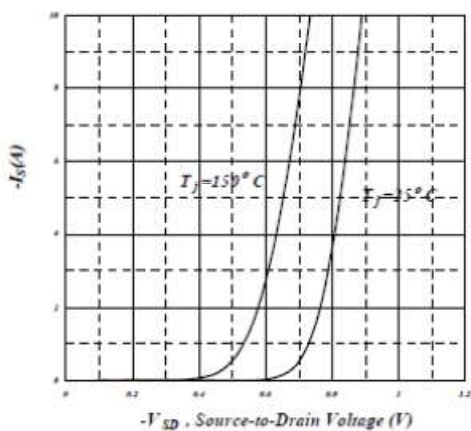


Fig 5. Forward Characteristic of
Reverse Diode

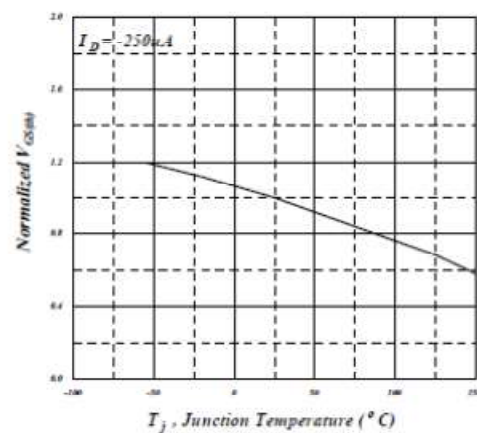


Fig 6. Gate Threshold Voltage v.s.
Junction Temperature

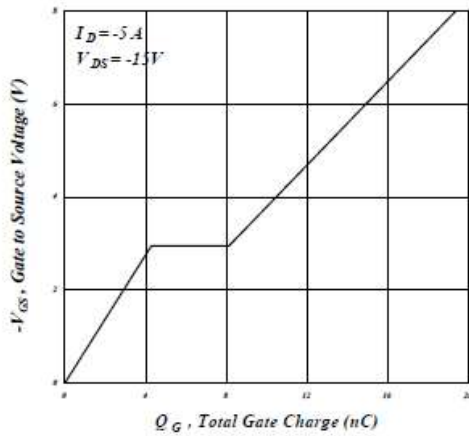


Fig 7. Gate Charge Characteristics

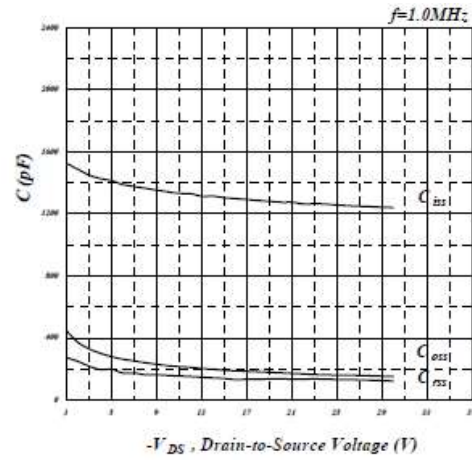


Fig 8. Typical Capacitance Characteristics

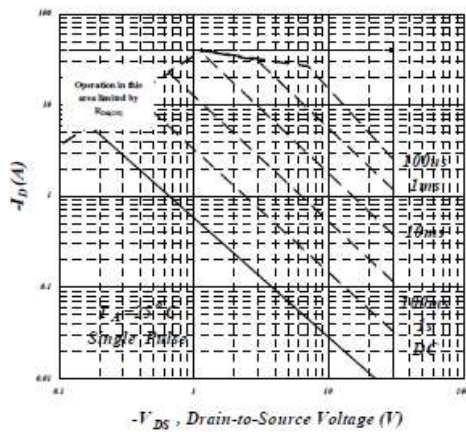


Fig 9. Maximum Safe Operating Area

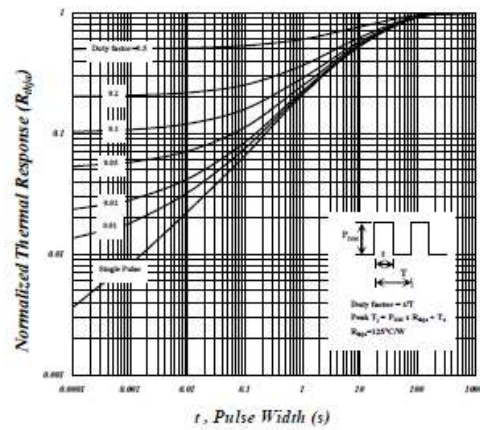


Fig 10. Effective Transient Thermal Impedance

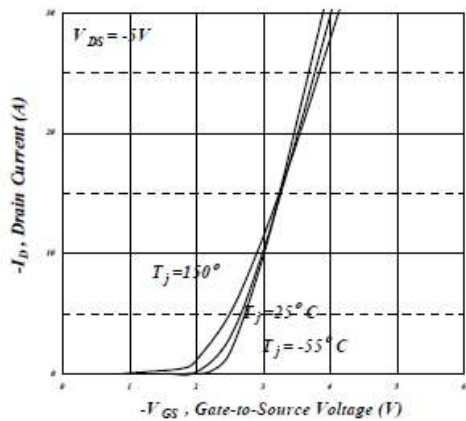


Fig 11. Transfer Characteristics

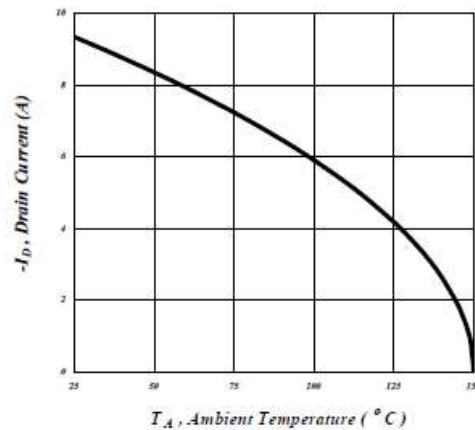


Fig 12. Drain Current v.s. Ambient Temperature

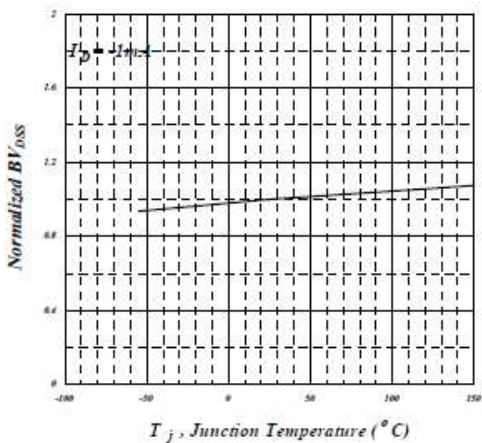


Fig 13. Normalized BV_{DSS} v.s. Junction Temperature

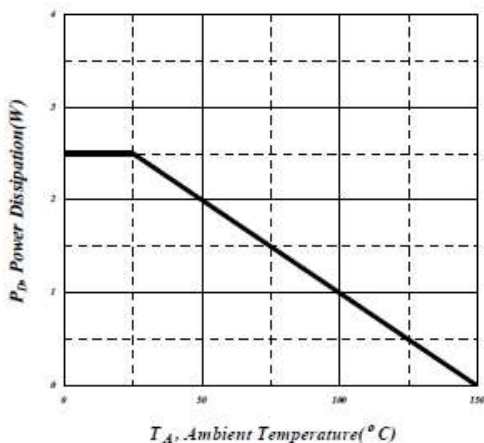


Fig 14. Total Power Dissipation

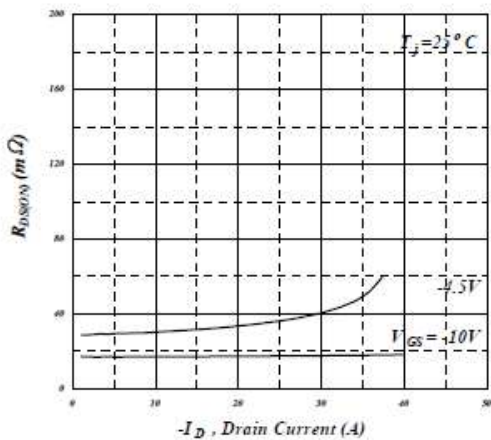


Fig 15. Typ. Drain-Source on State Resistance

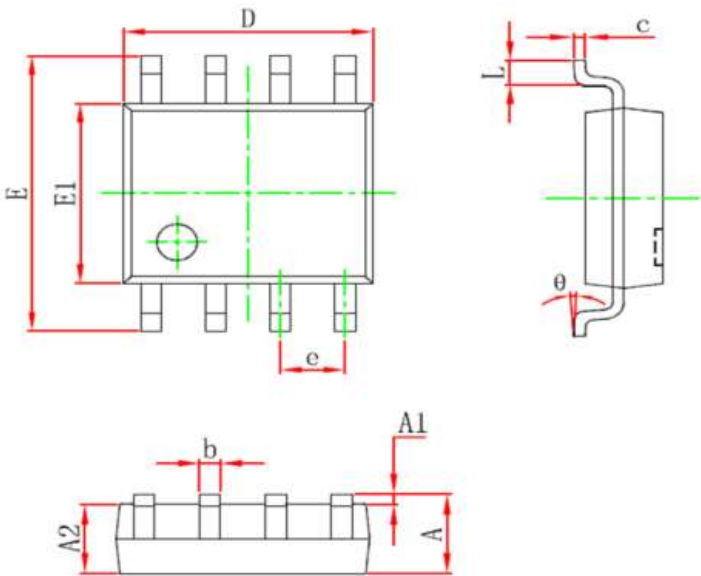
Marking Information



Package	SOIC-8	
XXXXPP	Part Number	
Y	Year	0-9,A-Z : E=2019, F=2020
WW	Weeks	Ex.2019 -- 10/27=44weeks, 11/3=45weeks
FF	Wafer lot	
A	Serial	

Package Outline Dimensions

SOP-8



Unit	A	A1	A2	b	c	D	e	E	E1	L	Θ
mm	1.35 1.80	0 0.25	1.35 1.55	0.30 0.50	0.153 0.253	4.8 5.0	1.27 (BSC)	5.80 6.20	3.80 4.00	0.40 1.27	0° 8°

Recommended Soldering Footprint

单位:mm 公差:±0.05mm

