- ★ Green Device Available
- ★ Super Low Gate Charge
- ★ Excellent CdV/dt effect decline
- ★ Advanced high cell density Trench technology

Product Summary

BVDSS	RDSON	ID
-40V	63mΩ	-4 A

Description

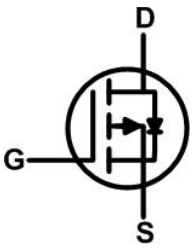
The ZX 2319 is the high cell density trenched P-ch MOSFETs, which provides excellent RDSON and efficiency for most of the small power switching and load switch applications.

The ZX 2319 meet the RoHS and Green Product requirement with full function reliability approved.

SOT23 -3L Pin Configurations



pin assignment



Schematic diagram

Package Marking and Ordering Information

Product	Package	Marking	Packing	Min Unit Quantity
ZX 2319	SOT23-3L	*	3000PCS/Reel	3000PCS

Absolute Maximum Rating (T_A=25°C unless otherwise noted)

Parameter		Symbol	Value	Units
Drain-Source Voltage		V_{DS}	-40	V
Gate-Source Voltage		V_{GS}	±20	V
Continuous Drain Current	T_A = 25°C	I_D	-4	A
Pulsed Drain Current[1]		I_{DM}	-20	A
Power Dissipation	T_A = 25°C	P_D	1.2	W
Operating Junction and Storage Temperature Range		T_J ,T_{STG}	-55 to 150	°C

Thermal Characteristics

Parameter	Symbol	Value	Units
Thermal Resistance from Junction to Ambient[2]	$R_{\theta JA}$	104	°C/W

Electrical Characteristics (T_J=25°C unless otherwise noted)

Parameter	Symbol	Conditions	Min.	Typ.	Max.	Units
Static Characteristics						
Drain-Source Breakdown Voltage	$V_{(BR)DSS}$	V_{GS}= 0V, I_D= -250μA	-40	-	-	V
Zero Gate Voltage Drain Current	I_{DSS}	V_{DS}= -40V, V_{GS}= 0V	-	-	-1	μA
Gate-Body Leakage	I_{GSS}	V_{DS}= 0V, V_{GS}= ±20V	-	-	±100	nA
Gate-Threshold Voltage	$V_{GS(th)}$	V_{DS}= V_{GS}, I_D= -250μA	-1.2	-1.5	-2.5	V
Drain-Source on-Resistance[3]	$R_{DS(on)}$	V_{GS}= -10V,I_D= -5A	-	63	85	mΩ
		V_{GS}= -4.5V,I_D= -4A	-	80	125	
Dynamic Characteristics[4]						
Input Capacitance	C_{iss}	V_{GS} = 0V ,V_{DS} = -20V, f=1.0MHz	-	553	-	pF
Output Capacitance	C_{oss}		-	50	-	
Reverse Transfer Capacitance	C_{rss}		-	42	-	
Switching Characteristics[4]						
Total Gate Charge	Q_g	V_{GS}= -10V ,V_{DS}= -20V, I_D= -5A	-	11.8	-	nC
Gate-Source Charge	Q_{gs}		-	2.2	-	
Gate-Drain Charge	Q_{gd}		-	3	-	
Turn-on Delay Time	$t_{d(on)}$	V_{DS}= -20V, V_{GS}= -10V R_L= 2.5Ω, R_G= 3Ω	-	7	-	ns
Rise Time	t_r		-	6.5	-	
Turn-off Delay Time	$t_{d(off)}$		-	24	-	
Fall Time	t_f		-	7.8	-	
Drain-Source Body Diode Characteristics						
Body Diode voltage[3]	V_{DS}	I_S= -5A,V_{GS}=0V	-	-	-1.2	V
Continuous Source Current	I_S		-	-	-4	A

Notes:

1. Repetitive rating, pulse width limited by junction temperature $T_{J(MAX)}$=150°C.
2. The data tested by surface mounted on a 1 inch2 FR-4 board with 2OZ copper, The value in any given application depends on the user's specific board design.
3. Pulse Test: Pulse width≤300μs, duty cycle≤2%.
4. This value is guaranteed by design hence it is not included in the production test.

Typical Characteristics

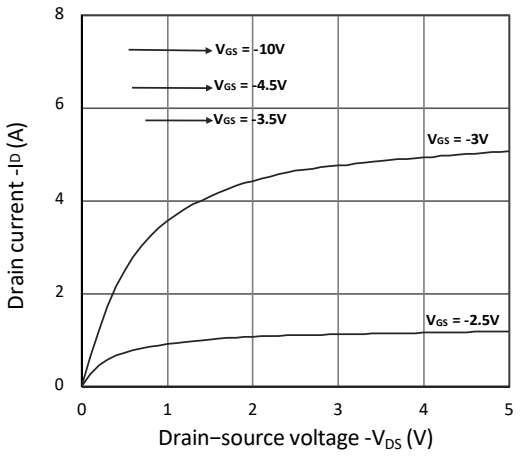


Figure 1. Output Characteristics

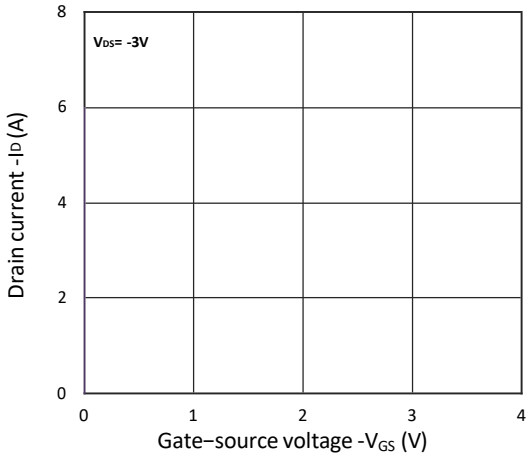


Figure 2. Transfer Characteristics

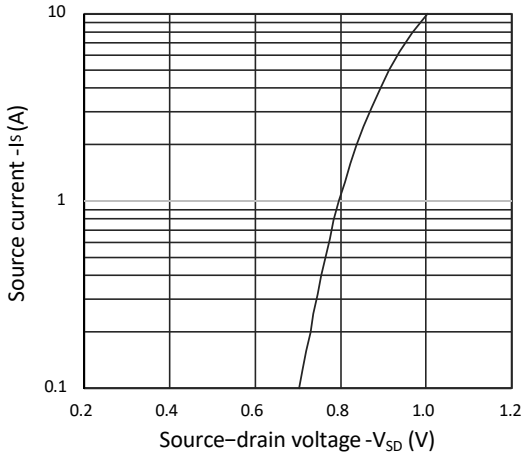


Figure 3. Forward Characteristics of Reverse

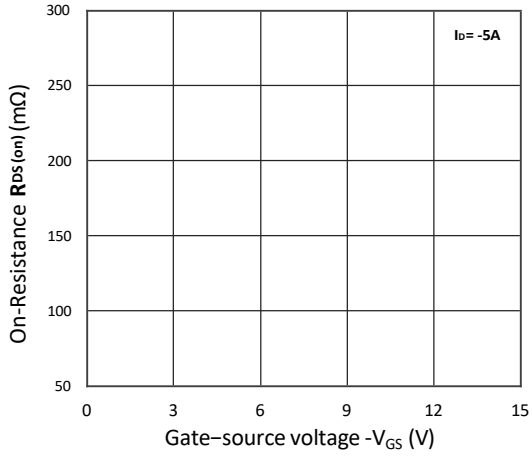


Figure 4. $R_{DS(ON)}$ vs. V_{GS}

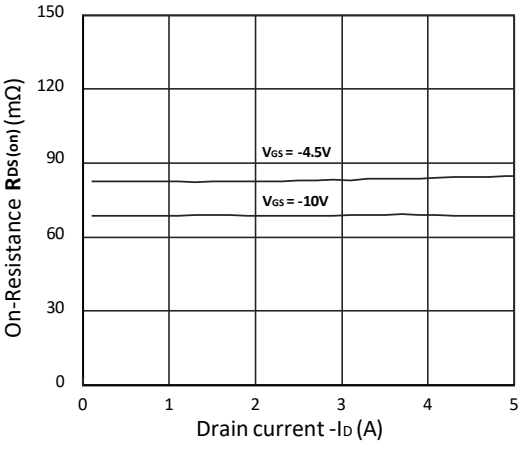


Figure 5. $R_{DS(ON)}$ vs. I_D

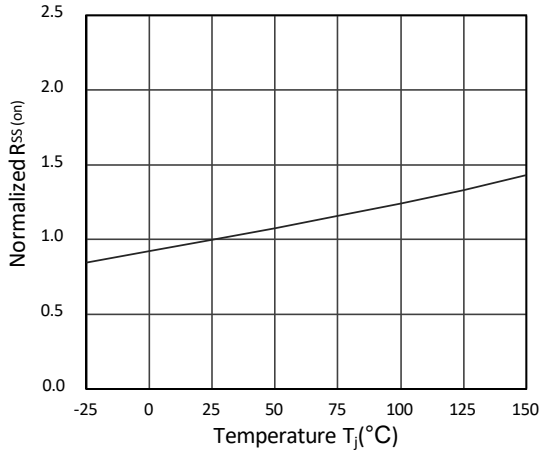


Figure 6. Normalized $R_{DS(on)}$ vs. Temperature

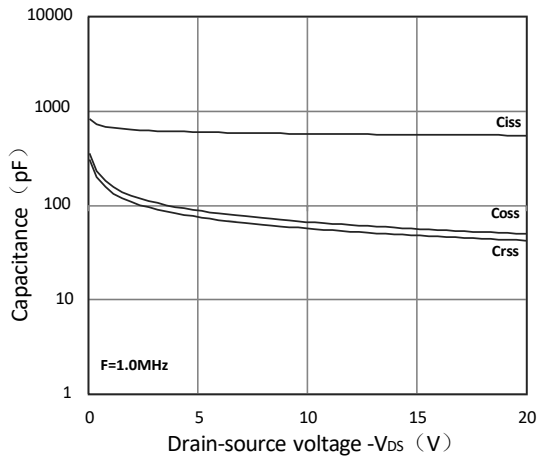


Figure 7. Capacitance Characteristics

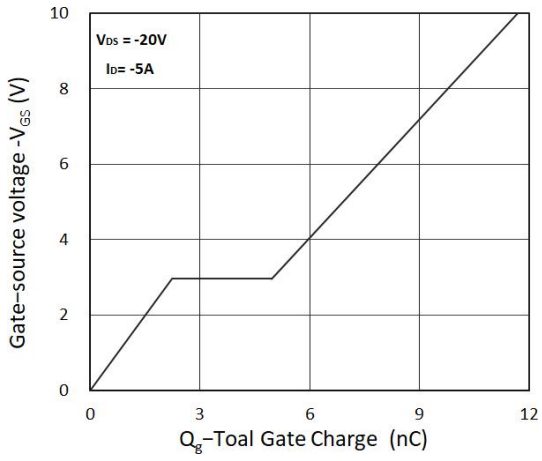
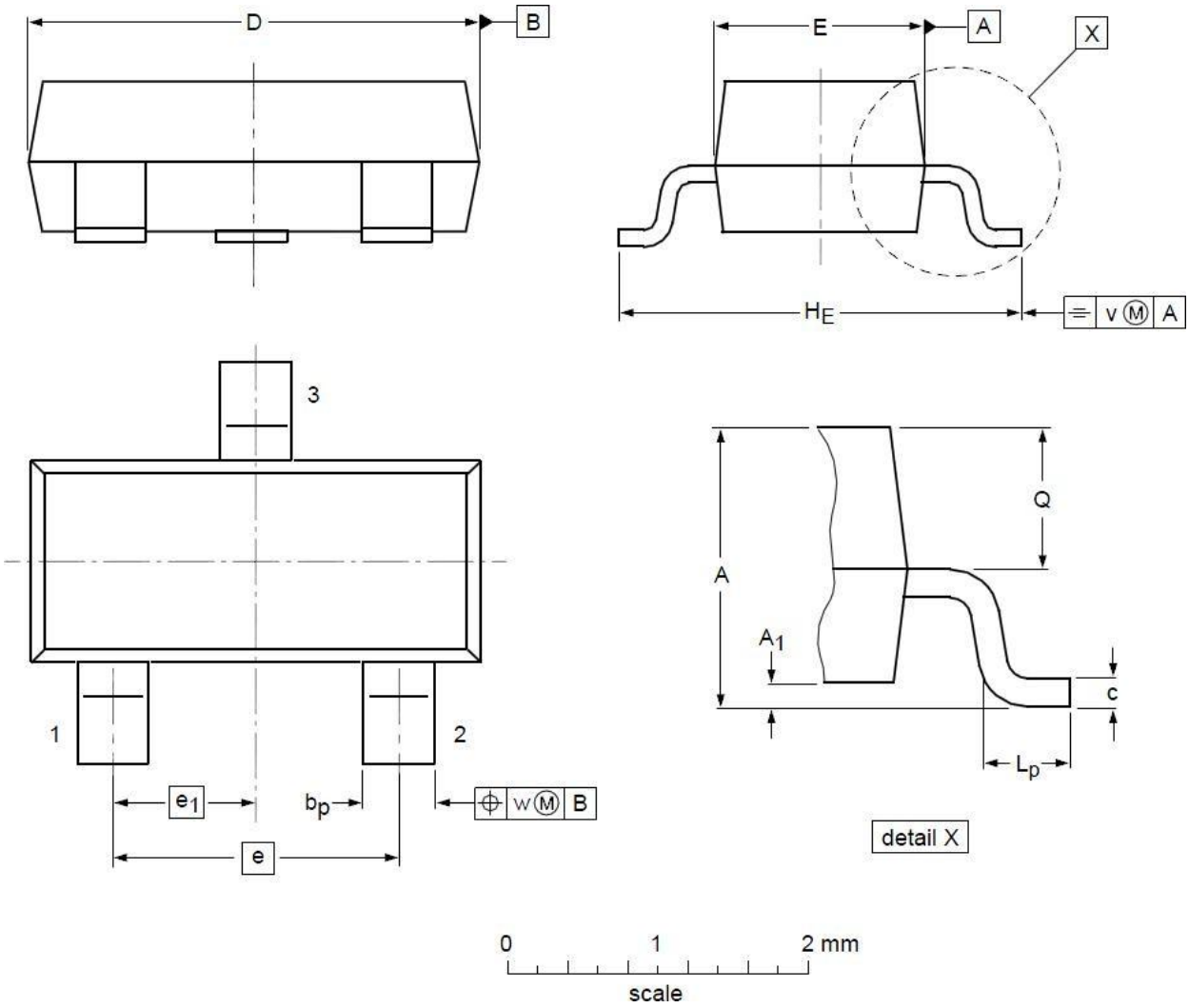


Figure 8. Gate Charge Characteristics

SOT23 Mechanical tData



DIMENSIONS (unit : mm)

Symbol	Min	Typ	Max	Symbol	Min	Typ	Max
A	0.90	1.01	1.15	**A_1**	0.01	0.05	0.10
b_p	0.30	0.42	0.50	**c**	0.08	0.13	0.15
D	2.80	2.92	3.00	**E**	1.20	1.33	1.40
e	--	1.90	--	**e_1**	--	0.95	--
H_E	2.25	2.40	2.55	**L_p**	0.30	0.42	0.50
Q	0.45	0.49	0.55	**v**	--	0.20	--
w	--	0.10	--				