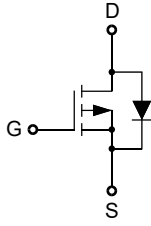
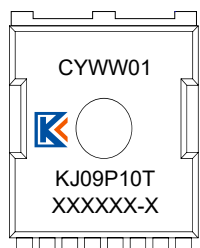


Product Information

V_{DS}	I_D	$R_{DS(ON)}$, max	Pin Assignment and Marking
-100 V	-89 A	13 m Ω @ $V_{GS}=-10V$	
Features ● Surface-mounted package ● Advanced Trench Technology ● Low on-resistance			
Applications ● Load Switch ● Power Management ● Motor control and drive			1st Line: Date code 2nd Line: LOGO 3rd Line: Part number 4th Line: LOT code & VTH level mark G: Gate D: Drain S: Source 100% Avalanche Tested   

Package and Ordering Information

Part number	Package	Packaging	Quantity (pcs)	Reel size	Tape width
KJ09P10T	TOLL-8L	Tape & Reel	2000	13"	24 mm

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

Parameter	Symbol	Conditions	Value	Unit
Drain-Source Voltage	V_{DS}	T _C =25°C	-100	V
Gate-Source Voltage	V_{GS}	T _C =25°C	±20	V
Continuous Drain Current (DC)	I_D	T _C =25°C, $V_{GS}=-10V$	-89	A
		T _C =100°C, $V_{GS}=-10V$	-57	A
Pulsed Drain Current	I_{DM}	T _C =25°C, $V_{GS}=-10V$	-267	A
Power Dissipation	P_D	T _C =25°C	208	W
Single Pulsed Avalanche Energy	E_{AS}	L=0.3mH, $V_{DS}=-50V$	540	mJ

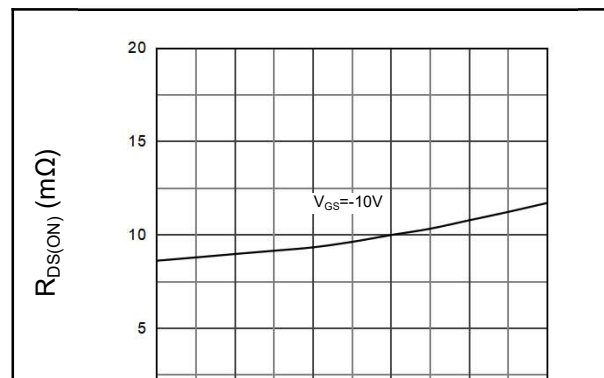
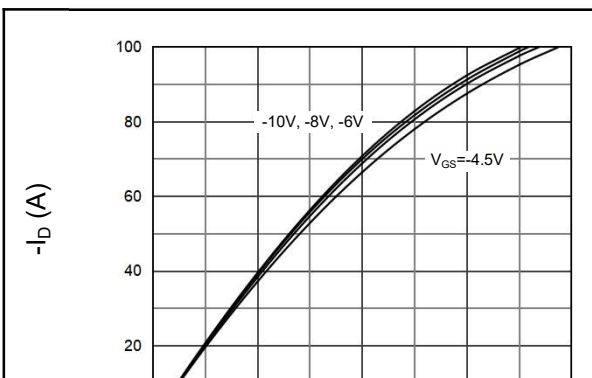
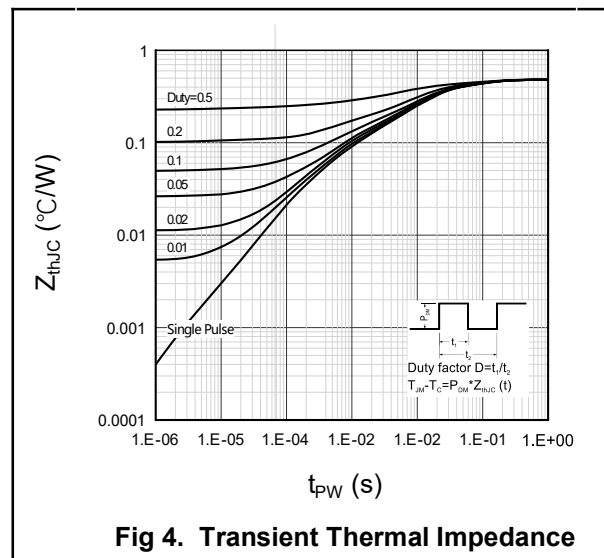
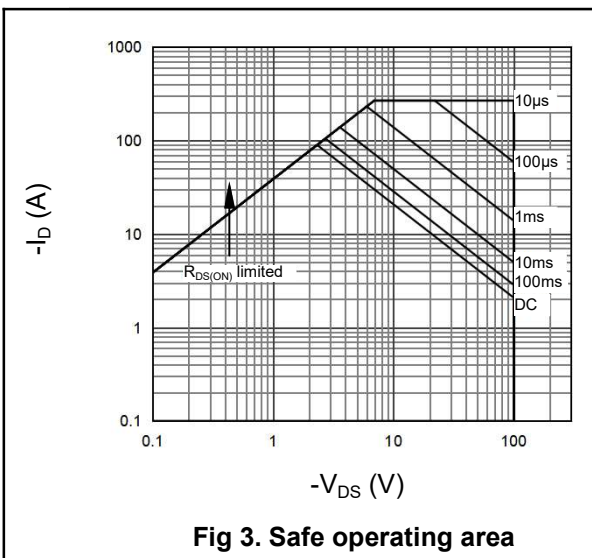
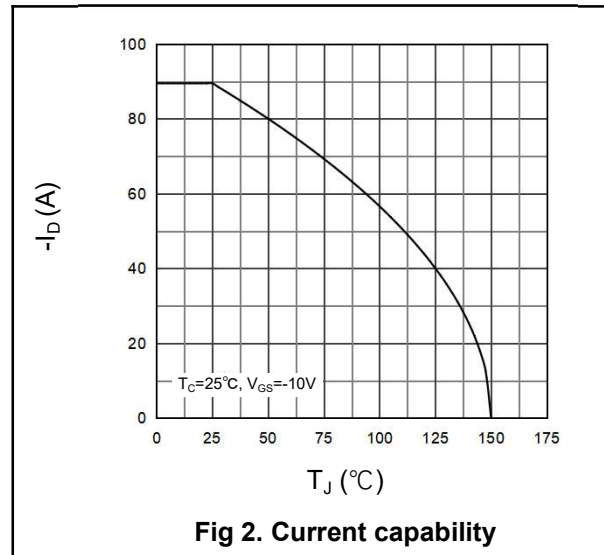
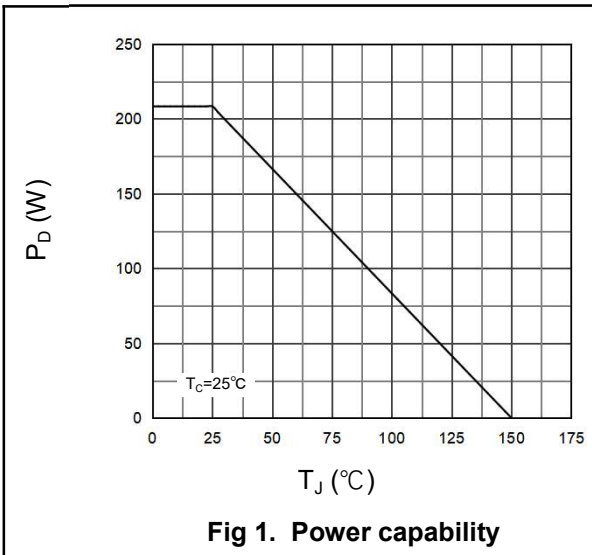
Package Values

Parameter	Symbol	Value	Unit
Operating Junction and Storage Temperature Range	T_J, T_{stg}	-55 — +150	°C
Thermal Resistance, Junction to Ambient	R_{thJA}	62	°C/W
Thermal Resistance, Junction to Case	R_{thJC}	0.6	°C/W
Soldering temperature, wave and reflow soldering are allowed	T_{sld}	260	°C

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

Parameter	Symbol	Conditions	Min	Typ	Max	Unit
Static Characteristic						
Drain-Source Breakdown Voltage	BV _{DSS}	V _{GS} =0V, I _{DS} =-250μA	-100			V
Gate Threshold Voltage	V _{GS(th)}	V _{DS} =V _{GS} , I _{DS} =-250μA	-1		-2.5	V
Drain-Source Leakage Current	I _{DSS}	V _{GS} =0V, V _{DS} =-100V			-1	μA
Gate-Source Leakage Current	I _{GSS}	V _{DS} =0V, V _{GS} =±20V			±100	nA
Drain-Source On-State Resistance	R _{DS(ON)}	V _{GS} =-10V, I _D =-30A		9	13	mΩ
Dynamic Characteristic						
Gate Resistance	R _G	Frequency=1MHz		2		Ω
Input Capacitance	C _{iss}	V _{DS} =-50V, V _{GS} =0V, Frequency=1MHz		0.48		pF
Output Capacitance	C _{oss}			534		pF
Reverse Transfer Capacitance	C _{rss}			466		pF
Total Gate Charge	Q _g	V _{DS} =-50V, V _{GS} =-10V, I _{DS} =-30A		39		nC
Gate to Source Charge	Q _{gs}			10		nC
Gate to Drain Charge	Q _{gd}			8		nC
Turn-on Delay Time	t _{d(on)}	V _{DD} =-50V, V _{GS} =-10V, R _G =2.7Ω		16		ns
Turn-on Rise Time	t _r			52		ns
Turn-off Delay Time	t _{d(off)}			63		ns
Turn-off Fall Time	t _f			88		ns
Body Diode Characteristics						
Diode Forward Voltage	V _{SD}	V _{GS} =0V, I _{SD} =-30A			1.2	V
Reverse Recovery Time	t _{rr}	I _F =-30A, dI/dt=100A/μs		83		ns
Reverse Recovery Charge	Q _{rr}			288		nC

Typical Characteristics



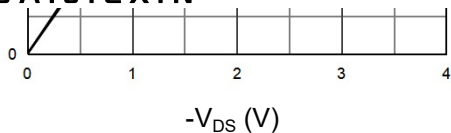


Fig 5. Output characteristics

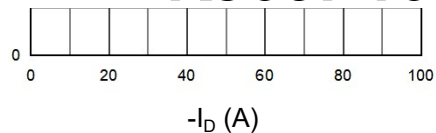


Fig 6. On-resistance vs drain current

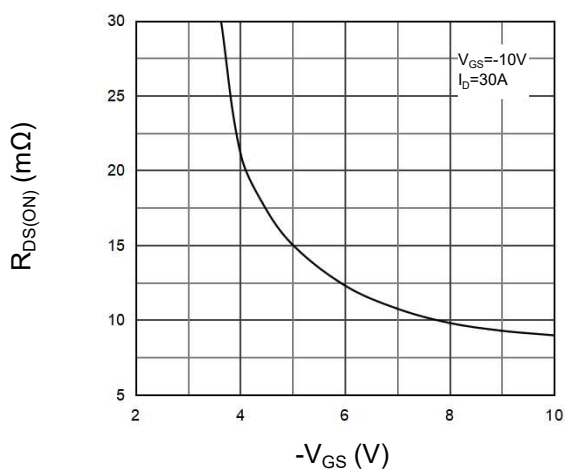


Fig 7. On-resistance vs V_{GS}

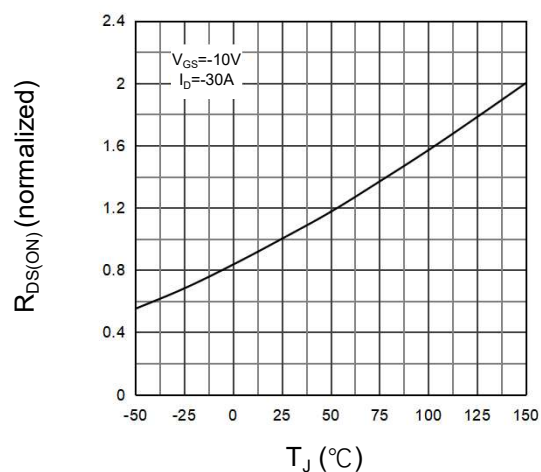


Fig 8. On-resistance vs T_J

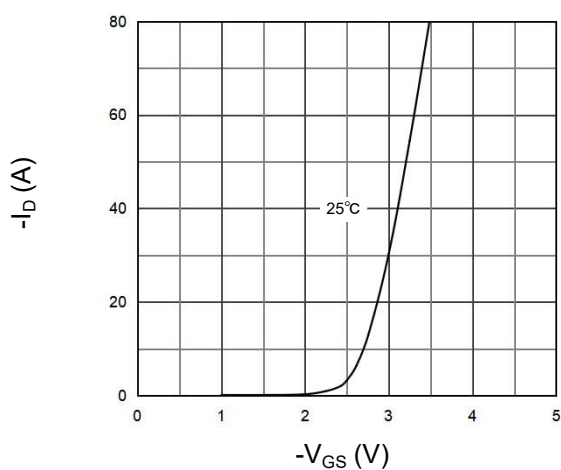


Fig 9. Typical Transfer Characteristics

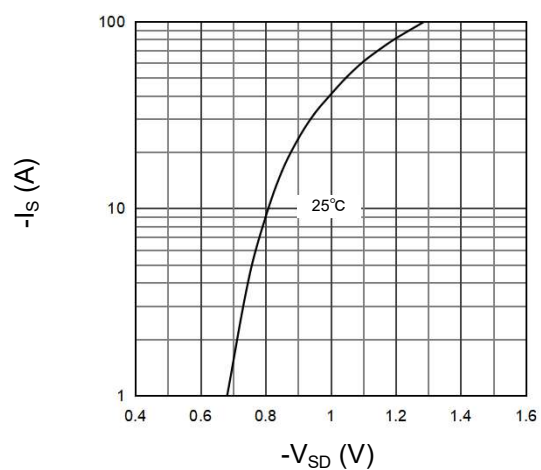
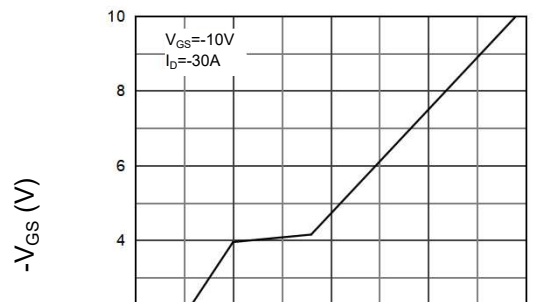
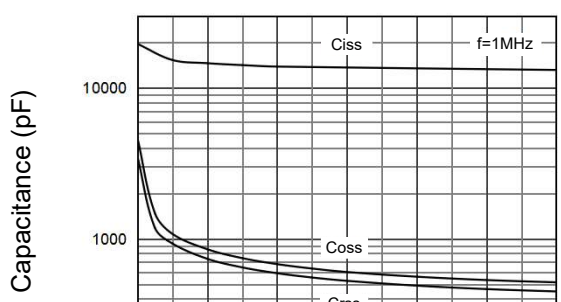


Fig 10. Forward Characteristics of Body Diode



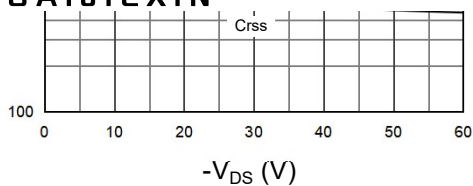


Fig 11. Capacitance

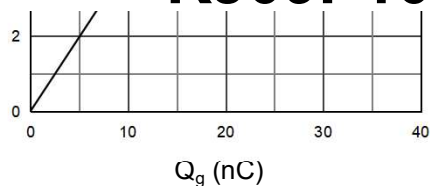
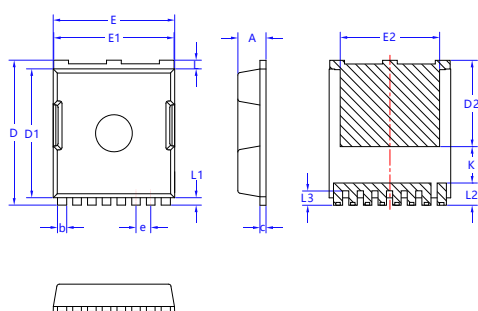


Fig 12. Gate charge

Package Dimensions

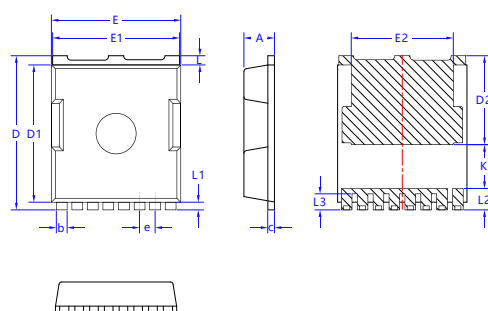
TOLL-8L package

Outline A / 外形A



Symbol	Dimensions in Millimeters		
	MIN	NOM	MAX
A	2.20	2.30	2.40
b	0.60	0.70	0.90
c	0.40	0.50	0.60
D	11.48	11.68	11.88
D1	10.28	10.38	10.55
D2	6.85	6.95	7.05
E	9.80	9.90	10.0
E1	9.70	9.80	9.90
E2	8.00	8.10	8.20
e	1.20 BSC		
L	0.60 TYPE		
L1	0.60 TYPE		
L2	1.50	1.65	2.00
L3	1.00	1.15	1.30
K	2.90 TYPE		

Outline B / 外形B



Symbol	Dimensions in Millimeters		
	MIN	NOM	MAX
A	2.20	2.30	2.40
b	0.70	0.80	0.90
c	0.40	0.50	0.60
D	11.48	11.68	11.88
D1	10.28	10.38	10.55
D2	6.50	6.70	6.90
E	9.80	9.90	10.0
E1	9.70	9.80	9.90
E2	7.60	7.80	8.00
e	1.20 BSC		
L	0.60 TYPE		
L1	0.60 TYPE		
L2	1.60	1.85	2.10
L3	1.00	1.15	1.30
K	4.18 TYPE		

Revision History

Date	Revision	Major change
2024.04.02	V0.1	Release of formal version
2026.05.15	V1.0	Modify the style of the datasheet

Disclaimer

1. Unless otherwise specified in the datasheet, the product is designed and qualified as a standard commercial product and is not intended for use in applications that require extraordinary levels of quality and reliability, such as automotive, aviation/aerospace and life-support devices or systems.

2. Any and all semiconductor products have certain probability to fail or malfunction, which may result in personal injury, death or property damage. Customers are advised to use the products in accordance with the instructions and to take appropriate safety measures.

2. Any and all semiconductor products have certain probability to fail or malfunction, which may result in personal injury, death or property damage. Customer are solely responsible for providing adequate safe measures when design their systems.

3. KJX Semi reserves the right to improve product design, function and reliability without notice.

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