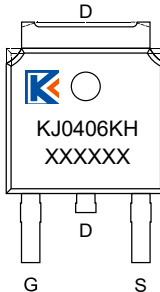
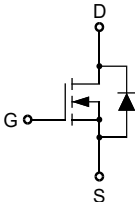


Product Information

V_{DS}	I_D	$R_{DS(ON)}, \text{ max}$	Pin Assignment and Marking
60 V	90 A	4.9 mΩ@ $V_{GS}=10V$	  1st Line: LOGO 2nd Line: Part number 3rd Line: LOT code G: Gate D: Drain S: Source 100% Avalanche Tested 

Features

- Surface-mounted package
- Advanced Trench Technology
- Low on-resistance

Applications

- Load Switch
- Power Management
- Motor control and drive

Package and Ordering Information

Part number	Package	Packaging	Quantity (pcs)	Reel size	Tape width
KJ0406KH	TO-252	Tape & Reel	2500	13"	16 mm

Absolute Maximum Ratings ($T_A=25^\circ\text{C}$ unless otherwise noted)

Parameter	Symbol	Conditions	Value	Unit
Drain-Source Voltage	V_{DS}	$T_C=25^\circ\text{C}$	60	V
Gate-Source Voltage	V_{GS}	$T_C=25^\circ\text{C}$	±20	V
Continuous Drain Current (DC)	I_D	$T_C=25^\circ\text{C}, V_{GS}=10\text{ V}$	90	A
		$T_C=100^\circ\text{C}, V_{GS}=10\text{ V}$	57	A
Pulsed Drain Current	I_{DM}	$T_C=25^\circ\text{C}, V_{GS}=10\text{ V}$	360	A
Power Dissipation	P_D	$T_C=25^\circ\text{C}$	69	W
Single Pulsed Avalanche Energy	E_{AS}	$L=0.3\text{ mH}, V_{DS}=30\text{ V}$	630	mJ

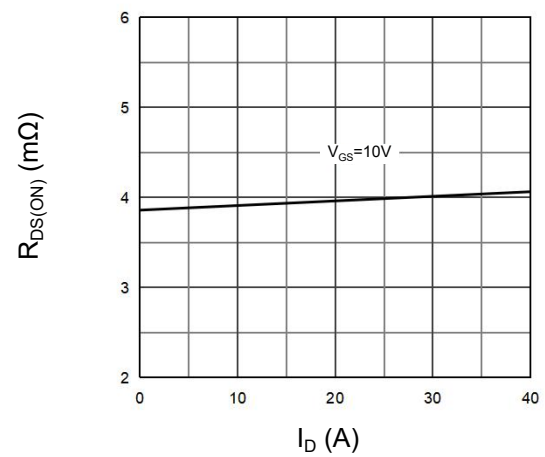
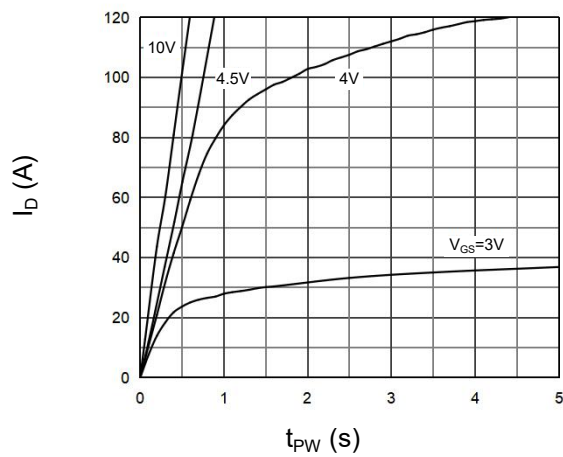
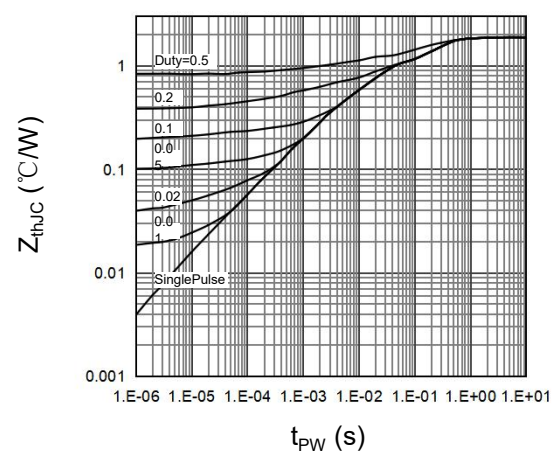
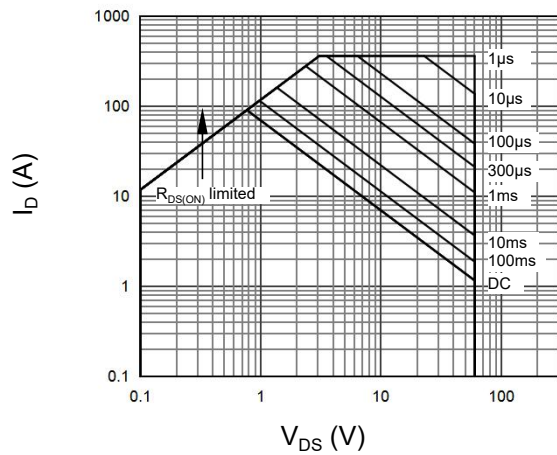
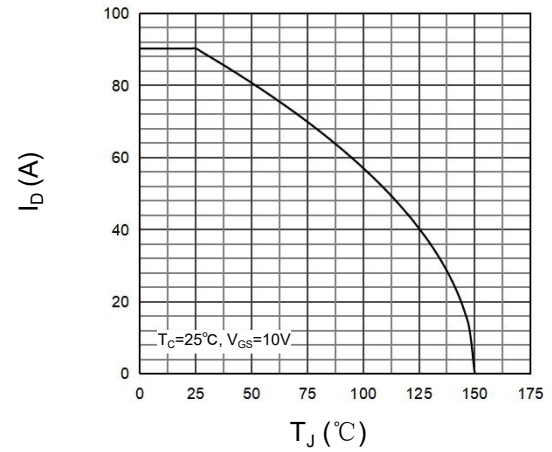
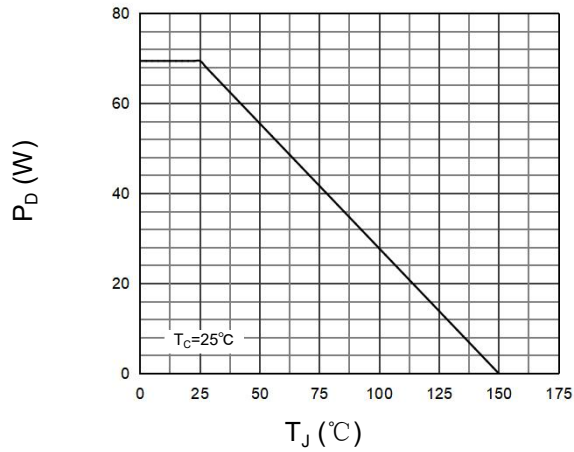
Package Values

Parameter	Symbol	Value	Unit
Operating Junction and Storage Temperature Range	T_J, T_{stg}	-55 — +150	°C
Thermal Resistance, Junction to Ambient	R_{thJA}	60	°C/W
Thermal Resistance, Junction to Case	R_{thJC}	1.8	°C/W
Soldering temperature, wave and reflow soldering are allowed	T_{sld}	260	°C

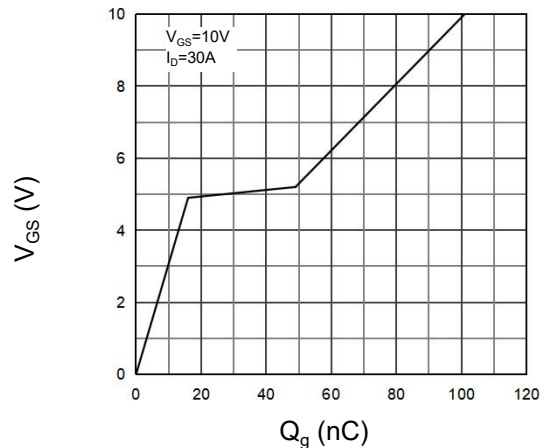
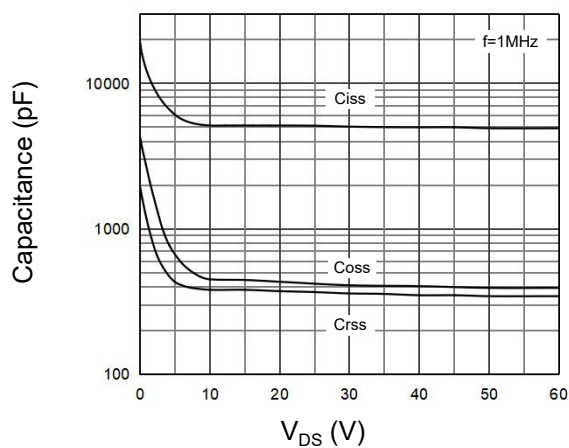
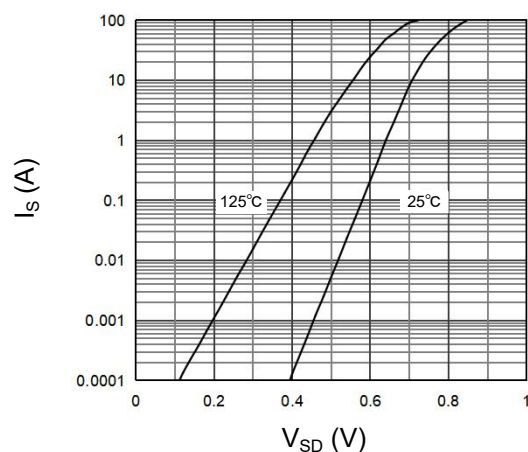
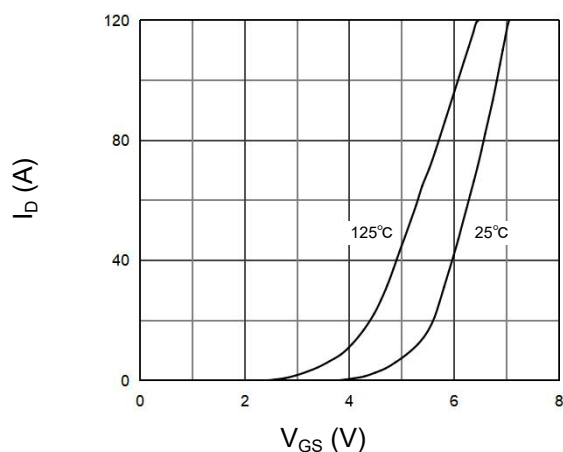
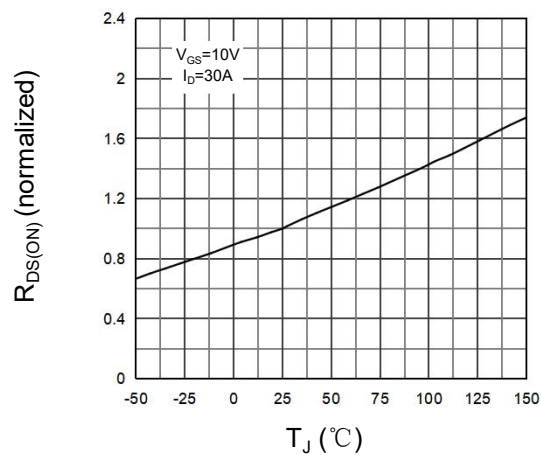
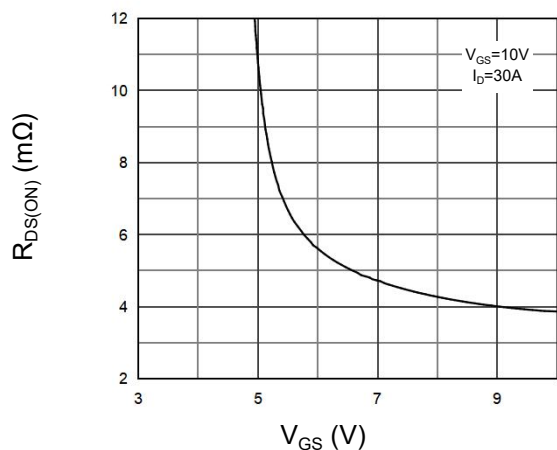
Electrical Characteristics ($T_A=25^{\circ}\text{C}$ unless otherwise noted)

Parameter	Symbol	Conditions	Min	Typ	Max	Unit
Static Characteristic						
Drain-Source Breakdown Voltage	BV_{DSS}	$V_{GS}=0V, I_{DS}=250\mu A$	60			V
Gate Threshold Voltage	$V_{GS(th)}$	$V_{DS}=V_{GS}, I_{DS}=250\mu A$	2		4	V
Drain-Source Leakage Current	I_{DSS}	$V_{GS}=0V, V_{DS}=60V, T_C=25^{\circ}C$			1	μA
Gate-Source Leakage Current	I_{GSS}	$V_{DS}=0V, V_{GS}=\pm 20V$			± 100	nA
Drain-Source On-State Resistance	$R_{DS(ON)}$	$V_{GS}=10V, I_D=30A, T_C=25^{\circ}C$		3.8	4.5	m Ω
Dynamic Characteristic						
Gate Resistance	R_G	Frequency=1MHz		1		Ω
Input Capacitance	C_{iss}	$V_{DS}=30V, V_{GS}=0V, \text{Frequency}=1\text{MHz}$		5050		pF
Output Capacitance	C_{oss}			410		pF
Reverse Transfer Capacitance	C_{rss}			360		pF
Total Gate Charge	Q_g	$V_{DS}=30V, V_{GS}=10V, I_{DS}=30A$		101		nC
Gate to Source Charge	Q_{gs}			16		nC
Gate to Drain Charge	Q_{gd}			33		nC
Turn-on Delay Time	$t_{d(on)}$	$V_{DD}=30V, V_{GS}=10V, R_G=2.7\Omega$		13		ns
Turn-on Rise Time	t_r			9		ns
Turn-off Delay Time	$t_{d(off)}$			48		ns
Turn-off Fall Time	t_f			15		ns
Body Diode Characteristics						
Diode Forward Voltage	V_{SD}	$V_{GS}=0V, I_{SD}=30A$			1.2	V
Reverse Recovery Time	t_{rr}	$I_F=30A, dI/dt=100A/\mu s$		29		ns
Reverse Recovery Charge	Q_{rr}			49		nC

Typical Characteristics

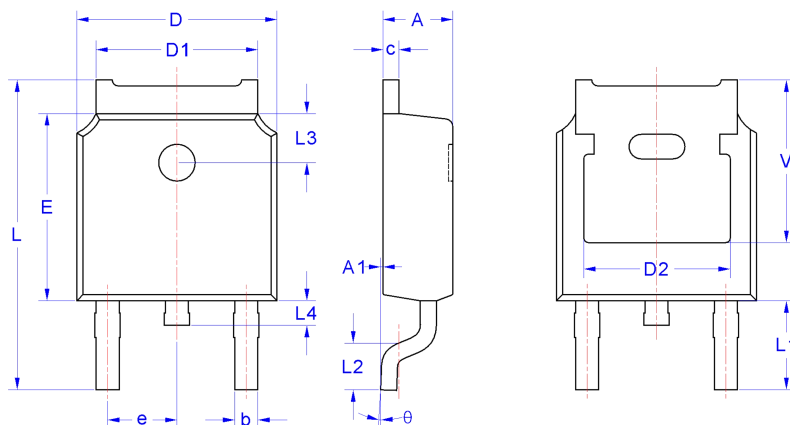


Typical Characteristics (cont.)



Package Dimensions

TO-252 package



Symbol	Dimensions in Millimeters	
	MIN	MAX
A	2.20	2.40
A1	0.00	0.13
b	0.66	0.86
c	0.46	0.58
D	6.50	6.70
D1	5.10	5.46
D2	4.830 REF.	
E	6.00	6.20
e	2.19	2.39
L	9.80	10.40
L1	2.900 REF.	
L2	1.40	1.70
L3	1.800 REF.	
L4	0.60	1.00
θ	0°	8°
V	5.600 REF.	

Revision History

Date	Revision	Major change
2023.03.06	V0.1	Formal version released.
2026.09.07	V1.0	Modified the style of the datasheet, updated data and figures.

Disclaimer

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

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深圳快捷芯半导体有限公司