

Features

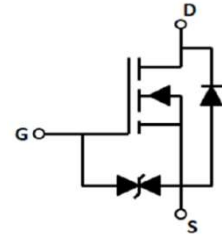
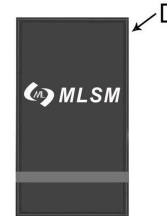
- Low On-Resistance
- Low Threshold Voltage
- Fast Switching Speed
- ESD Protected Gate

Application

- Load Switch
- Portable Applications
- Power Management Functions

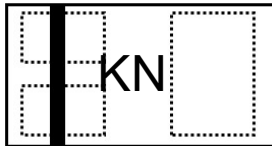
Product Summary

V_{DS}	$R_{DS(ON) MAX}$	$I_D MAX$
30V	5Ω@10V	0.1A
	8Ω@4V	



DFN1006-3L view

Schematic diagram



KN: Device code

Top View
 Bar Denotes Gate
 and Source Side



Halogen-Free

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

Symbol	Parameter	Rating	Unit	
Common Ratings (TC=25°C Unless Otherwise Noted)				
V_{DS}	Drain-Source Breakdown Voltage	30	V	
V_{GS}	Gate-Source Voltage	±20	V	
T_J	Maximum Junction Temperature	150	°C	
T_{STG}	Storage Temperature Range	-50 to 155	°C	
I_S	Diode Continuous Forward Current	$T_c=25^\circ C$	0.1	A

Mounted on Large Heat Sink

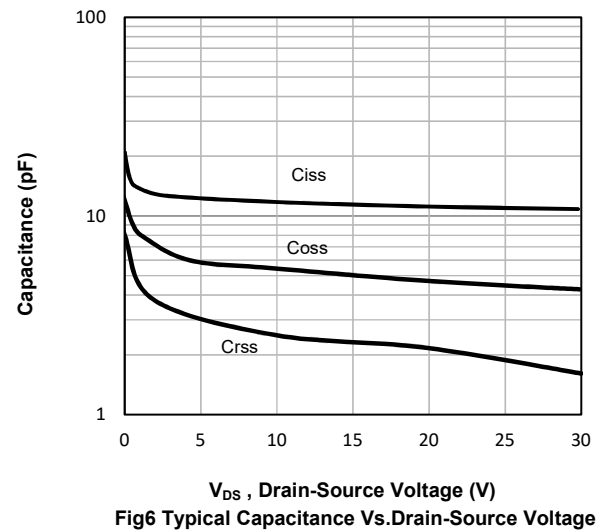
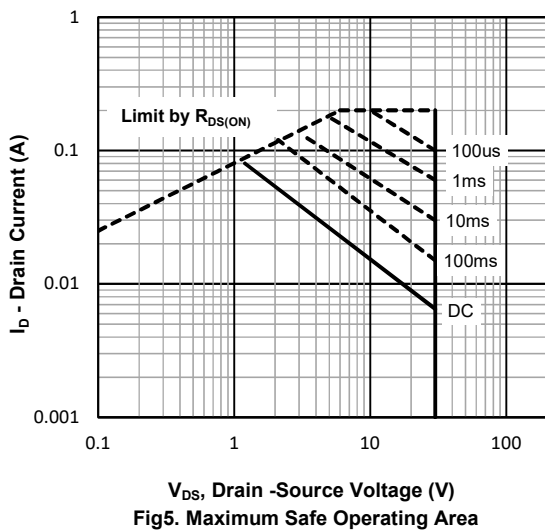
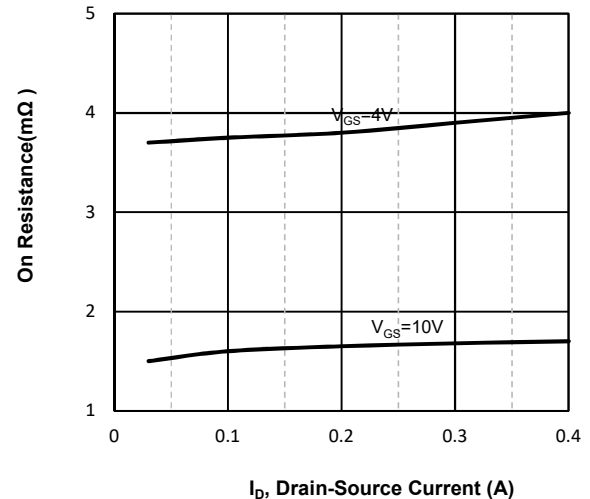
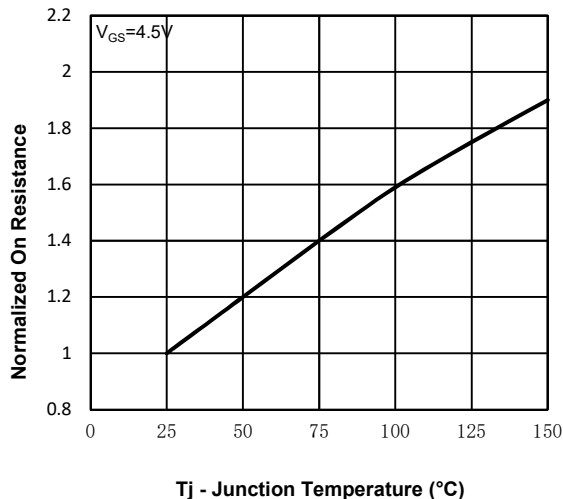
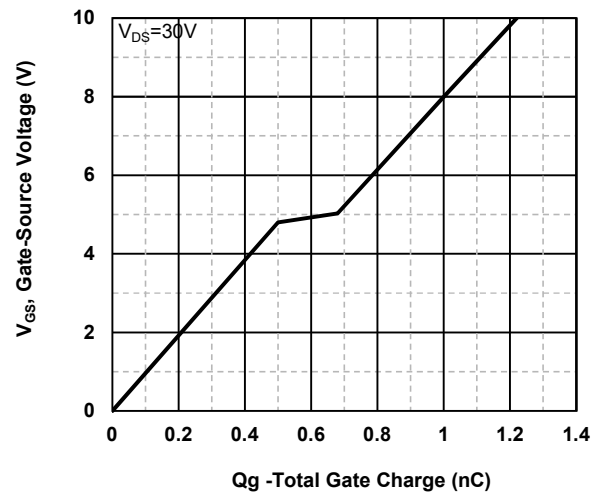
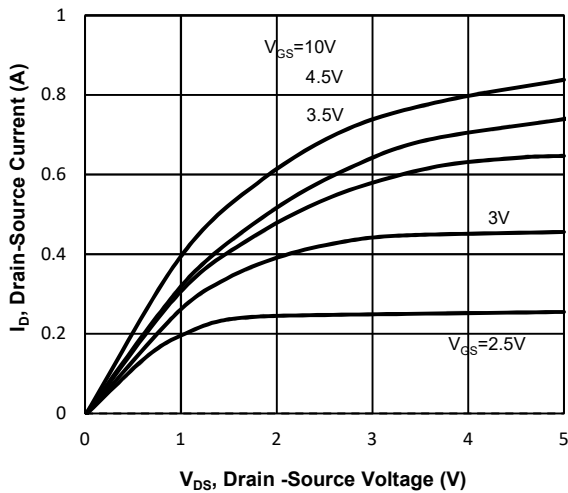
I_{DM}	Pulse Drain Current Tested	$T_c=25^\circ C$	0.2	A
I_D	Continuous Drain Current	$T_c=25^\circ C$	0.1	A
P_D	Maximum Power Dissipation	$T_c=25^\circ C$	0.1	W
E_{SD}	Gate-Source ESD Rating (HBM, Method 3015)		2000	V

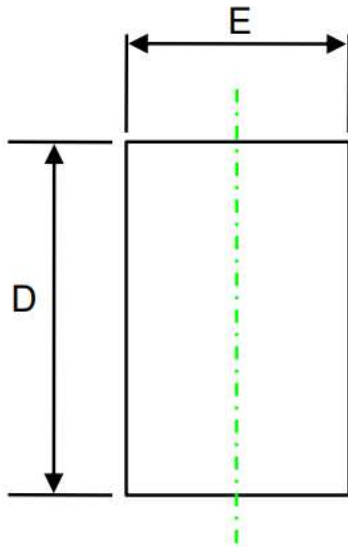
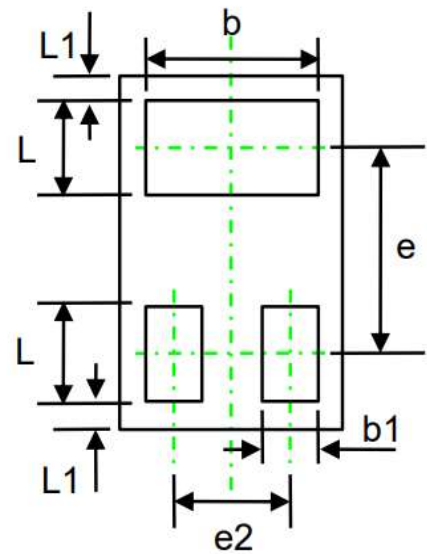
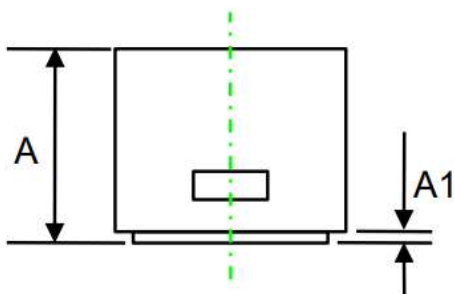
Ordering Information (Example)

Type	Package	Marking	Minimum Package(pcs)	Inner Box Quantity(pcs)	Outer Carton Quantity(pcs)	Delivery Mode
2SK3019N3	DFN1006-3L	KN	10,000	150,000	600,000	7" reel

Electrical Characteristics (T _J =25°C unless otherwise noted)						
Symbol	Parameter	Condition	Min	Typ	Max	Unit
Static Electrical Characteristics @ T_J = 25°C (unless otherwise stated)						
BV _{(BR)DSS}	Drain-Source Breakdown Voltage	V _{GS} =0V, I _D =250μA	30	--	--	V
I _{DSS}	Zero Gate Voltage Drain Current	V _{DS} =30V, V _{GS} =0V	--	--	1	μA
I _{GSS}	Gate-Body Leakage Current	V _{GS} =±20V, V _{DS} =0V	--	--	±10	μA
V _{GS(th)}	Gate Threshold Voltage	V _{DS} =V _{GS} , I _D =250μA	0.6	1.0	1.5	V
R _{DS(on)}	Drain-Source On-State Resistance	V _{GS} =10V, I _D =20mA	--	--	5.0	Ω
		V _{GS} =4V, I _D =10mA	--	--	8.0	Ω
		V _{GS} =2.5V, I _D =1mA	--	--	13.0	Ω
Dynamic Electrical Characteristics @ T_J = 25°C (unless otherwise stated)						
C _{ISS}	Input Capacitance	V _{DS} =15V, V _{GS} =0V, f=1MHz	--	11	--	pF
C _{OSS}	Output Capacitance		--	5	--	pF
C _{RSS}	Reverse Transfer Capacitance		--	2.5	--	pF
Switching Characteristics						
Q _g	Total Gate Charge	V _{DS} =15V, I _D =1A, V _{GS} =10V	--	1.22	--	nC
Q _{gs}	Gate Source Charge		--	0.48	--	nC
Q _{gd}	Gate Drain Charge		--	0.2	--	nC
t _{d(on)}	Turn-on Delay Time	V _{DD} =15V, I _D =1A, V _{GS} =10V, R _G =2.3Ω	--	3	--	nS
t _r	Turn-on Rise Time		--	19	--	nS
t _{d(off)}	Turn-Off Delay Time		--	7	--	nS
t _f	Turn-Off Fall Time		--	20	--	nS
Source- Drain Diode Characteristics						
V _{SD}	Forward on voltage	T _J =25°C, I _S =0.1A	--	--	1.2	V

Typical Operating Characteristics



DFN1006-3L Package information

TOP VIEW

BOTTOM VIEW

SIDE VIEW

Symbol	Dimensions in Millimeters(mm)	
	Min	Max
A	0.450	0.550
A1	0.000	0.030
D	0.950	1.050
E	0.550	0.650
b	0.470	0.550
e	0.65TYP	
e2	0.35TYP	
L1	0.05TYP	
L	0.220	0.300
b1	0.110	0.190