

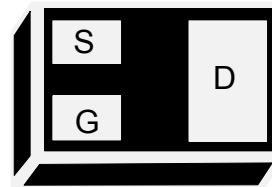
KY2004KNC

-20V P-Channel Mosfet

FEATURES

- $R_{DS(ON)} \leq 0.75\Omega$ (0.65 Ω Typ.)
@ $V_{GS}=-4.5V$
- $R_{DS(ON)} \leq 1.0\Omega$ (0.85 Ω Typ.)
@ $V_{GS}=-2.5V$

DFN1006-3L



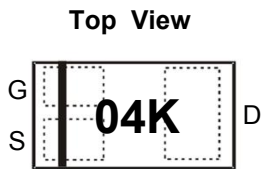
Bottom View

APPLICATIONS

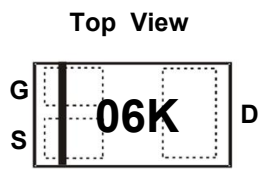
- Load/Power Switching
- Interfacing, Logic Switching
- Battery Management for Ultra Small Portable Electronics

P-CHANNEL MOSFET

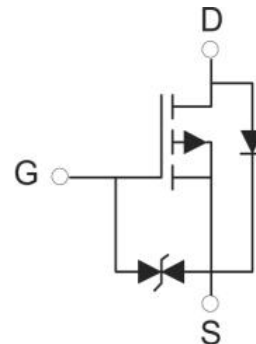
MARKING



04K :Device Code



06K :Device Code



MAXIMUM RATINGS (Ta=25°C unless otherwise noted)

Symbol	Parameter	Value	Unit
V_{DS}	Drain-Source Voltage	-20	V
V_{GS}	Gate-Source Voltage	± 10	V
I_D	Continuous Drain Current	-0.66	A
I_{DM}	Pulsed Drain Current	-1.2	A
P_D	Power Dissipation	0.15	W
$R_{\theta JA}$	Thermal Resistance from Junction to Ambient	833	$^{\circ}C/W$
T_J	Junction Temperature	150	$^{\circ}C$
T_{STG}	Storage Temperature	-55~ +150	$^{\circ}C$

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MOSFET ELECTRICAL CHARACTERISTICS Ta=25 °C unless otherwise specified

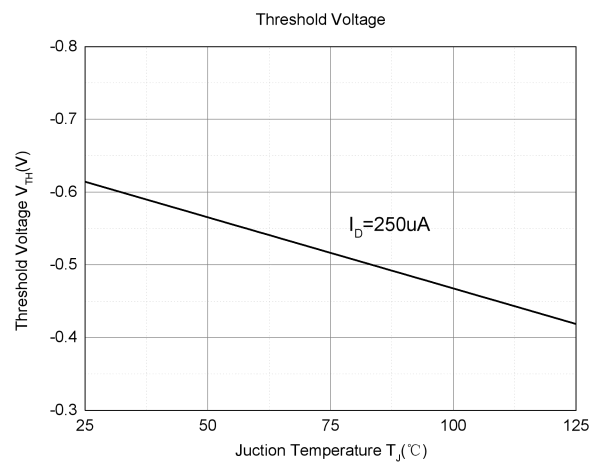
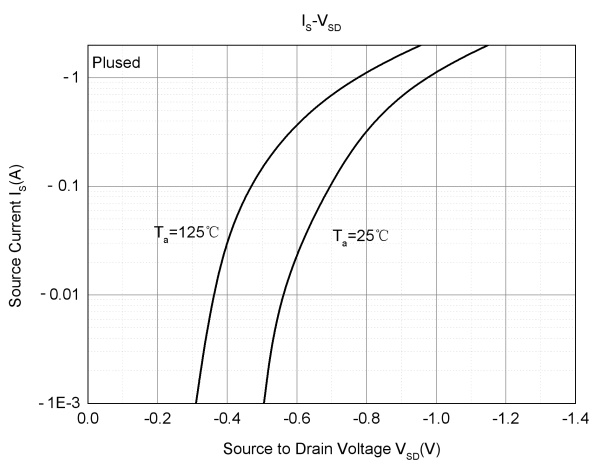
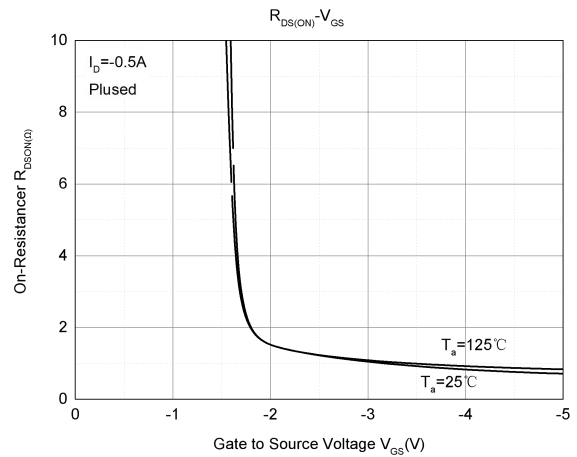
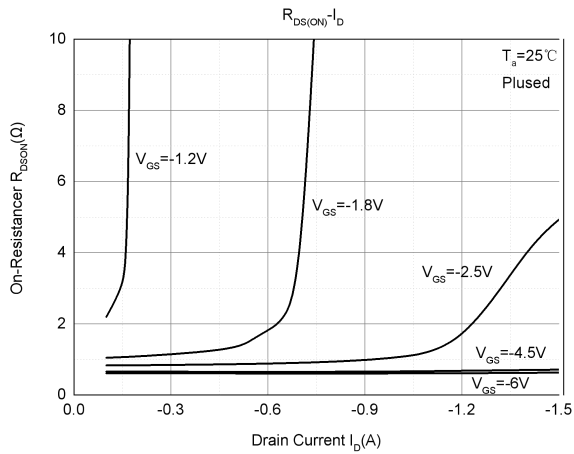
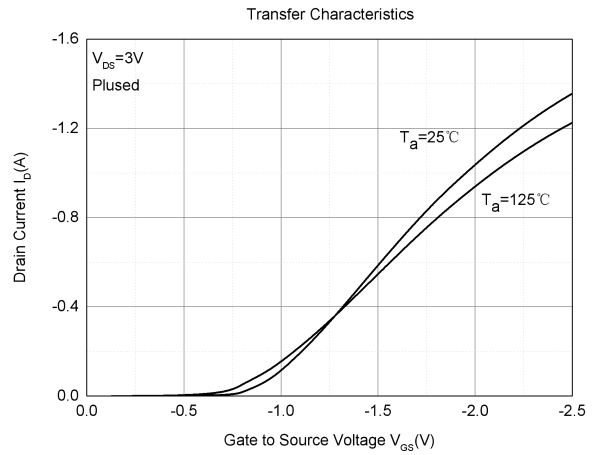
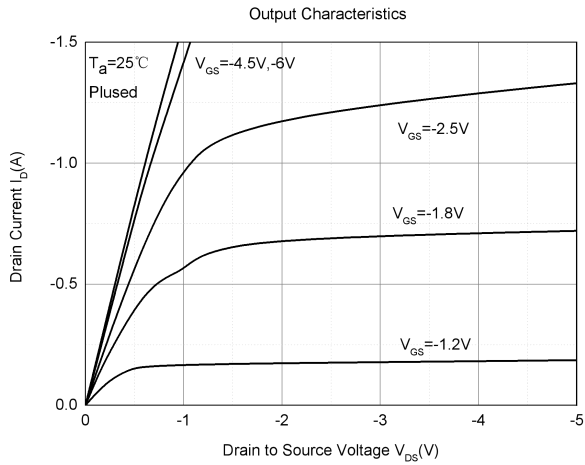
Symbol	Parameter	Test Condition	Min.	Typ.	Max.	Units
Off Characteristic						
$V_{(BR)DSS}$	Drain-Source Breakdown Voltage	$V_{GS} = 0V, I_D = -250\mu A$	-20	-	-	V
I_{DSS}	Zero Gate Voltage Drain Current	$V_{DS} = -16V,$ $V_{GS} = 0V, T_J = 25^\circ C$	-	-	-1	μA
I_{GSS}	Gate to Body Leakage Current	$V_{GS} = \pm 10V, V_{DS} = 0V$	-	-	± 10	μA
On Characteristics						
$V_{GS(th)}$	Gate Threshold Voltage	$V_{DS} = V_{GS}, I_D = -250\mu A$	-0.35	-0.65	-1	V
$R_{DS(on)}$	Static Drain-Source On-Resistance <small>note1</small>	$V_{GS} = -4.5V, I_D = -0.5A$	-	0.65	0.75	Ω
		$V_{GS} = -2.5V, I_D = -0.2A$	-	0.85	1.0	Ω
		$V_{GS} = -1.8V, I_D = -0.1A$	-	-	1.7	Ω
Dynamic Characteristics <small>note2</small>						
C_{iss}	Input Capacitance	$V_{DS} = -16V, V_{GS} = 0V$ $f = 1.0MHz$	-	113	-	pF
C_{oss}	Output Capacitance		-	15	-	pF
C_{rss}	Reverse Transfer Capacitance		-	9	-	pF
Switching Characteristics <small>note2</small>						
$t_{d(on)}$	Turn-On Delay Time	$V_{GS} = -4.5V, V_{DS} = -10V$ $R_G = 10\Omega, I_D = -0.2A$	-	9	-	ns
t_r	Turn-On Rise Time		-	5.7	-	ns
$t_{d(off)}$	Turn-Off Delay Time		-	32.6	-	ns
t_f	Turn-Off Fall Time		-	20.3	-	ns
Drain-Source Diode Characteristics and Maximum Ratings						
V_{SD}	Drain to Source Diode Forward Voltage	$V_{GS} = 0V, I_{SD} = -0.5A$ $T_J = 25^\circ C$	-	-	-1.2	V

Notes: 1. Pulse Test: Pulse width < 300 μs , Duty Cycle \leq 2%

2. Guaranteed by design, not subject to production testing

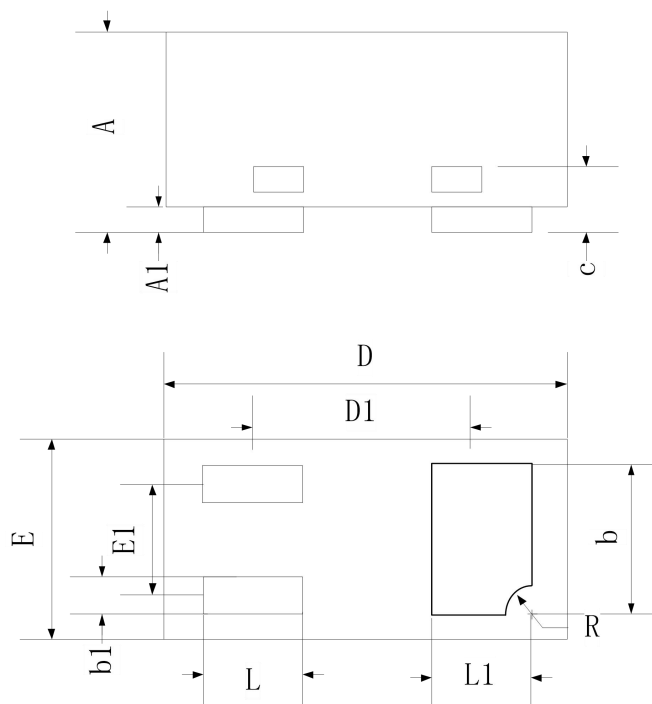
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TYPICAL PERFORMANCE CHARACTERISTICS



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DFN1006-3L PACKAGE OUTLINE DRAWING



Symbol	Dimensions in millimeters		Dimensions in Inches	
	Min.	Max.	Min.	Max.
A	0.46	0.51	0.018	0.020
A1	0	0.05	0	0.002
b	0.45	0.55	0.018	0.022
b1	0.1	0.2	0.004	0.008
c	0.08	0.18	0.003	0.007
D	0.95	1.05	0.037	0.041
D1	0.65		0.026	
E	0.55	0.65	0.022	0.026
E1	0.325		0.0128	
L	0.2	0.3	0.008	0.012
L1	0.2	0.3	0.008	0.012
R	0.05	0.15	0.002	0.006