

Description

The CJ3134K is N-Channel enhancement MOS Field Effect Transistor. Uses advanced trench technology and design to provide excellent $R_{DS(on)}$, with low gate charge. Device is suitable for use in DC-DC conversion, power switch and charging circuit.

General Features

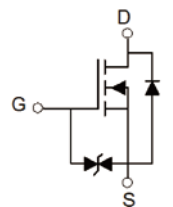
- Lead Free Product is Acquired
- Surface Mount Package
- N-Channel Switch with Low $R_{DS(on)}$
- Operated at Low Logic Level Gate Drive
- ESD Protected Gate



DFN1006-3L

Applications

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



Equivalent Circuit

Ordering information

Product ID	Pack	Naming rule	Marking	Qty(PCS)
CJ3134K	DFN1006-3L	CJ3134K ↓ 产品名称 product name	34	10000

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

Symbol	Parameter	Rating	Units
V_{DS}	Drain-Source Voltage	20	V
V_{GS}	Gate-Source Voltage	± 12	V
I_D	Continuous Drain Current (note 1)	0.75	A
I_{DM}	Pulsed Drain Current ($t_p=10\mu\text{s}$)	1.8	A
P_D	Power Dissipation (note 1)	275	mW
$R_{\theta JA}$	Thermal Resistance from Junction to Ambient (note 1)	455	$^{\circ}\text{C}/\text{W}$
T_J, T_{STG}	Operation Junction and Storage Temperature Range	$-55\sim+150$	$^{\circ}\text{C}$
T_L	Lead Temperature for Soldering Purposes	260	$^{\circ}\text{C}$

Electrical Characteristics (T_A=25℃, unless otherwise noted)

Symbol	Parameter	Conditions	Min.	Typ.	Max.	Unit
Static Characteristics						
V _{(BR)DSS}	Drain-Source Breakdown Voltage	V _{GS} =0V , I _D =250μA	20	---	---	V
I _{DSS}	Drain-Source Leakage Current	V _{DS} =20V,V _{GS} =0V	---	---	1	μA
I _{GSS}	Gate-Source Leakage Current	V _{GS} =±10V , V _{DS} =0V	---	---	±20	μA
V _{GS(th)}	Gate threshold voltage ⁽²⁾	V _{GS} =V _{DS} , I _D =250μA	0.35	0.75	1.1	V
R _{DS(ON)}	Drain-source on-resistance ⁽²⁾	V _{GS} =4.5V, I _D =150mA	---	250	500	mΩ
		V _{GS} =2.5V,I _D =150mA	---	300	700	
		V _{GS} =1.8V , I _D =150mA	---	370	900	
		V _{GS} =1.5V,I _D =20mA	---	460	---	
		V _{GS} =1.2V , I _D =10mA	---	1200	---	
g _{FS}	Forward tranconductance	V _{DS} =10V, I _D =150mA	150	---	---	mS
Dynamic characteristics ⁽⁴⁾						
C _{iss}	Input Capacitance	V _{DS} =16V , V _{GS} =0V , f=1MHz	---	79	120	pF
C _{oss}	Output Capacitance		---	13	20	
C _{rss}	Reverse Transfer Capacitance		---	9	15	
Switching Characteristics ⁽⁴⁾						
T _{d(on)}	Turn-On Delay Time ⁽³⁾	V _{DS} =10V,I _D =500mA, V _{GS} =4.5V,R _G =10Ω	---	6.7	---	ns
T _r	Rise Time ⁽³⁾		---	4.8	---	
T _{d(off)}	Turn-Off Delay Time ⁽³⁾		---	17.3	---	
T _f	Fall Time ⁽³⁾		---	7.4	---	
Source-Drain Diode characteristics						
V _{SD}	Diode Forward Voltage ⁽³⁾	I _S =0.15A,V _{GS} =0V	---	---	1.2	V

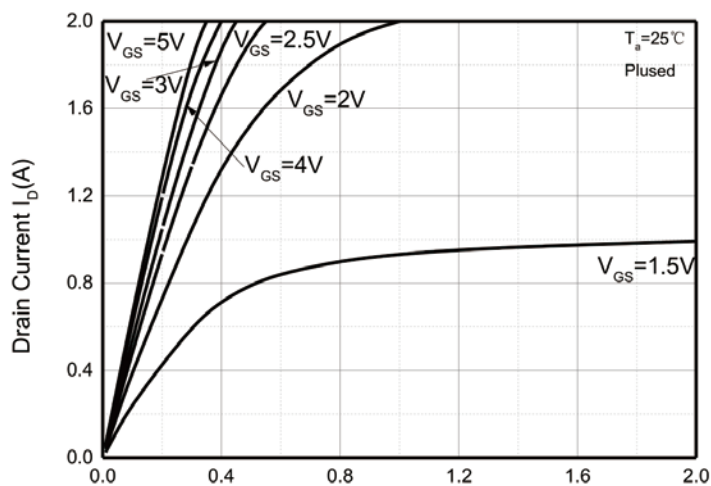
Notes:

- 1.Surface mounted on FR4 board using 1 square inch pad size, 1oz copper.
2. Pulse Test : Pulse Width=300μs, Duty Cycle=2%.
3. Switching characteristics are independent of operating junction temperatures.
4. Guaranteed by design, not subject to producing.

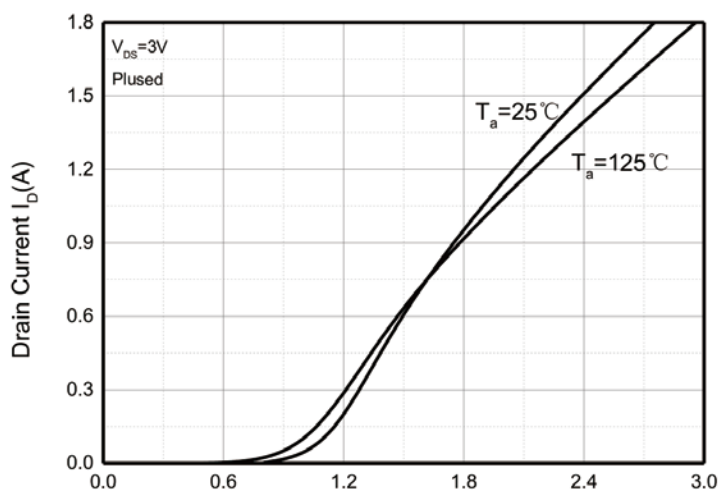
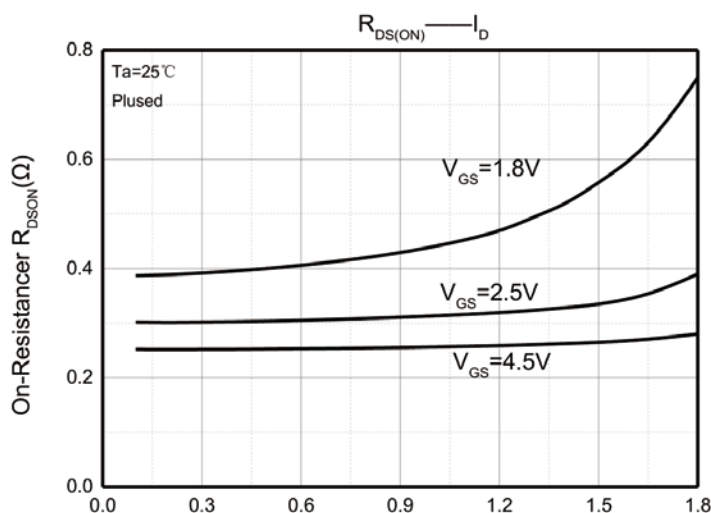
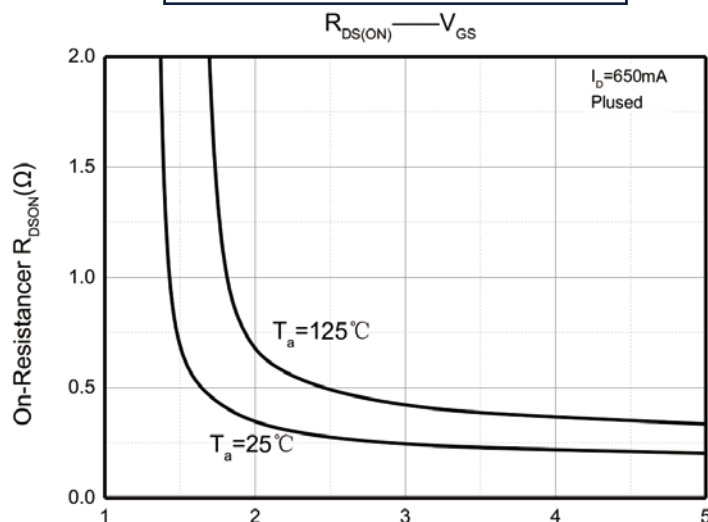
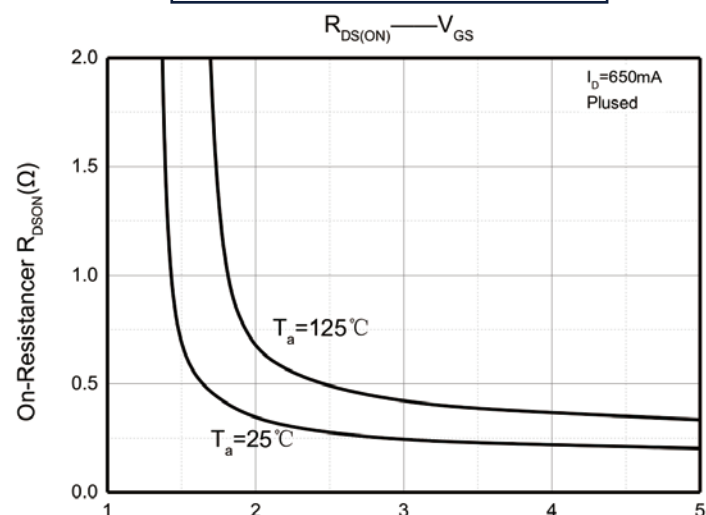


Typical Characteristics

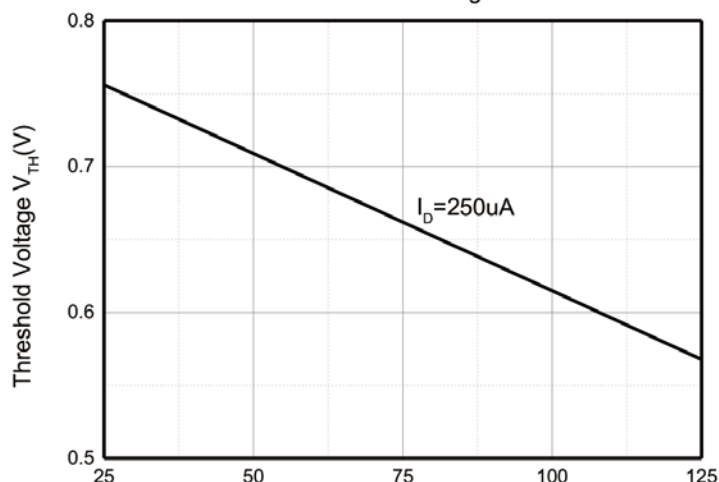
Output Characteristics

DRAIN TO SOURCE VOLTAGE V_{DS} (V)

Transfer Characteristics

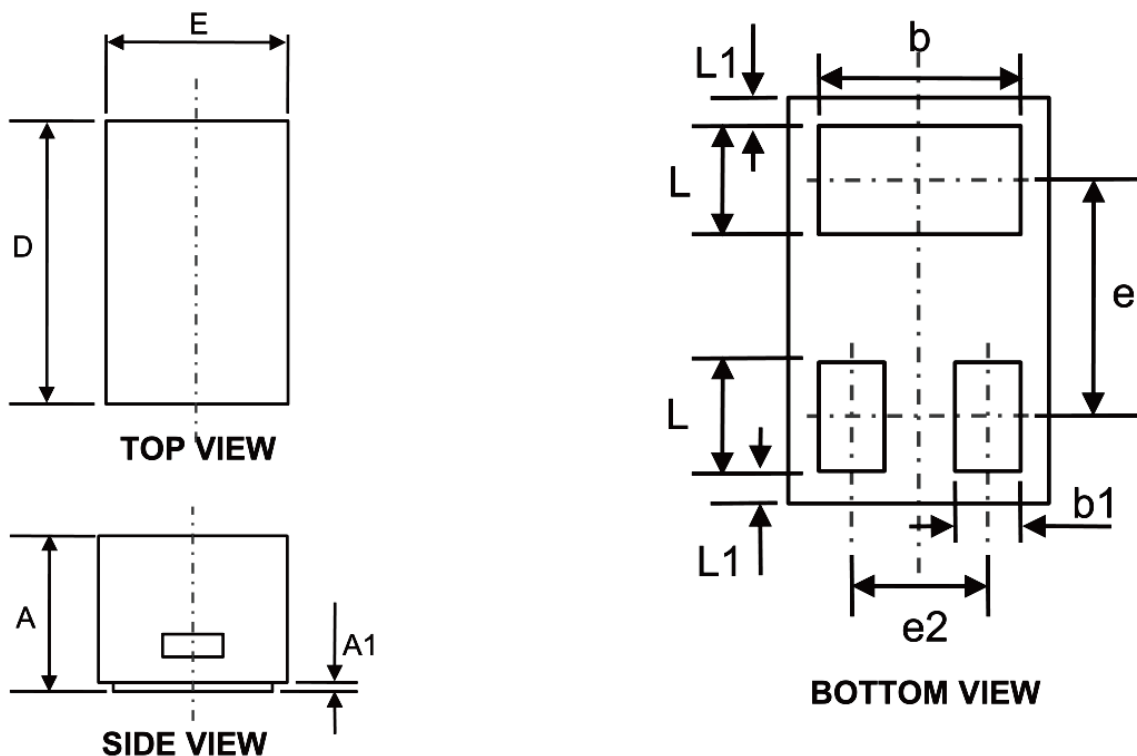
GATE TO SOURCE VOLTAGE V_{GS} (V)DRAIN CURRENT I_D (A)GATE TO SOURCE VOLTAGE V_{GS} (V)SOURCE TO DRAIN VOLTAGE V_{SD} (V)

Threshold Voltage

JUNCTION TEMPERATURE T_J ($^\circ\text{C}$)



DFN1006-3L Package Outline Dimensions



Symbol	Dimensions in Millimeters		Dimensions in Inches	
	Min	Max	Min	Max
A	0.400	0.500	0.016	0.020
A1	0.000	0.050	0.000	0.002
D	0.950	1.050	0.037	0.041
E	0.550	0.650	0.022	0.026
b	0.450	0.550	0.018	0.022
e	0.650 REF.		0.026 REF.	
e2	0.350 REF.		0.014 REF.	
L1	0.050 REF.		0.002 REF.	
L	0.200	0.300	0.008	0.012
b1	0.100	0.200	0.004	0.008