JIANGSU CHANGJING ELECTRONICS TECHNOLOGY CO., LTD.

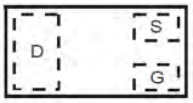
JSCJ DFN1006-3L Plastic-Encapsulate MOSFETs

CJBA3541K N-Channel MOSFET

$V_{(BR)DSS}$	$R_{DS(on)}$MAX	I_D
30V	500mΩ@4.5V	0.6A
	600mΩ@2.5V	

DFN1006-3L

Bottom View



Top View
Internal Schematic

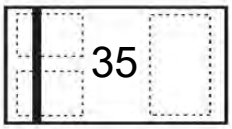
FEATURE

- 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

APPLICATION

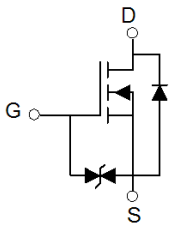
- Load/ Power Switching
- Interfacing Switching
- Battery Management for Ultra Small Portable Electronics
- Logic Level Shift

MARKING:



Top View
Bar Denotes Gate
and Source Side

Equivalent Circuit



ABSOLUTE MAXIMUM RATINGS (T_a=25℃ unless otherwise noted)

Parameter	Symbol	Value	Unit
Drain-Source Voltage	V_{DS}	30	V
Typical Gate-Source Voltage	V_{GS}	±12	V
Continuous Drain Current (note 1)	I_D	0.6	A
Pulsed Drain Current (tp=10us)	I_{DM}	1.8	A
Power Dissipation (note 1)	P_D	275	mW
Thermal Resistance from Junction to Ambient (note 1)	$R_{\theta JA}$	455	℃/W
Operation Junction and Storage Temperature Range	T_J,T_{STG}	-55~ 150	℃
Lead Temperature for Soldering Purposes(1/8'' from case for 10 s)	T_L	260	℃

MOSFET ELECTRICAL CHARACTERISTICS

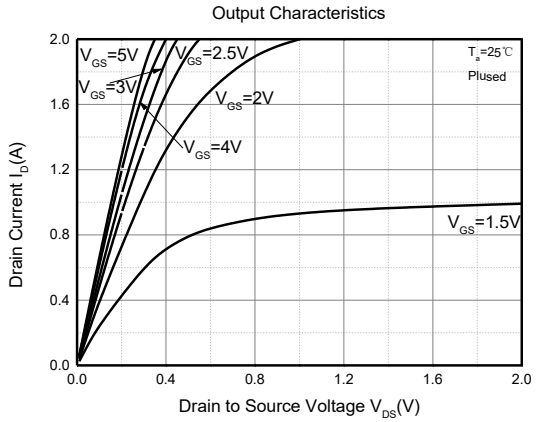
T_a=25℃ unless otherwise noted

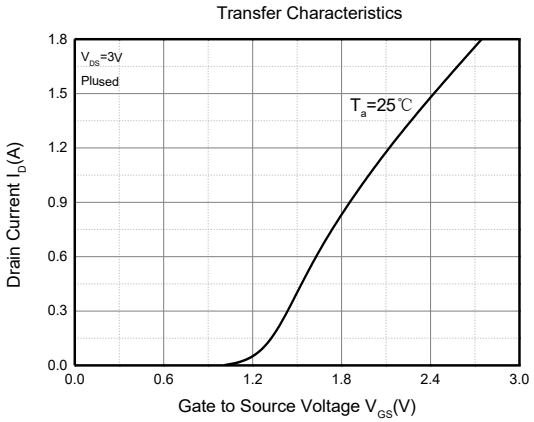
Parameter	Symbol	Test Condition	Min	Type	Max	Unit
Static Characteristics						
Drain-source breakdown voltage	$V_{(BR)DSS}$	V_{GS} = 0V, I_D =250μA	30			V
Zero gate voltage drain current	I_{DSS}	V_{DS} =30V,V_{GS} = 0V			1	μA
Gate-body leakage current	I_{GSS}	V_{GS} =±10V, V_{DS} = 0V			±20	μA
Gate threshold voltage(2)	$V_{GS(th)}$	V_{DS} =V_{GS}, I_D =250μA	0.8	1.0	1.5	V
Drain-source on-resistance(2)	$R_{DS(on)}$	V_{GS} =4.5V, I_D =600mA		320	500	mΩ
		V_{GS} =2.5V, I_D =300mA		410	600	
Forward tranconductance	g_{FS}	V_{DS} =10V, I_D =150mA	150			mS
Dynamic characteristics(4)						
Input Capacitance	C_{iss}	V_{DS}=16V,V_{GS}=0V,f=1MHz		44	120	pF
Output Capacitance	C_{oss}			15	20	
Reverse Transfer Capacitance	C_{rss}			8	15	
Switching Characteristics(4)						
Turn-on delay time(3)	$t_{d(on)}$	V_{DS}=10V,I_D=500mA, V_{GS}=4.5V,R_G=10Ω		5.0		ns
Turn-on rise time(3)	t_r			8.2		
Turn-off delay time(3)	$t_{d(off)}$			23		
Turn-off fall time(3)	t_f			41		
Source-Drain Diode characteristics						
Diode Forward voltage(3)	V_{DS}	I_S=0.15A, V_{GS} = 0V			1.2	V

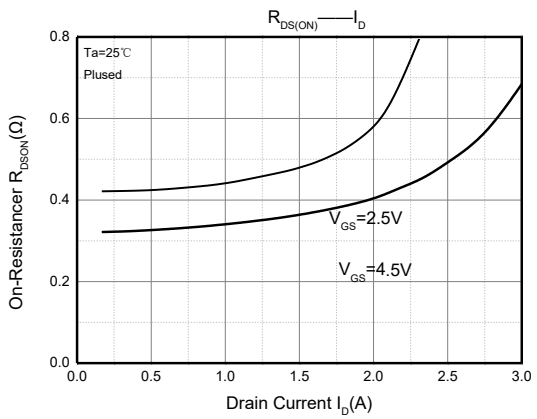
Notes:

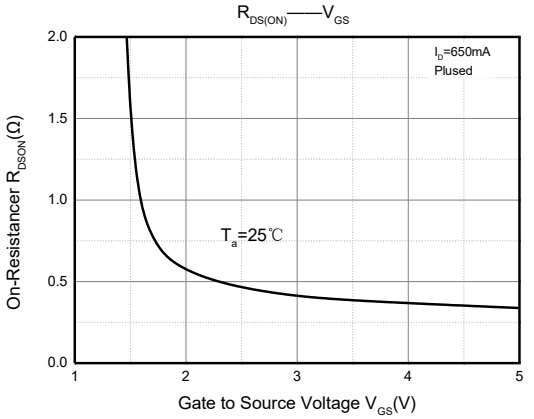
1. Surface mounted on FR4 board using 1 square inch pad size, 1oz copper.
2. Pulse Test : Pulse Width=300μs, Duty Cycle=2%.
3. Switching characteristics are independent of operating junction temperatures.
4. Guaranteed by design, not subject to producting.

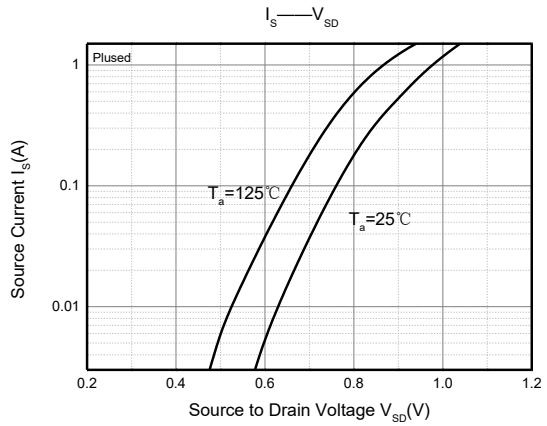
Typical Characteristics

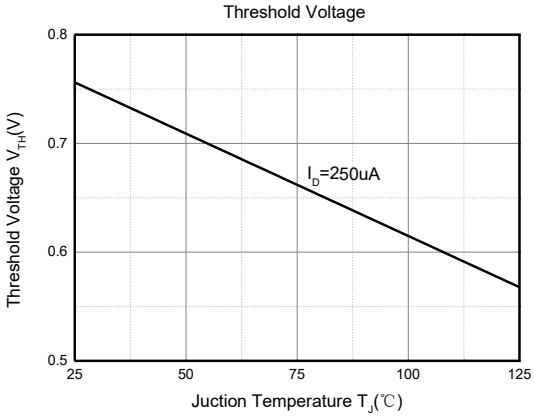




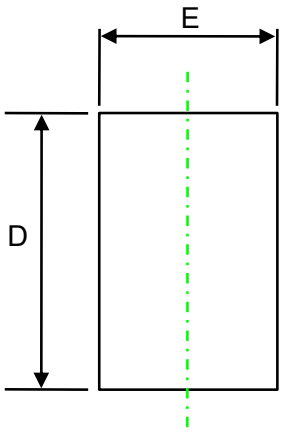




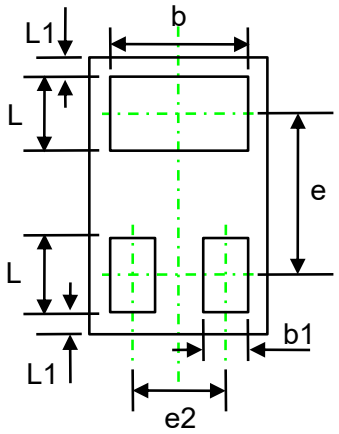




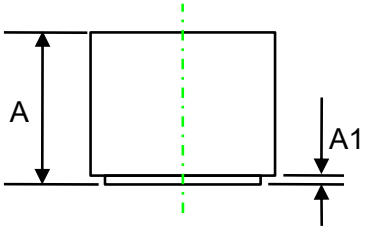
DFN1006-3L Package Outline Dimensions



TOP VIEW



BOTTOM VIEW

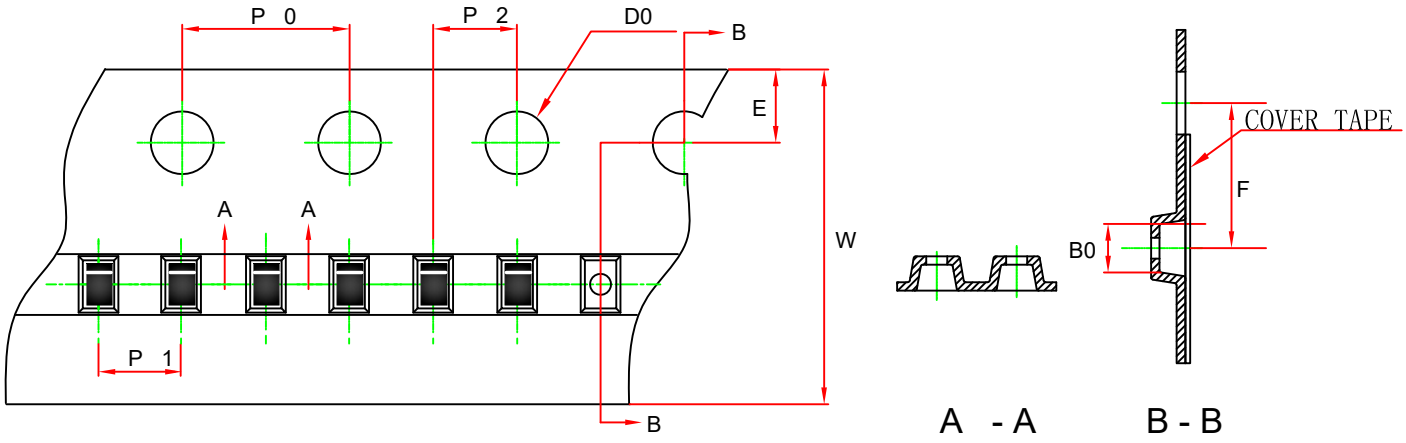


SIDE VIEW

Symbol	Dimensions In Millimeters (mm)		
	Min.	Typ.	Max.
A	0.40	0.47	0.55
A1	0.00	0.03	0.05
D	0.95	1.00	1.05
E	0.55	0.60	0.65
b	0.45	0.50	0.55
e	-	0.65	-
e2	-	0.35	-
L1	0.05 REF.		
L	0.20	0.25	0.30
b1	0.10	0.15	0.20

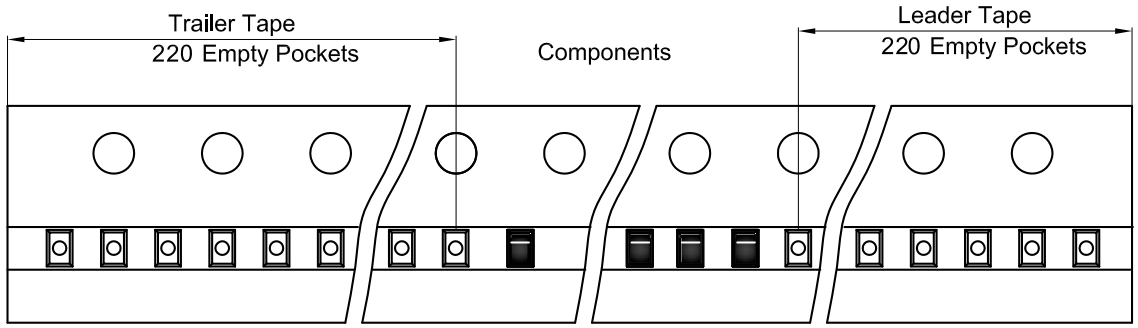
DFN1006-3L Tape and Reel

DFN1006-3L Embossed Carrier Tape

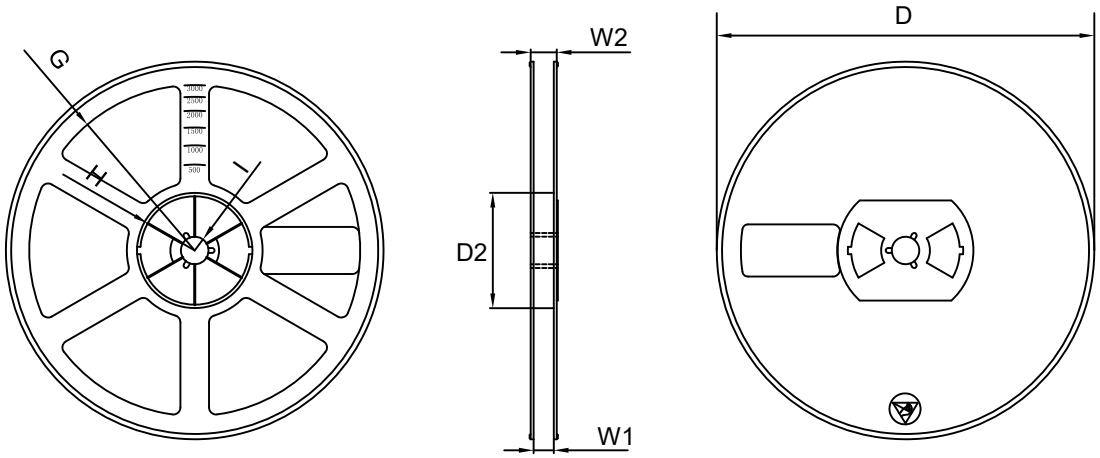


Dimensions In Millimeters (mm)								
Pkg type	B0	P0	P1	P2	E	F	W	D0
DFN1006-3L	1.11	4.00	2.00	2.00	1.75	3.50	8.00	1.55
Tolerance	+/-0.06	+/-0.1	+/-0.1	+/-0.1	+/-0.1	+/-0.1	+/-0.3	+/-0.1

DFN1006-3L Tape Leader and Trailer



DFN1006-3L Reel



Symbol	Dimensions In Millimeters (mm)						
	D	D2	G	H	I	W1	W2
7" Dia	Φ178.00	54.50	R78.00	R25.6	R6.5	9.50	12.30
Tolerance	+/-2	+/-1	+/-1	+/-1	+/-1	+/-2	+/-1.5

REEL	Reel Size	Box	Box size(mm)	Carton	Carton Size(mm)
10000 pcs	7 inch	150000 pcs	220×220×210	600000 pcs	450×450×240