DFN1006-3L Plastic-Encapsulate MOSFETs

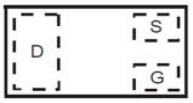
CJBA3134K N-Channel MOSFET

$V_{(BR)DSS}$	$R_{DS(on)}$MAX	I_D
20V	500mΩ@4.5V	0.75A
	700mΩ@2.5V	
	900mΩ@1.8V	

DFN1006-3L



Bottom View



Top View
Internal Schematic

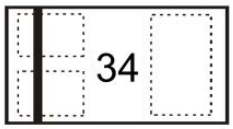
FEATURE

- 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

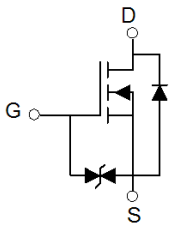
- Load/ Power Switching
- Interfacing Switching
- Battery Management for Ultra Small Portable Electronics
- Logic Level Shift

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}	20	V
Typical Gate-Source Voltage	V_{GS}	±12	V
Continuous Drain Current (note 1)	I_D	0.75	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

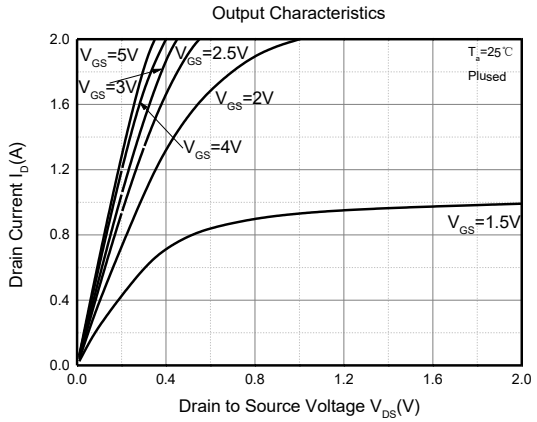
T_a=25℃ unless otherwise noted

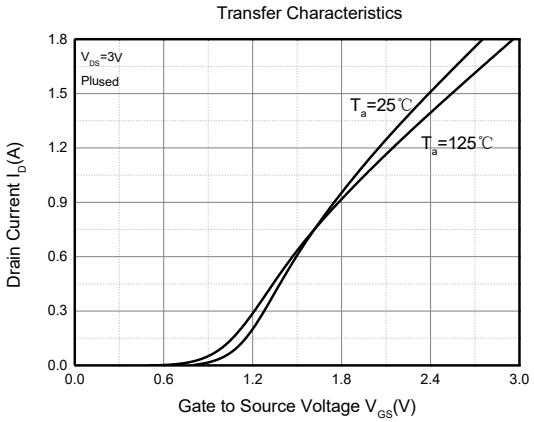
Parameter	Symbol	Test Condition	Min	Type	Max	Unit
Static Characteristics						
Drain-source breakdown voltage	$V_{(BR)DSS}$	V_{GS} = 0V, I_D =250μA	20			V
Zero gate voltage drain current	I_{DSS}	V_{DS} =20V,V_{GS} = 0V			1	μA
Gate-body leakage current	I_{GSS}	V_{GS} =±10V, V_{DS} = 0V			±20	μA
Gate threshold voltage(2)	$V_{GS(th)}$	V_{DS} =V_{GS}, I_D =250μA	0.35	0.75	1.1	V
Drain-source on-resistance(2)	$R_{DS(on)}$	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		
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		79	120	pF
Output Capacitance	C_{oss}			13	20	
Reverse Transfer Capacitance	C_{rss}			9	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		6.7		ns
Turn-on rise time(3)	t_r			4.8		
Turn-off delay time(3)	$t_{d(off)}$			17.3		
Turn-off fall time(3)	t_f			7.4		
Source-Drain Diode characteristics						
Diode Forward voltage(3)	V_{SD}	I_S=0.15A, V_{GS} = 0V			1.2	V

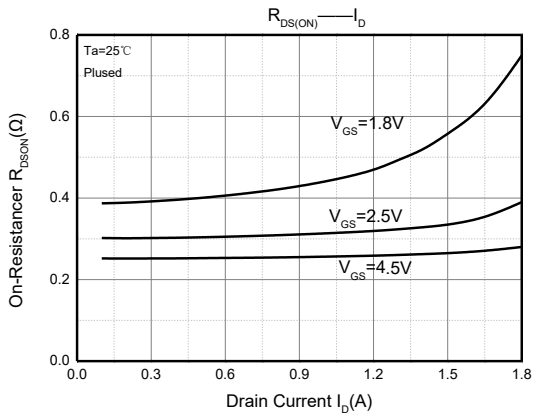
Notes:

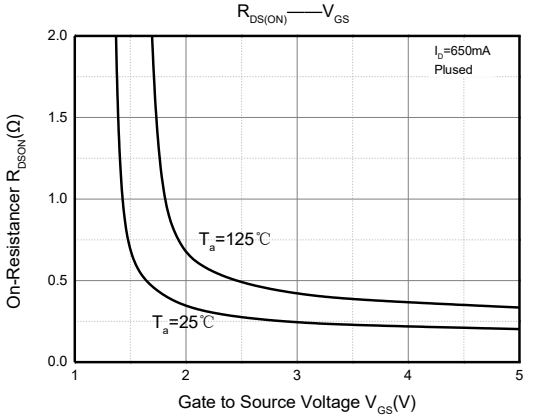
1. Surface mounted on FR4 board using 1 square inch pad size, 1oz copper.
2. Pulse Test : Pulse Width=300μs, Duty Cycle=2%.
3. Switching characteristics are independent of operating junction temperatures.
4. Guaranteed by design, not subject to producting.

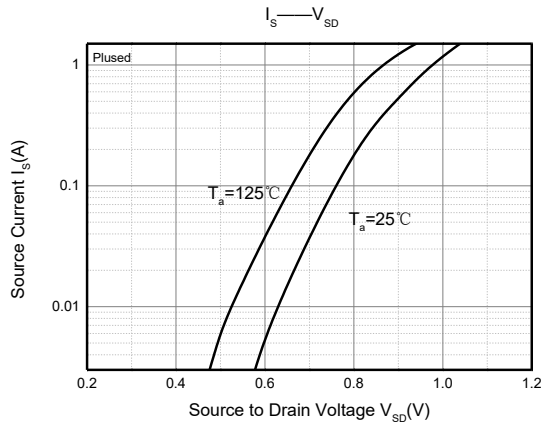
Typical Characteristics

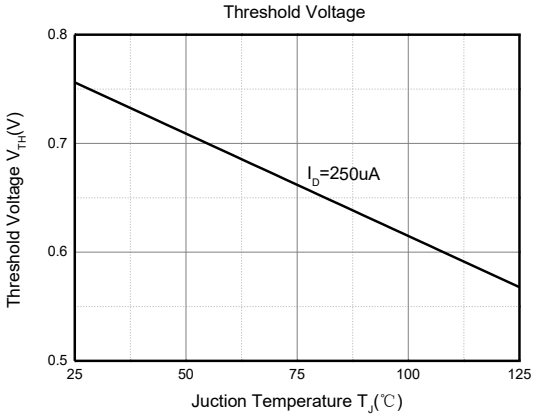




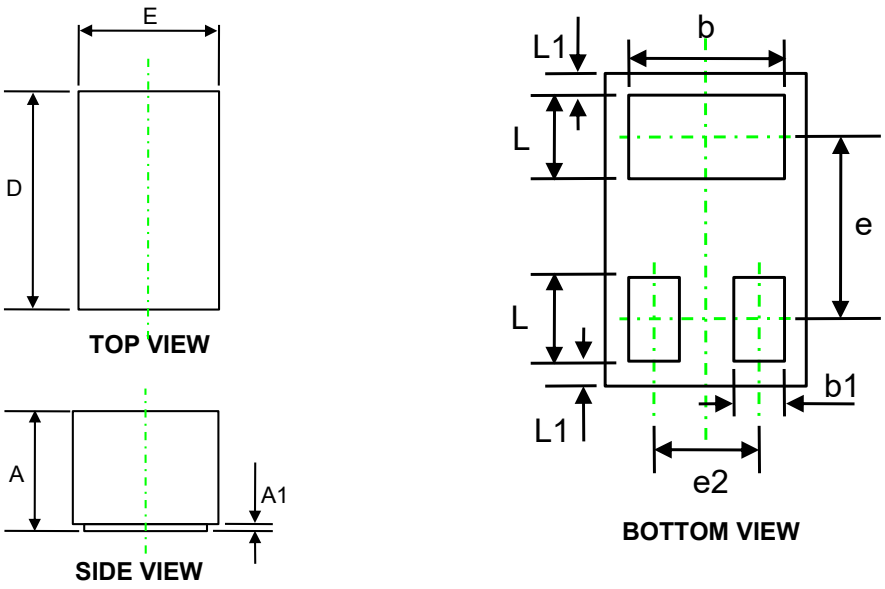






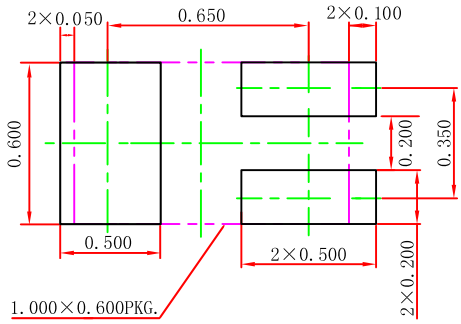


DFN1006-3L Package Outline Dimensions



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min.	Max.	Min.	Max.
A	0.400	0.550	0.016	0.022
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

DFN1006-3L Suggested Pad Layout



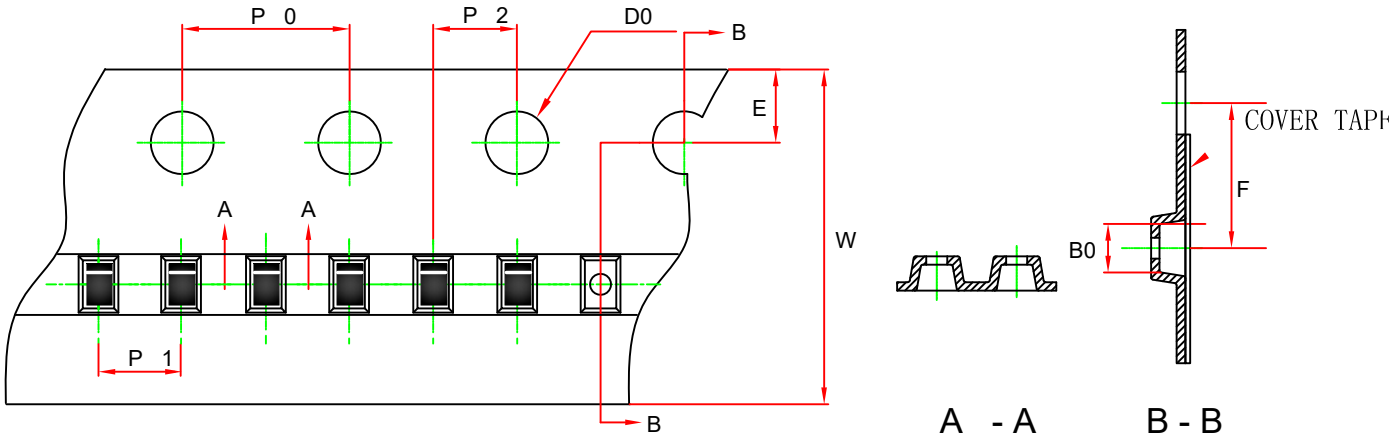
Note:
1.Controlling dimension:in millimeters.
2.General tolerance:± 0.050mm.
3.The pad layout is for reference purposes only.

NOTICE

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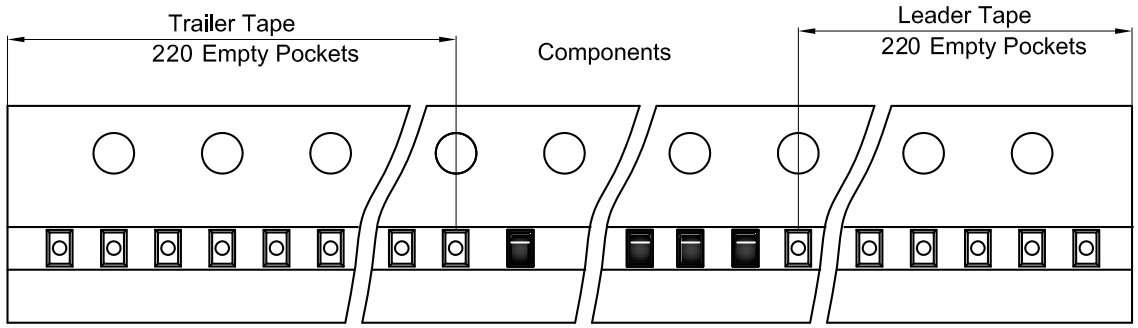
DFN1006-3L Tape and Reel

DFN1006-3L Embossed Carrier Tape

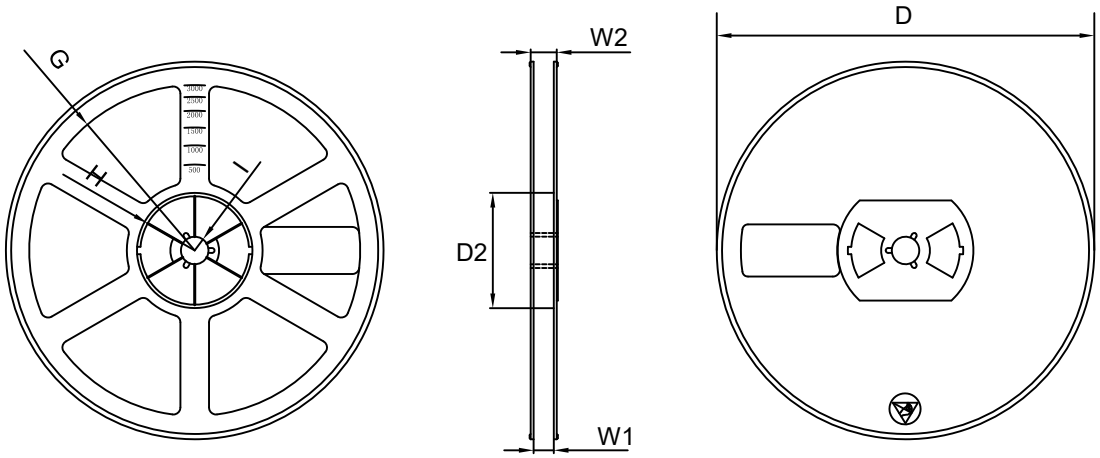


Dimensions In Millimeters (mm)								
Pkg type	B0	P0	P1	P2	E	F	W	D0
DFN1006-3L	1.11	4.00	2.00	2.00	1.75	3.50	8.00	1.55
Tolerance	+/-0.06	+/-0.1	+/-0.1	+/-0.1	+/-0.1	+/-0.1	+/-0.3	+/-0.1

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