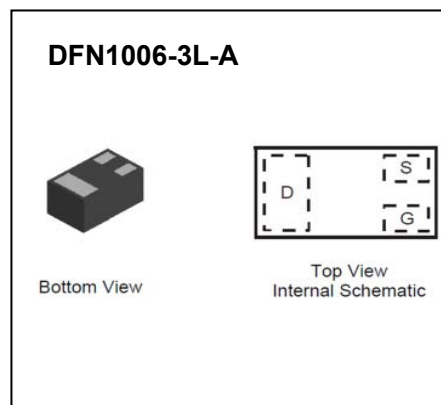




# DFN1006-3L-A Plastic-Encapsulate MOSFETs

## CJBB7002K N-Channel MOSFET

$V_{(BR)DSS}$	$R_{DS(on)MAX}$	$I_D$
60V	1.5Ω@10V	0.41A
	1.8Ω@4.5V	



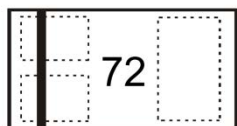
### FEATURE

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

### APPLICATION

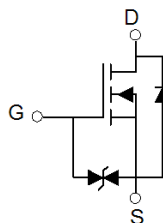
- Load Switch
- Portable Applications
- Power Management Functions

### MARKING:



Top View  
Bar Denotes Gate and Source Side

### Equivalent Circuit



### ABSOLUTE MAXIMUM RATINGS ( $T_a=25^\circ\text{C}$ unless otherwise noted)

Parameter	Symbol	Value	Unit
Drain-Source Voltage	$V_{DS}$	60	V
Gate-Source Voltage	$V_{GS}$	±20	V
Continuous Drain Current	$I_D$	$T_a=25^\circ\text{C}$	0.41
		$T_a=85^\circ\text{C}$	0.30
Pulsed Drain Current	$I_{DM}$	1.2	A
Power Dissipation	$P_D$ <sup>③</sup>	275	mW
Thermal Resistance from Junction to Ambient	$R_{\theta JA}$ <sup>③</sup>	455	°C/W
Operation Junction and Storage Temperature Range	$T_J, T_{STG}$	-55~ +150	°C

# MOSFET ELECTRICAL CHARACTERISTICS

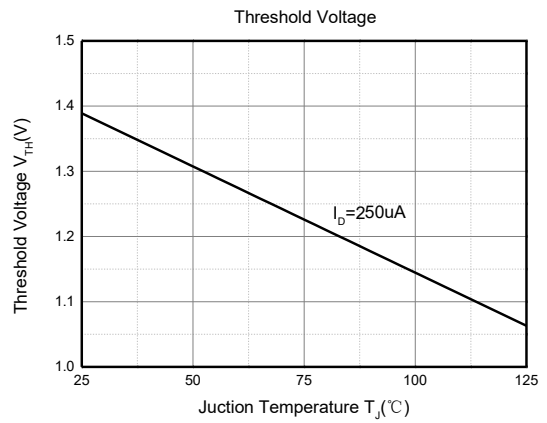
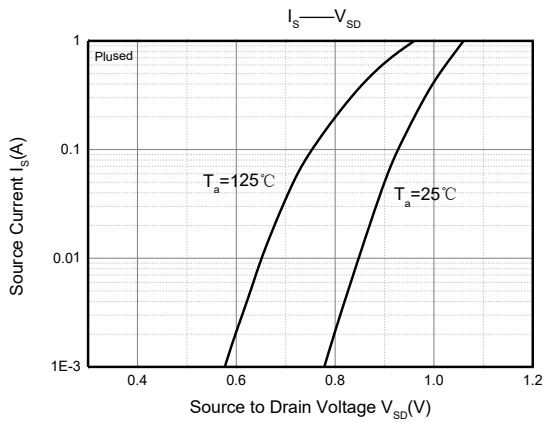
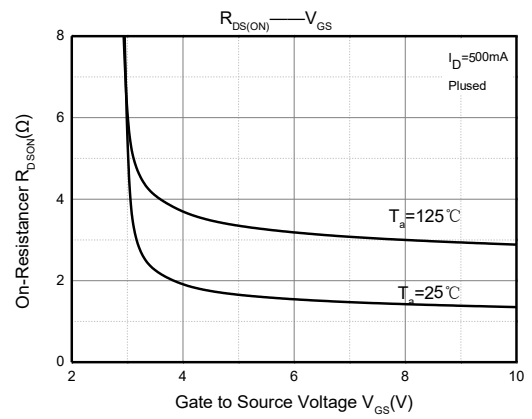
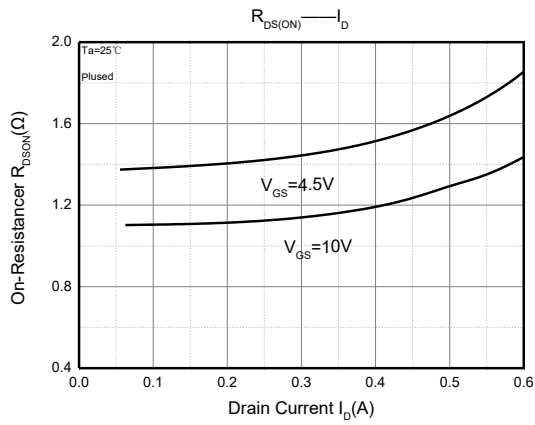
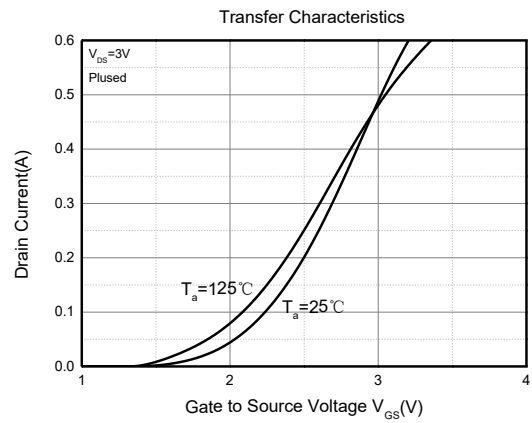
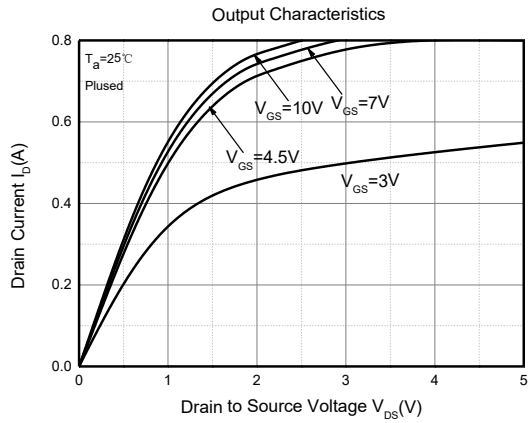
## MOSFET ELECTRICAL CHARACTERISTICS( $T_a=25^{\circ}\text{C}$ unless otherwise noted)

Parameter	Symbol	Test Condition	Min	Type	Max	Unit
<b>Static Characteristics</b>						
Drain-source breakdown voltage	$V_{(BR)DSS}$	$V_{GS} = 0V, I_D = 250\mu A$	60			V
Zero gate voltage drain current	$I_{DSS}$	$V_{DS} = 60V, V_{GS} = 0V$			100	nA
Gate-body leakage current	$I_{GSS}$	$V_{GS} = \pm 20V, V_{DS} = 0V$			$\pm 10$	$\mu A$
		$V_{GS} = \pm 5V, V_{DS} = 0V$			$\pm 1$	
Gate threshold voltage	$V_{GS(th)}$	$V_{DS} = V_{GS}, I_D = 250\mu A$	1.3	1.4	2.3	V
Drain-source on-resistance <sup>①</sup>	$R_{DS(on)}$	$V_{GS} = 10V, I_D = 40mA$		1.2	1.5	$\Omega$
		$V_{GS} = 4.5V, I_D = 35mA$		1.3	1.8	
Forward transconductance <sup>①</sup>	$g_{fs}$	$V_{DS} = 5V, I_D = 40mA$	100			mS
Diode forward voltage	$V_{SD}$	$V_{GS} = 0V, I_S = 300mA$		0.84	1.1	V
<b>Dynamic characteristics</b>						
Input Capacitance <sup>②</sup>	$C_{iss}$	$V_{DS} = 40V, V_{GS} = 0V, f = 1MHz$		41	80	pF
Output Capacitance <sup>②</sup>	$C_{oss}$			3.6	7	
Reverse Transfer Capacitance <sup>②</sup>	$C_{rss}$			2.9	5.6	
Gate resistance	$R_g$	$V_{DS} = 0V, V_{GS} = 0V, f = 1MHz$		81	200	$\Omega$
Total Gate Charge	$Q_g$	$V_{GS} = 4.5V$	$V_{DS} = 50V, I_D = 0.41A$	0.72	1.5	nC
Gate-Source Charge	$Q_{gs}$	$V_{GS} = 10V$		1.41	2.8	
Gate-Drain Charge	$Q_{gd}$			0.24	0.4	
Turn-on delay time <sup>②</sup>	$t_{d(on)}$			0.24	0.5	
Turn-on rise time <sup>②</sup>	$t_r$	$V_{DS} = 30V, RL = 50R, V_{GS} = 10V, RG = 6\Omega$		3.98	10	ns
Turn-off delay time <sup>②</sup>	$t_{d(off)}$			4.95	10	
Turn-off fall time <sup>②</sup>	$t_f$			18.52	40	
				11.94	25	

### Notes:

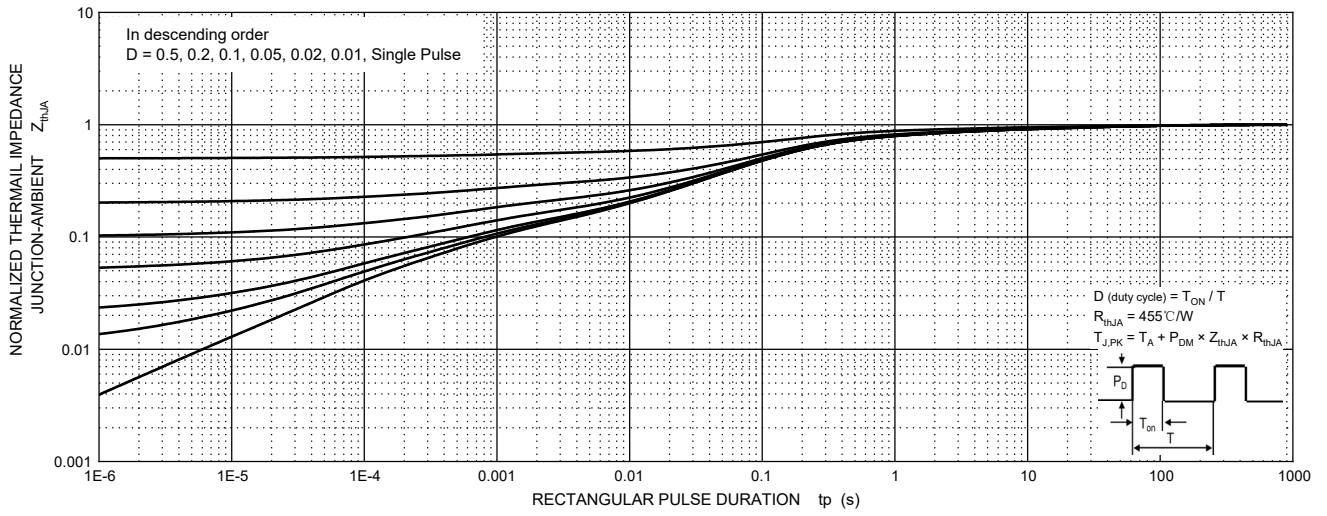
1. Pulse Test : Pulse width  $\leq 300\mu s$ , duty cycle  $\leq 2\%$ .
2. These parameters have no way to verify.
3. Surface mounted on FR4 board using 1 square inch pad size, 1oz copper.

# Typical Characteristics

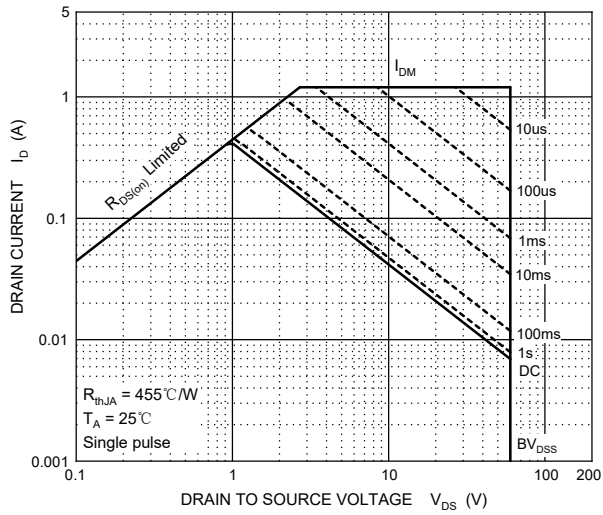


# Typical Characteristics

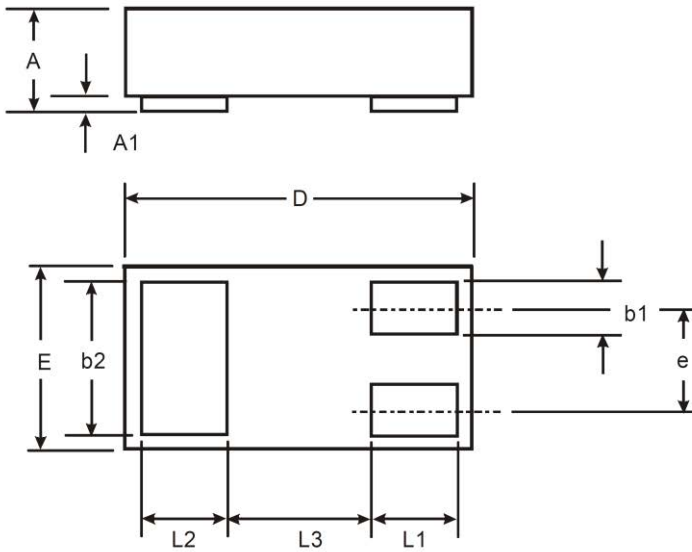
Transient Thermal Impedance, Junction-Ambient



Maximum Safe Operating Area

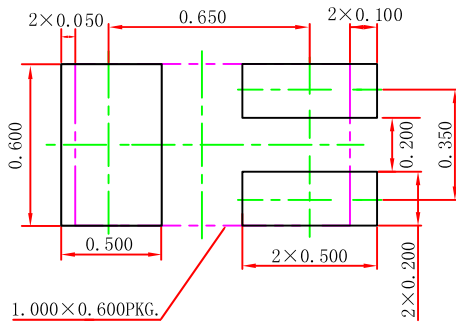


## DFN1006-3L-A Package Outline Dimensions



DFN1006-3L-A			
Dim	Min.	Max.	Typ.
A	0.34	0.40	0.37
A1	0.00	0.05	0.03
b1	0.10	0.20	0.15
b2	0.45	0.55	0.50
D	0.95	1.075	1.00
E	0.55	0.675	0.60
e	-	-	0.35
L1	0.20	0.30	0.25
L2	0.20	0.30	0.25
L3	-	-	0.40
<b>All Dimensions in mm</b>			

## DFN1006-3L-A Suggested Pad Layout



### Note:

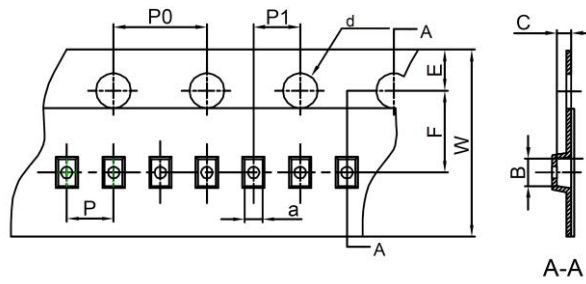
1. Controlling dimension: in millimeters.
2. General tolerance:  $\pm 0.050$ mm.
3. The pad layout is for reference purposes only.

### NOTICE

JSCJ reserves the right to make modifications, enhancements, improvements, corrections or other changes without further notice to any product herein. JSCJ does not assume any liability arising out of the application or use of any product described herein.

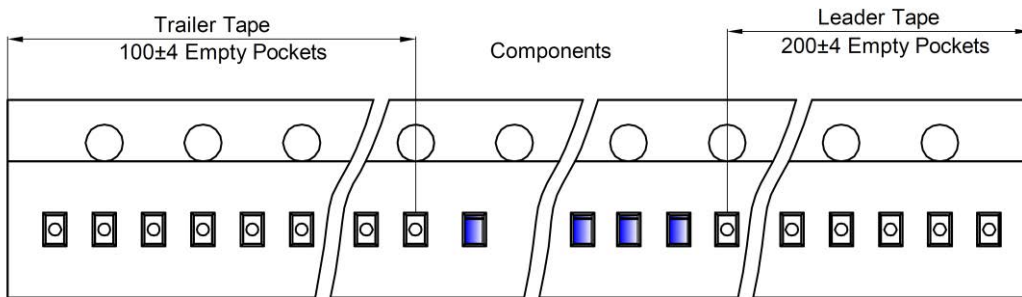
# DFN1006-3L-A Tape and Reel

## DFN1006-3L-A Embossed Carrier Tape

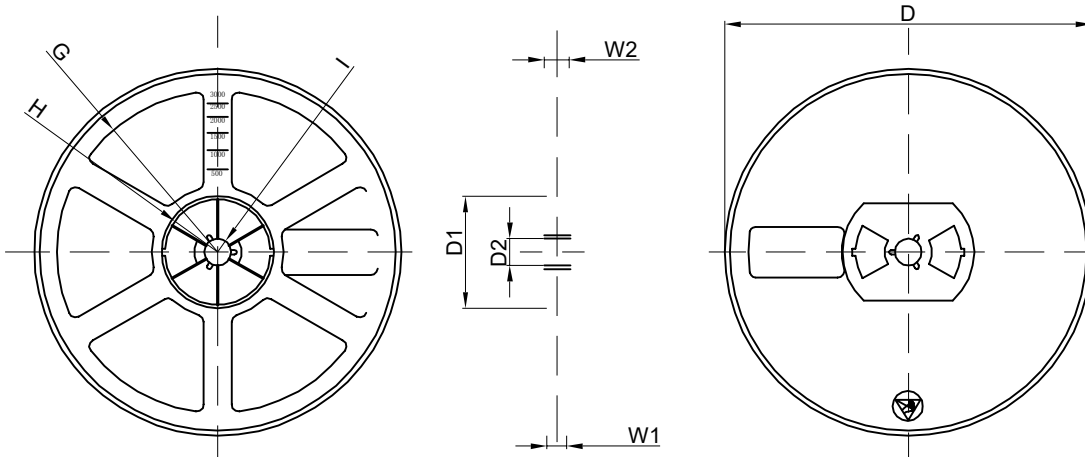


Dimensions are in millimeter										
Pkg type	a	B	C	d	E	F	P0	P	P1	W
DFN1006-3L-A	0.66	1.15	0.66	Ø1.50	1.75	3.50	4.00	2.00	2.00	8.00

## DFN1006-3L-A Tape Leader and Trailer



## DFN1006-3L-A Reel



Dimensions are in millimeter								
Reel Option	D	D1	D2	G	H	I	W1	W2
7" Dia	Ø178.00	54.40	13.00	R78.00	R25.60	R6.50	9.50	12.30

REEL	Reel Size	Box	Box Size(mm)	Carton	Carton Size(mm)	G.W.(kg)
10000 pcs	7 inch	150,000 pcs	203×203×195	600,000 pcs	438×438×220	