SZCJ

Shenzhen Changji Semiconductor Co., LTD.

DFN1006-3L Plastic-Encapsulate MOSFETs

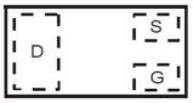
CJBA7002K N-Channel MOSFET

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

DFN1006-3L



Bottom View



Top View
Internal Schematic

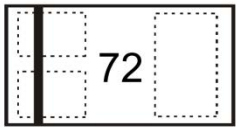
FEATURE

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

APPLICATION

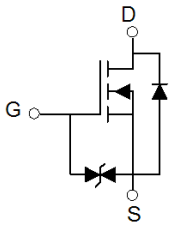
- Load Switch
- Portable Applications
- Power Management Functions

MARKING:



Top View
Bar Denotes Gate
and Source Side

Equivalent Circuit



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

Parameter		Symbol	Value	Unit
Drain-Source Voltage		V_{DS}	60	V
Gate-Source Voltage		V_{GS}	±20	V
Continuous Drain Current	T_a=25℃	I_D	0.41	A
	T_a=85℃		0.30	
Pulsed Drain Current		I_{DM}	1.2	A
Power Dissipation		P_D③	275	mW
Thermal Resistance from Junction to Ambient		$R_{\theta JA}$③	455	℃/W
Operation Junction and Storage Temperature Range		T_J,T_{STG}	-55~ +150	℃

MOSFET ELECTRICAL CHARACTERISTICS

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	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} =±20V, V_{DS} = 0V			±10	μA
		V_{GS} =±5V, V_{DS} = 0V			±1	
Gate threshold voltage	$V_{GS(th)}$	V_{DS} =V_{GS}, I_D =250μA	1.3	1.4	2.3	V
Drain-source on-resistance①	$R_{DS(on)}$	V_{GS} =10V, I_D =40mA		1.2	1.5	Ω
		V_{GS} =4.5V, I_D =35mA		1.3	1.8	
Forward tranconductance①	gfs	V_{DS} = 5V, I_D = 40mA	100			mS
Diode forward voltage	V_{SD}	V_{GS} =0V, I_S =300mA		0.84	1.1	V
Dynamic characteristics						
Input Capacitance②	C_{iss}	V_{DS} =40V,V_{GS} =0V,f =1MHz		41	80	pF
Output Capacitance②	C_{oss}			3.6	7	
Reverse Transfer Capacitance②	C_{rss}			2.9	5.6	
Gate resistance	R_g	V_{DS} = 0V, V_{GS} = 0V, f = 1MHz		81	200	Ω
Total Gate Charge	Q_g	V_{GS} =4.5V; V_{DS} = 50V, I_D = 0.41A		0.72	1.5	nC
		V_{GS} =10V; V_{DS} = 50V, I_D = 0.41A		1.41	2.8	
Gate-Source Charge	Q_{gs}	V_{GS} =10V; V_{DS} = 50V, I_D = 0.41A		0.24	0.4	
Gate-Drain Charge	Q_{gd}	V_{GS} =10V; V_{DS} = 50V, I_D = 0.41A		0.24	0.5	
Turn-on delay time②	$t_{d(on)}$	V_{DS}=30V,RL=50R, V_{GS}=10V,RG=6Ω		3.98	10	ns
Turn-on rise time②	t_r			4.95	10	
Turn-off delay time②	$t_{d(off)}$			18.52	40	
Turn-off fall time②	t_f			11.94	25	

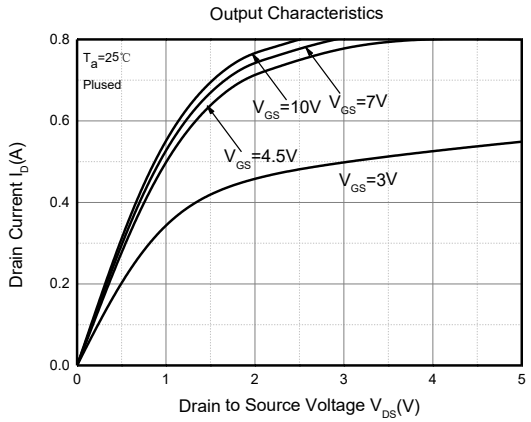
Notes:

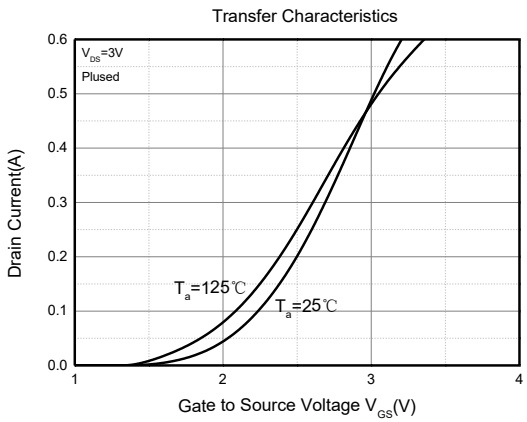
1.Pulse Test : Pulse width≤300μs, duty cycle ≤2%.

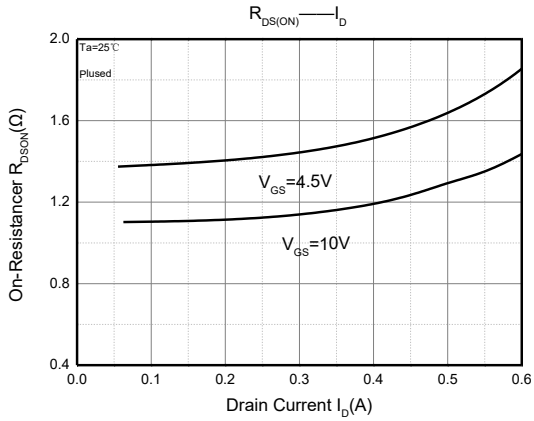
2.These parameters have no way to verify.

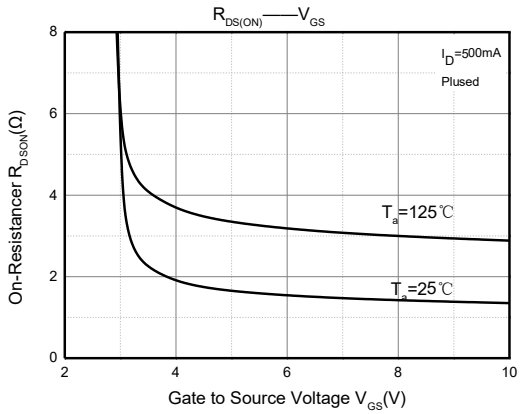
3.Surface mounted on FR4 board using 1 square inch pad size, 1oz copper.

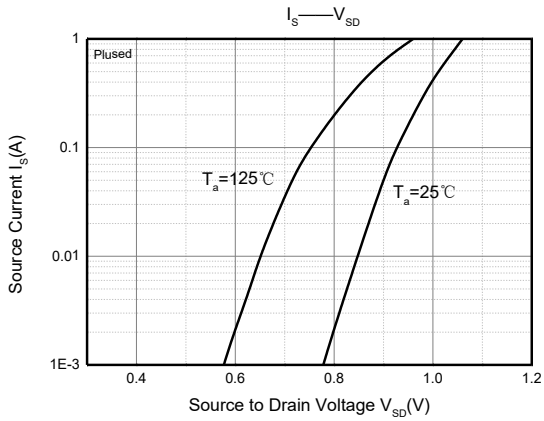
Typical Characteristics

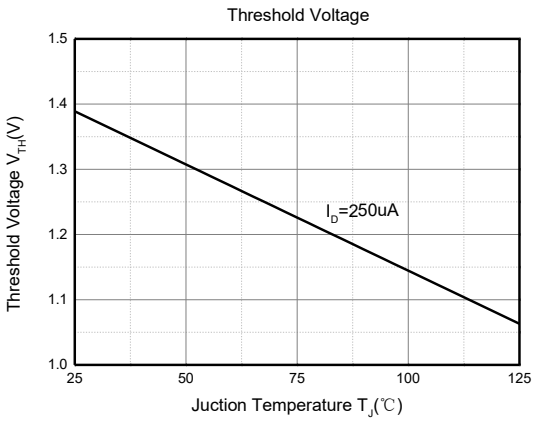






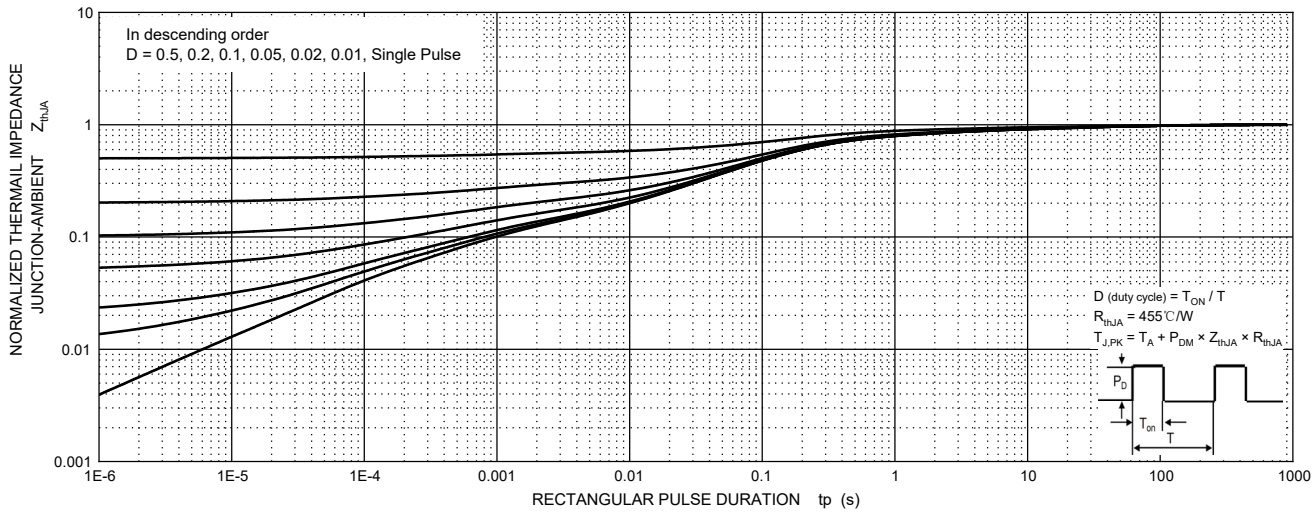




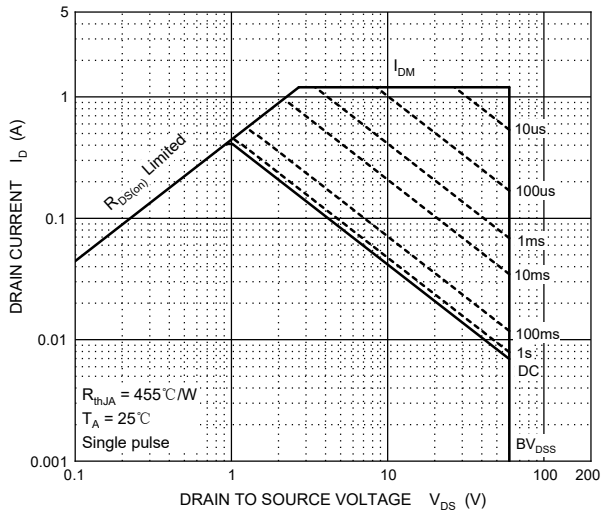


Typical Characteristics

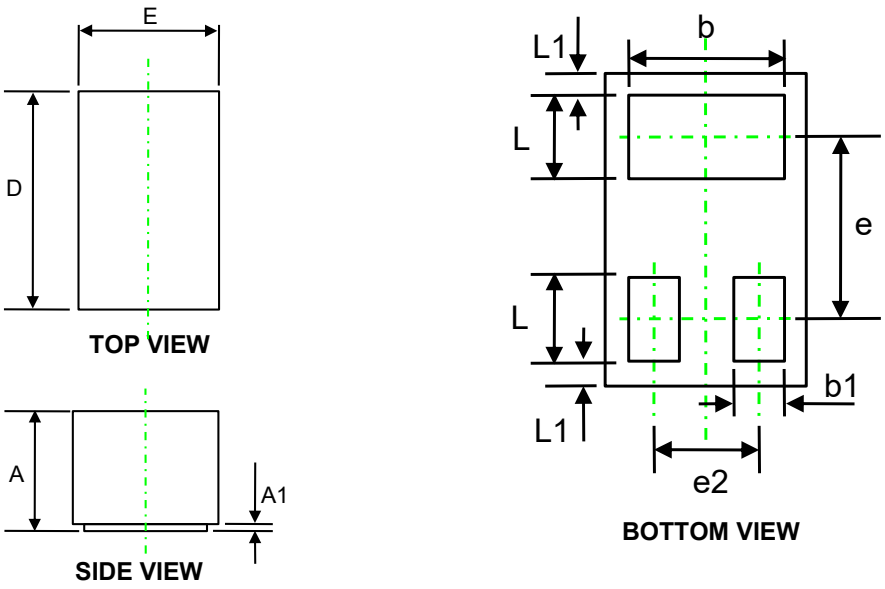
Transient Thermal Impedance, Junction-Ambient



Maximum Safe Operating Area

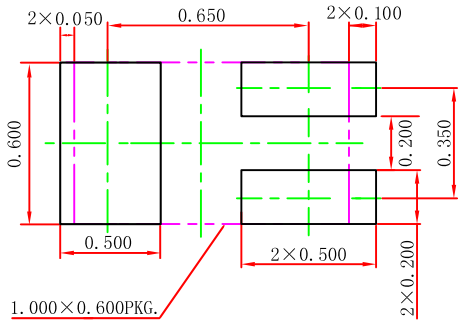


DFN1006-3L Package Outline Dimensions



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



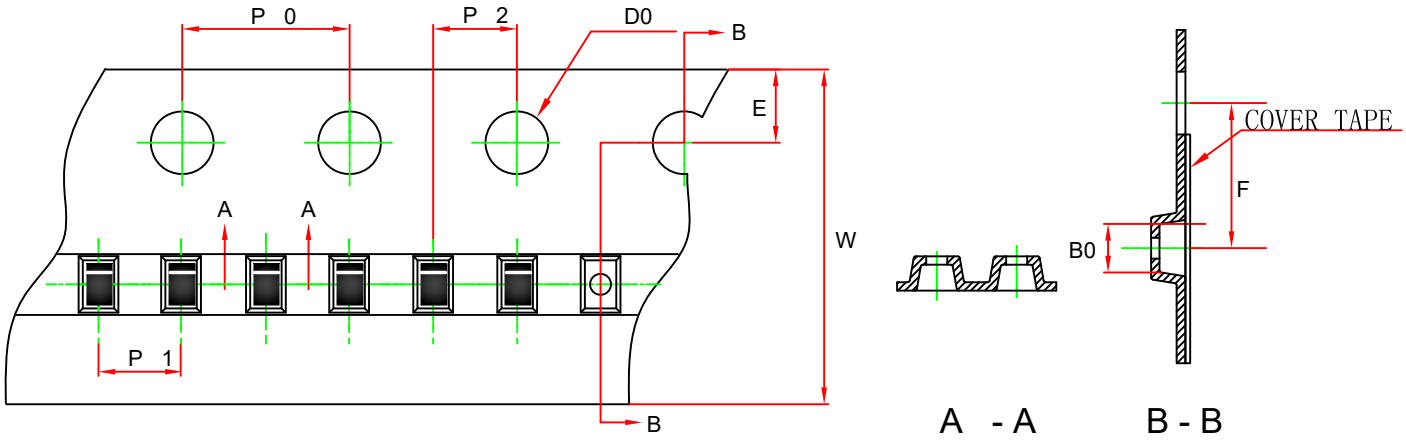
Note:
1.Controlling dimension:in millimeters.
2.General tolerance:± 0.050mm.
3.The pad layout is for reference purposes only.

NOTICE

SZCJ reserves the right to make modifications,enhan nts,improvements,corrections or other es without further notice to any product herein. SZCJ does not assume any liability arising out of the application or use of any product described h

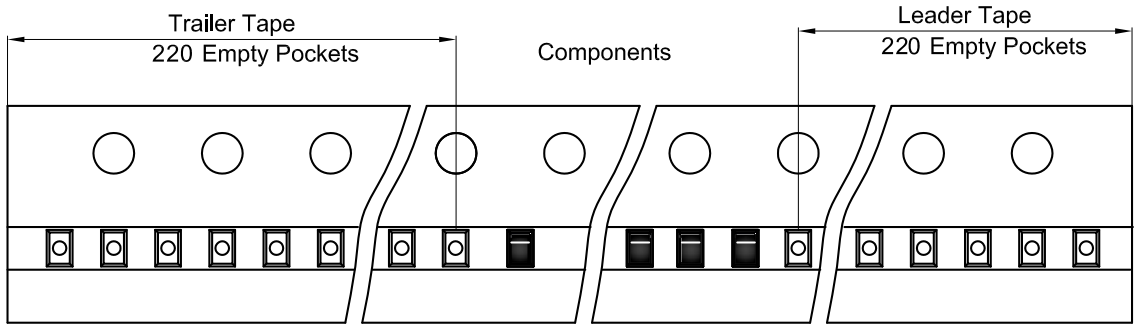
DFN1006-3L Tape and Reel

DFN1006-3L Embossed Carrier Tape

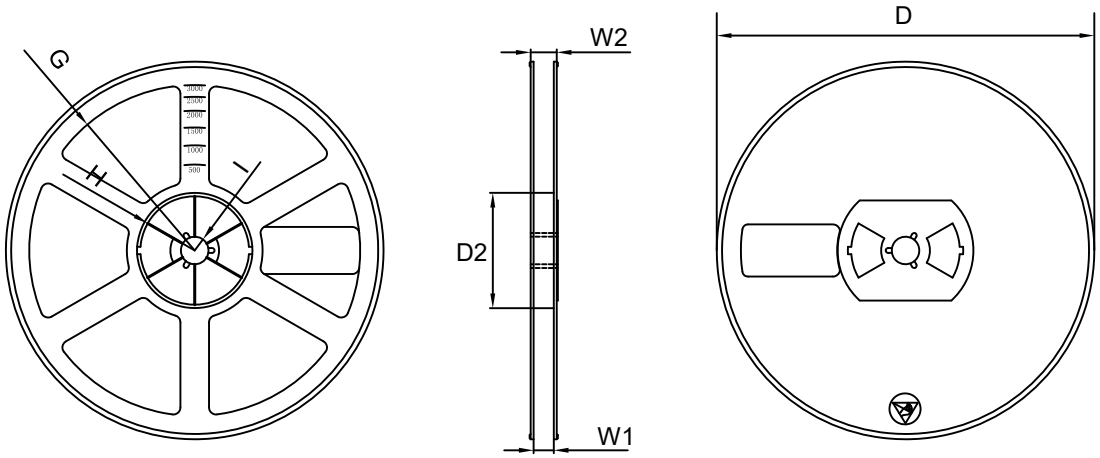


Dimensions In Millimeters (mm)								
Pkg type	B0	P0	P1	P2	E	F	W	D0
DFN1006-3L	1.11	4.00	2.00	2.00	1.75	3.50	8.00	1.55
Tolerance	+/-0.06	+/-0.1	+/-0.1	+/-0.1	+/-0.1	+/-0.1	+/-0.3	+/-0.1

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