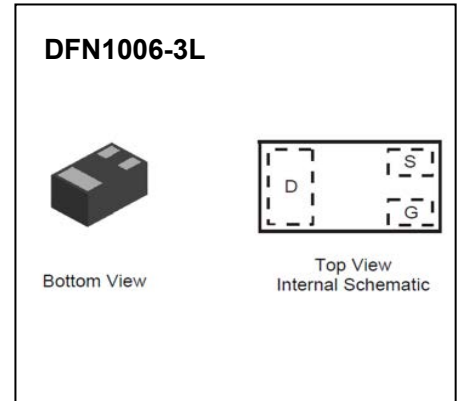


**DFN1006-3L Plastic-Encapsulate MOSFETs****CJBA3144K N-Channel MOSFET**

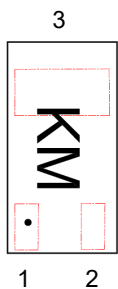
$V_{(BR)DSS}$	$R_{DS(on)MAX}$	I_D
30V	500m Ω @4.5V	0.6A
	600m Ω @2.5V	

**FEATURE**

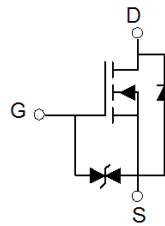
- Lead Free Product is Acquired
- Surface Mount Package
- N-Channel Switch with Low $R_{DS(on)}$
- Operated at Low Logic Level Gate Drive
- ESD Protected Gate

APPLICATION

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

MARKING:

Top View
KM = Device code
Solid dot = Pin 1 indicator

Equivalent Circuit**MAXIMUM RATINGS ($T_A=25^{\circ}\text{C}$ unless otherwise noted)**

Parameter	Symbol	Limit	Unit
Drain-Source Voltage	V_{DS}	30	V
Gate-Source Voltage	V_{GS}	± 12	V
Continuous Drain Current	I_D	0.6	A
Pulsed Drain Current	$I_{DM}^{①}$	2.4	A
Power Dissipation	P_D	275	mW
Thermal Resistance from Junction to Ambient	$R_{\theta JA}^{③}$	455	$^{\circ}\text{C/W}$
Operating Junction and Storage Temperature Range	T_J, T_{STG}	-55~+150	$^{\circ}\text{C}$

MOSFET ELECTRICAL CHARACTERISTICS

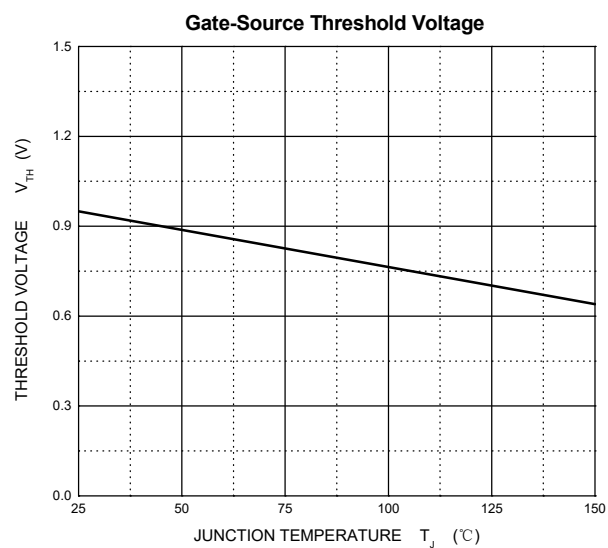
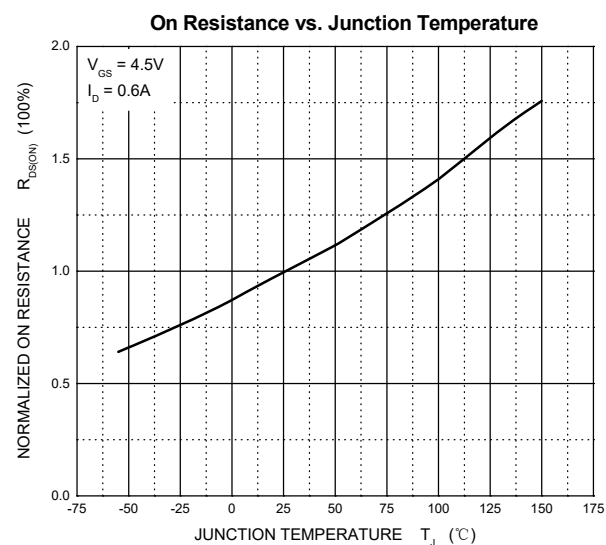
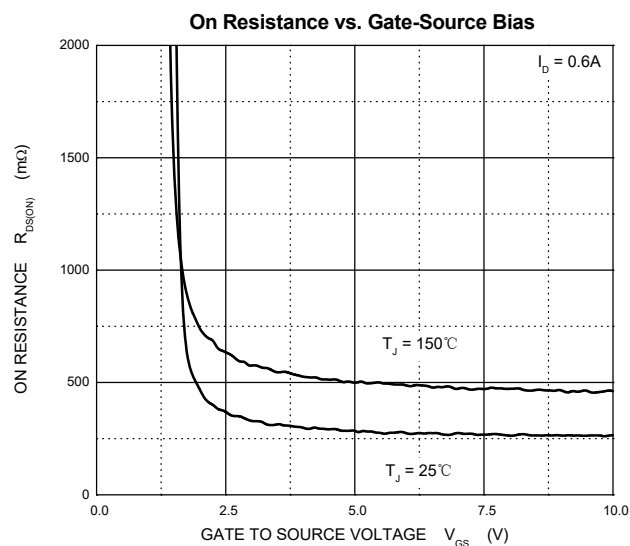
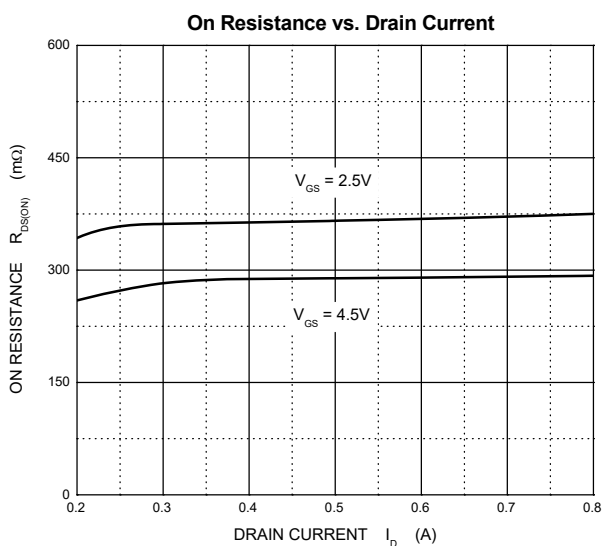
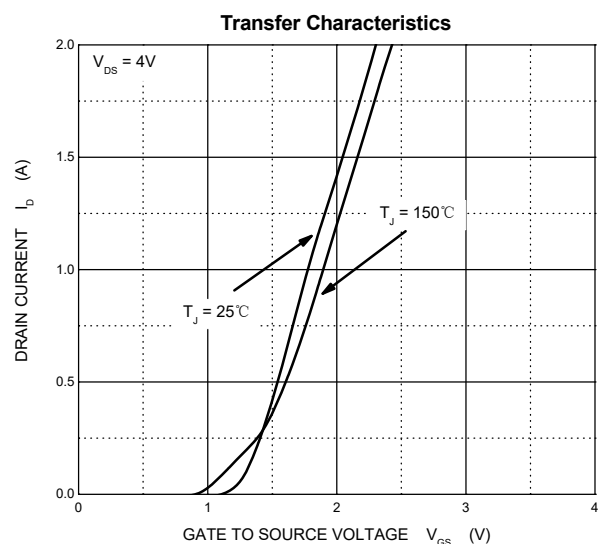
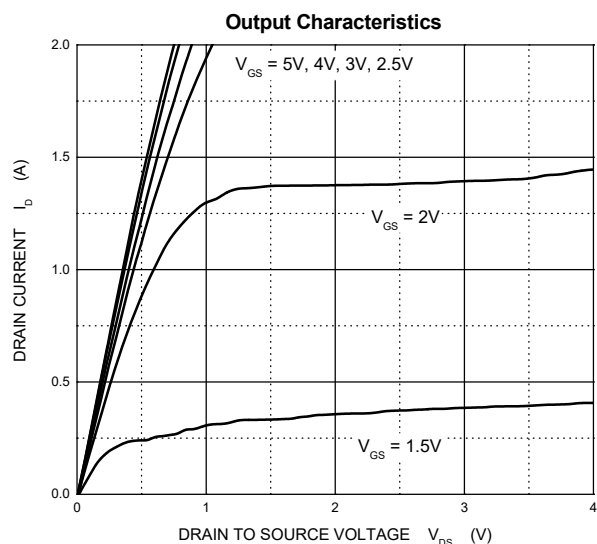
$T_J=25^{\circ}\text{C}$ unless otherwise specified

Parameter	Symbol	Test Condition		Min	Typ	Max	Unit
Off 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	T _J =25 ℃	-	-	1.0	μA
			T _J =125 ℃	-	-	100	
Gate-body leakage current	I _{GSS}	V _{DS} =0V, V _{GS} =±10V		-	-	±3	μA
On characteristics ^②							
Gate-threshold voltage	V _{GS(th)}	V _{DS} =V _{GS} , I _D =250μA		0.5	0.95	1.5	V
Static drain-source on-sate resistance	R _{DS(on)}	V _{GS} =4.5V, I _D =0.6A		-	290	500	mΩ
		V _{GS} =2.5V, I _D =0.3A		-	360	600	mΩ
Forward tranconductance	g _{FS}	V _{DS} =5V, I _D =0.5A		0.1	-	-	S
Dynamic characteristics							
Input capacitance	C _{iss}	V _{DS} =10V, V _{GS} =0V, f =1MHz		-	42	-	pF
Output capacitance	C _{oss}			-	9	-	
Reverse transfer capacitance	C _{rss}			-	4.7	-	
Gate resistance	R _g	f =1MHz		-	2.0	-	Ω
Switching characteristics							
Total gate charge	Q _g	V _{GS} =4.5V, V _{DD} =15V, I _D =0.6A		-	0.9	-	nC
Gate-source charge	Q _{gs}			-	0.4	-	
Gate-drain charge	Q _{gd}			-	0.2	-	
Turn-on delay time	t _{d(on)}	V _{DD} =15V, V _{GS} =6.5V, I _D =0.7A , R _g =51Ω		-	2.1	-	ns
Turn-on rise time	t _r			-	2.9	-	
Turn-off delay time	t _{d(off)}			-	13.8	-	
Turn-off fall time	t _f			-	7.7	-	
Drain-Source Diode Characteristics							
Drain-source diode forward voltage	V _{SD} ^②	V _{GS} =0V, I _S =0.15A		0.5	-	1.2	V
Continuous drain-source diode forward current	I _S			-	-	0.6	A
Pulsed drain-source diode forward current	I _{SM} ^②			-	-	2.4	A

Notes:

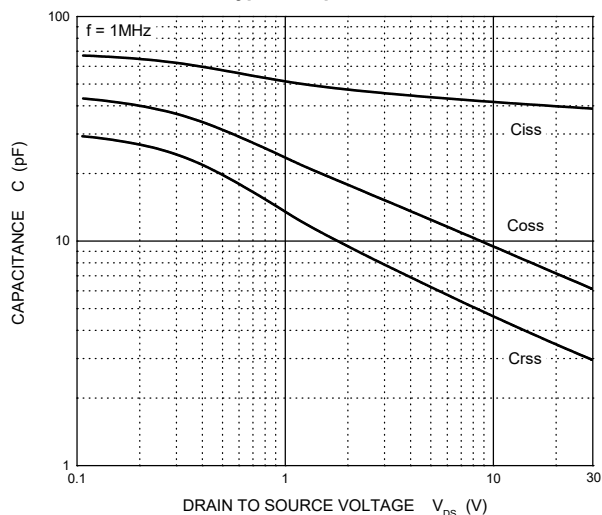
- Limited only by maximum temperature allowed.
- Pulse Test : Pulse Width $\leq 380\mu s$, duty cycle $\leq 2\%$.
- Surface mounted on FR4 board using 1 square inch pad size, 1oz copper.

Typical Characteristics ($T_J = 25^\circ\text{C}$, unless otherwise specified)

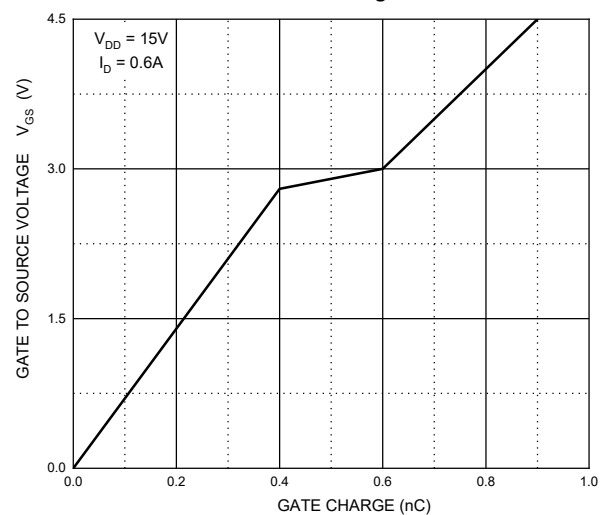


Typical Characteristics ($T_J = 25^\circ\text{C}$, unless otherwise specified)

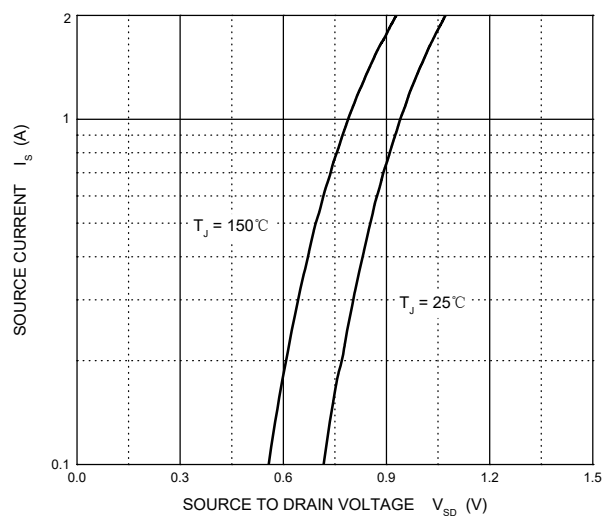
Typical Capacitances



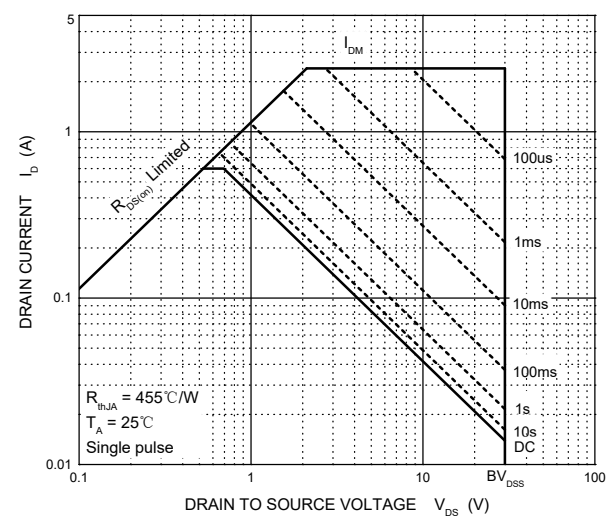
Gate Charge



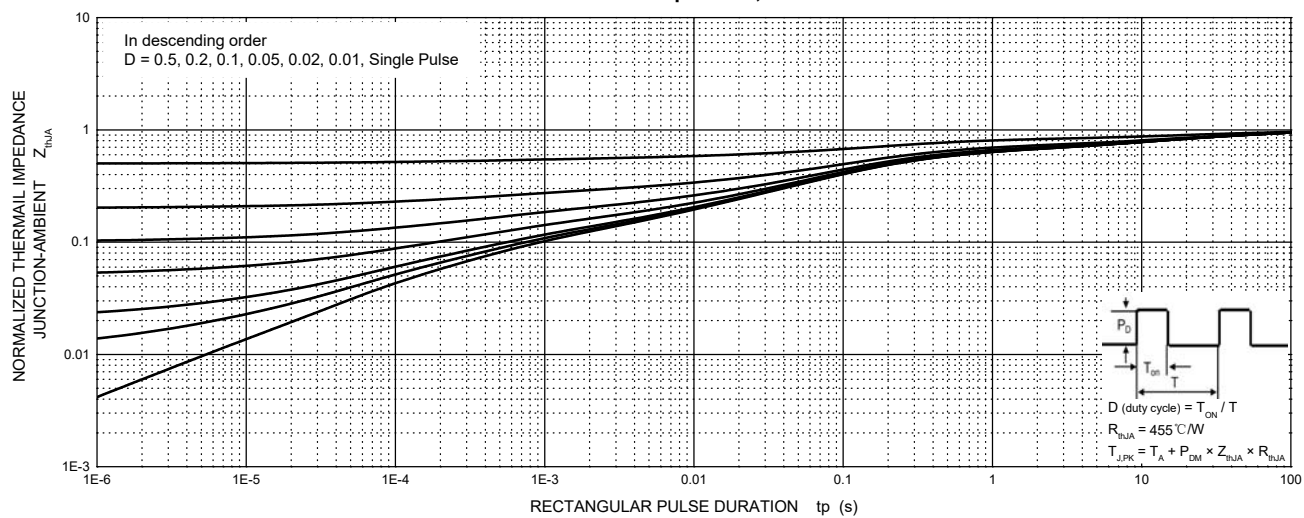
Source-Drain Diode Forward Characteristics



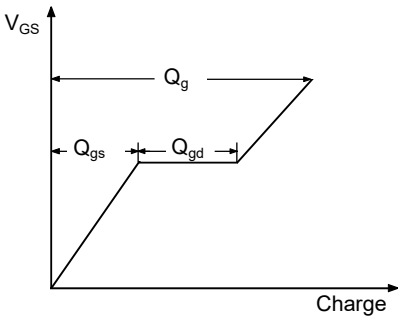
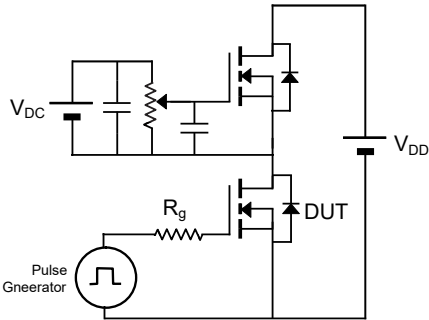
Maximum Safe Operating Area



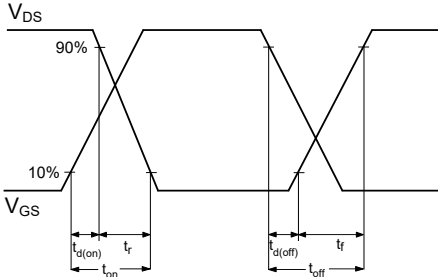
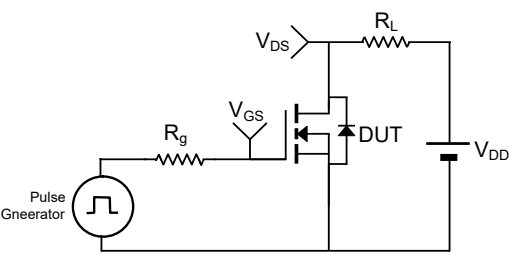
Transient Thermal Impedance, Junction-Ambient



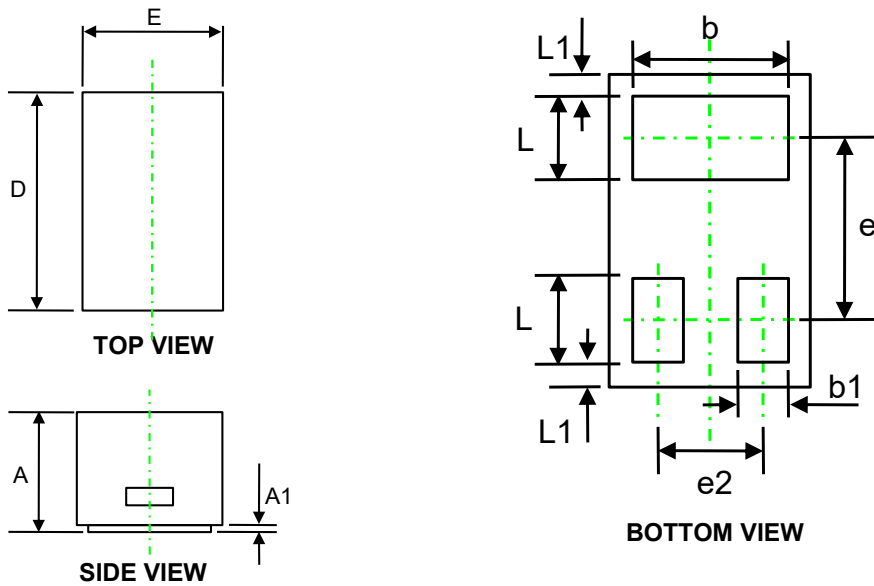
Gate Charge



Resistive Load Switching Time

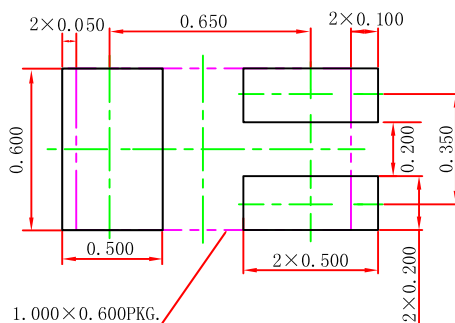


DFN1006-3L Package Outline Dimensions



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:

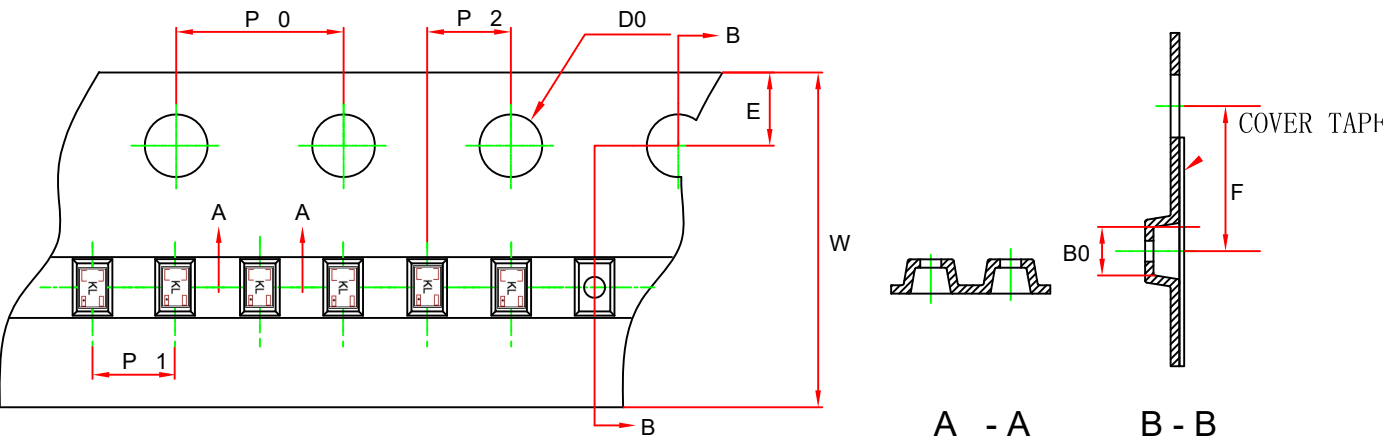
1. Controlling dimension: In millimeters.
2. General tolerance: ± 0.050 mm.
3. The pad layout is for reference purposes only.

NOTICE

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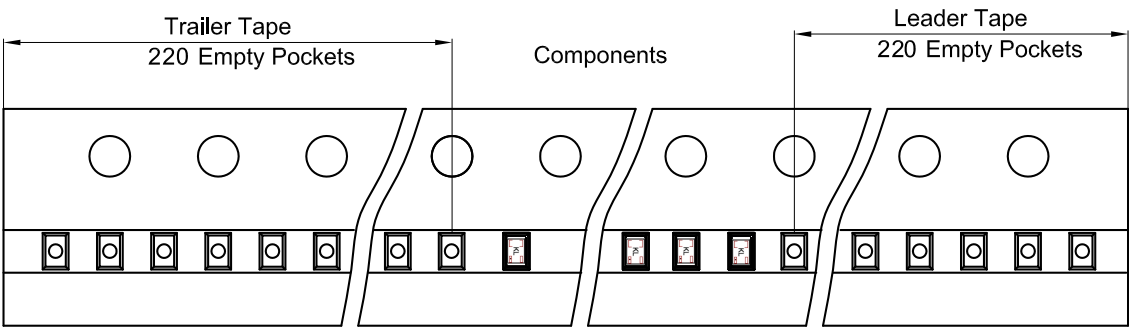
DFN1006-3L Tape and Reel

DFN1006-3L Embossed Carrier Tape

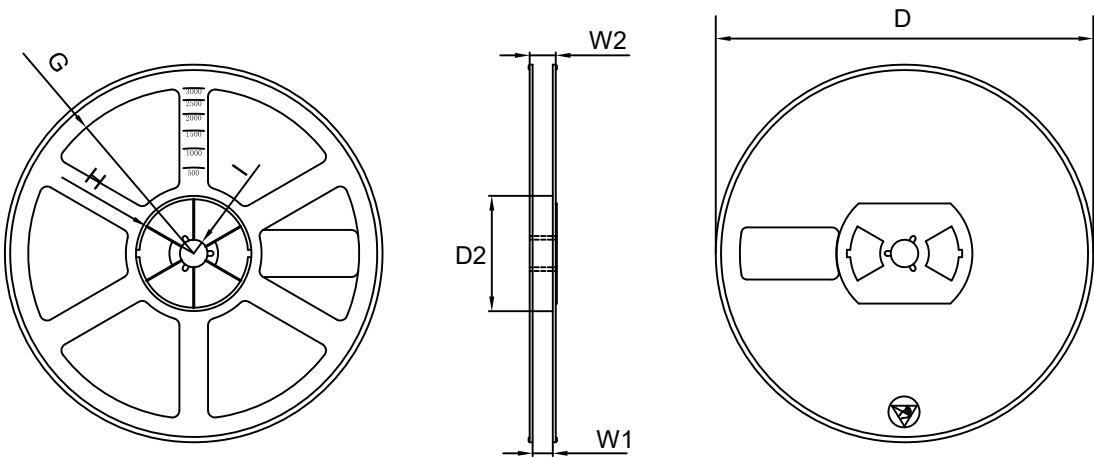


Dimensions In Millimeters (mm)								
Pkg type	B0	P0	P1	P2	E	F	W	D0
DFN1006-3L	1.11	4.00	2.00	2.00	1.75	3.50	8.00	1.55
Tolerance	+/-0.06	+/-0.1	+/-0.1	+/-0.1	+/-0.1	+/-0.1	+/-0.3	+/-0.1

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	6 00000 pcs	450×450×240