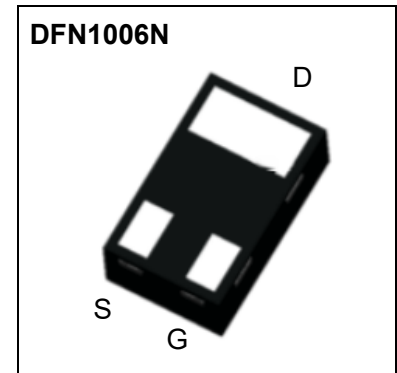


DFN1006N Plastic-Encapsulate MOSFETS

P-Channel 20-V(D-S) MOSFET

$V_{(BR)DSS}$	$R_{DS(on)MAX}$	I_D
-20V	700 mΩ@-4.5V	1.2 A
	900 mΩ@-2.5V	

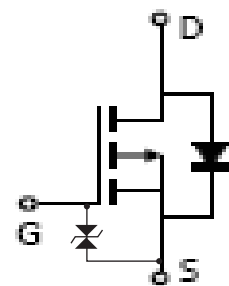


FEATURE

TrenchFET Power MOSFET

APPLICATION

- Load Switch for Portable Devices
- DC/DC Converter
- 3000V ESD Protected
- Humidity sensitivity class:MSL-3



Equivalent Circuit

Maximum ratings ($T_a=25^{\circ}\text{C}$ unless otherwise noted)

Parameter	Symbol	Value	Unit
Drain-Source Voltage	V_{DS}	-20	V
Gate-Source Voltage	V_{GS}	± 8	
Continuous Drain Current ($T_J=150^{\circ}\text{C}$)	I_D	-1.2	A
Pulsed Drain Current	I_{DM}	-10	
Continuous Source-Drain Diode Current	I_S	-0.72	
Maximum Power Dissipation	P_D	0.35	W
Thermal Resistance from Junction to Ambient($t \leq 5s$)	$R_{\theta JA}$	357	$^{\circ}\text{C/W}$
Junction Temperature	T_J	150	$^{\circ}\text{C}$
Storage Temperature	T_{stg}	-55 ~+150	

ELECTRICAL CHARACTERISTICS (Ta= 25°C, unless otherwise specified.)

Parameter	Symbol	Test Condition	Min	Typ	Max	Units
Static						
Drain-source breakdown voltage	V _{(BR)DSS}	V _{GS} = 0V, I _D = -250μA	-20	-27		V
Gate-source threshold voltage	V _{GS(th)}	V _{DS} =V _{GS} , I _D =-250μA	-0.4	-0.6	-1	
Gate-source leakage	I _{GSS}	V _{DS} =0V, V _{GS} =±8V			±100	nA
Zero gate voltage drain current	I _{DSS}	V _{DS} =-20V, V _{GS} =0V			-1	μA
Drain-source on-state resistance ^a	R _{DS(on)}	V _{GS} =-4.5V, I _D =-1A		0.500	0.700	Ω
		V _{GS} =-2.5V, I _D =-1A		0.700	0.900	
		V _{GS} =-1.8V, I _D =-1A		0.900	1.100	
Forward transconductance ^a	g _{fs}	V _{DS} =-5V, I _D =-1A		3		S
Dynamic ^b						
Input capacitance	C _{iss}	V _{DS} =-10V,V _{GS} =0V,f =1MHz		36		pF
Output capacitance	C _{oss}			9		
Reverse transfer capacitance	C _{rss}			6		
Total gate charge	Q _g	V _{DS} =-10V,V _{GS} =-4.5V,I _D =-1A		5.5		nC
		V _{DS} =-10V,V _{GS} =-2.5V,I _D =-1A		3.3		
Gate-source charge	Q _{gs}			0.7		
Gate-drain charge	Q _{gd}			1.3		
Gate resistance	R _g	f =1MHz		6.0		Ω
Turn-on delay time	t _{d(on)}	V _{DD} =-10V, R _L =10Ω, I _D =-1A, V _{GEN} =-4.5V,R _g =1Ω		11		ns
Rise time	t _r			35		
Turn-off delay time	t _{d(off)}			30		
Fall time	t _f			10		
Drain-source body diode characteristics						
Continuous source-drain diode current	I _S	T _C =25°C			-1.3	A
Pulse diode forward current ^a	I _{SM}				-10	
Body diode voltage	V _{SD}	I _S =-0.7A		-0.8	-1.2	V

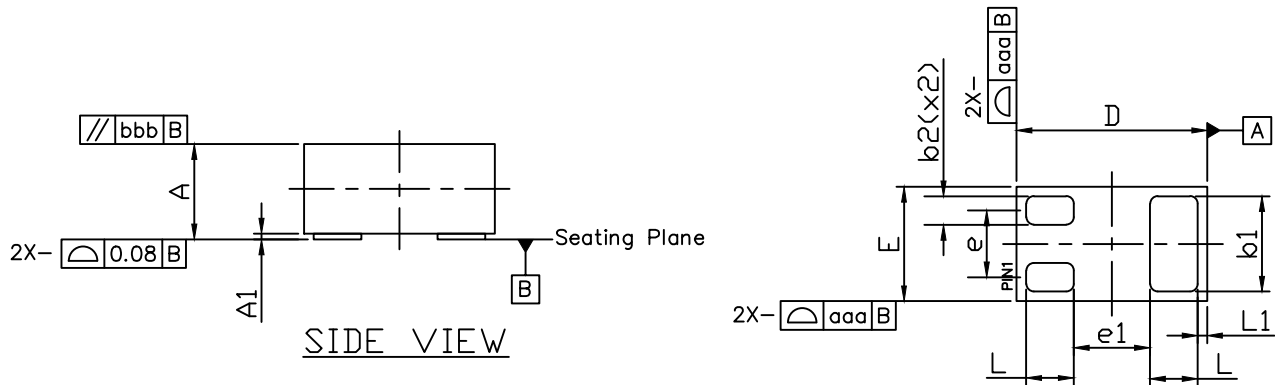
Notes :

a. Pulse Test : Pulse width $\leq 300\mu s$, duty cycle $\leq 2\%$.

b. Guaranteed by design, not subject to production testing.

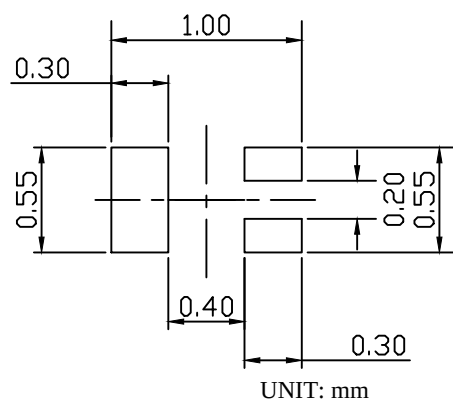
c. These parameters have no way to verify.

DFN1006N PACKAGE OUTLINE



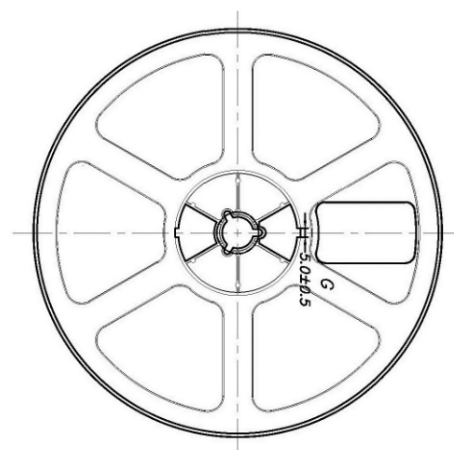
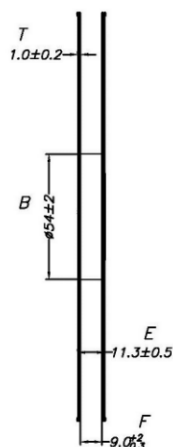
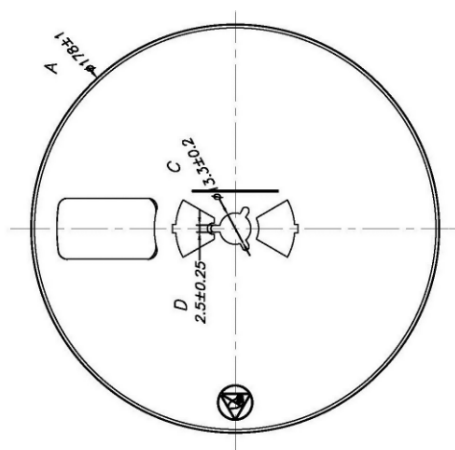
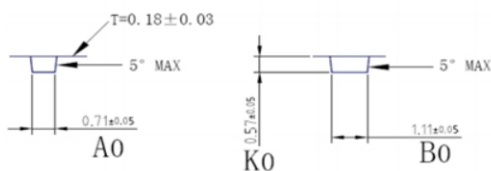
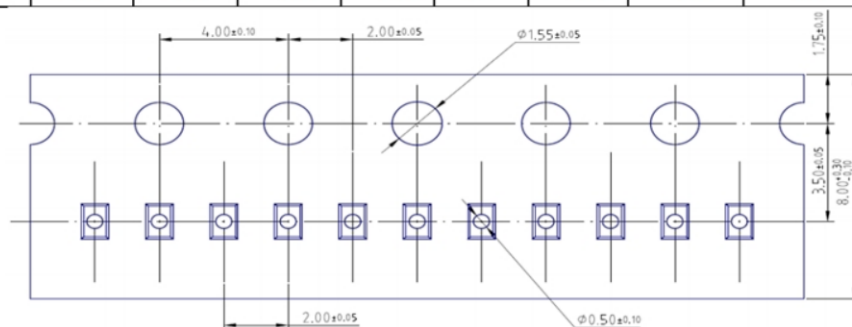
SYMBOLS	DIMENSIONS IN MILLIMETERS			DIMENSIONS IN INCHES		
	MIN	NOM	MAX	MIN	NOM	MAX
A	0.47	0.52	0.55	0.019	0.020	0.022
A1	0.00	0.03	0.05	0.000	0.001	0.002
b1	0.45	0.50	0.55	0.018	0.020	0.022
b2	0.10	0.15	0.20	0.004	0.006	0.008
D	0.95	1.00	1.05	0.037	0.039	0.041
E	0.55	0.60	0.65	0.022	0.024	0.026
e	---	0.35	---	---	0.014	---
e1	---	0.40	---	---	0.016	---
L	0.20	0.25	0.30	0.008	0.010	0.012
L1	---	0.05	---	---	0.002	---
aaa	0.15			0.006		
bbb	0.05			0.002		

Suggested Pad Layout (mm)



Packaging Information

项目	W	E	T	F	P1	P0	P2	D0	A0	B0	K0
标准	8.0 ±	1.75	0.18	3.5	2.0	4.0 ±	2.0	1.55	0.71	1.11	0.57
值	0.3/-0.1	±0.10	±0.03	±0.05	±0.05	0.1	±0.05	±0.05	±0.05	±0.05	±0.05



A±1	B±2	C±0.2	D±0.25	E±0.5	F ⁺² _{-0.3}	G±0.5	T±0.2
Ø178	Ø54	Ø13.3	2.5	11.3	9.0	5.0	1.0