

**TO-220F Plastic-Encapsulate MOSFETS****CJPF08N80**

N-Channel Power MOSFET

$V_{(BR)DSS}$	$R_{DS(on)TYP}$	I_D
800V	1.18Ω@10V	8A

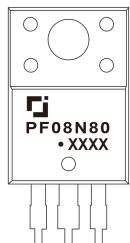
GENERAL DESCRIPTION

The CJPF8N80 is an N-channel mode power MOSFET, it uses UTC's advanced technology to provide costumers planar stripe and DMOS technology. This technology allows a minimum on-state resistance, superior switching performance. It also can withstand high energy pulse in the avalanche and commutation mode.

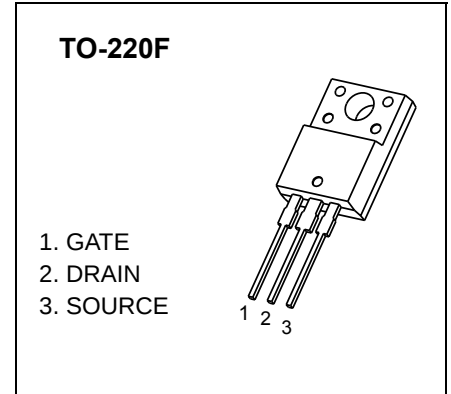
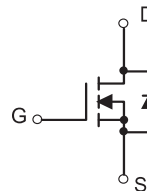
The CJPF8N80 is generally applied in high efficiency switch mode power supplies.

FEATURE

- Low gate charge
- Low C_{rss}
- Fast switching
- 100% avalanche tested
- Improved dv/dt capability
- RoHS product

MARKING

PF08N80= Device code
Solid dot = Green molding compound device,
if none, the normal device
XXXX=Code

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

Parameter	Symbol	Value	Unit
Drain-Source Voltage	V_{DS}	800	V
Gate-Source Voltage	V_{GS}	±30	
Continuous Drain Current	I_D	8	A
Pulsed Drain Current	I_{DM}	32	
Single Pulsed Avalanche Energy (note1)	E_{AS}	850	mJ
Thermal Resistance from Junction to Ambient	$R_{\theta JA}$	62.5	°C/W
Junction Temperature	T_J	150	°C
Storage Temperature Range	T_{STG}	-55 ~+150	
Maximum Lead Temperature for Soldering Purposes , 1/8"from Case for 5 Seconds	T_L	260	

MOSFET ELECTRICAL CHARACTERISTICS

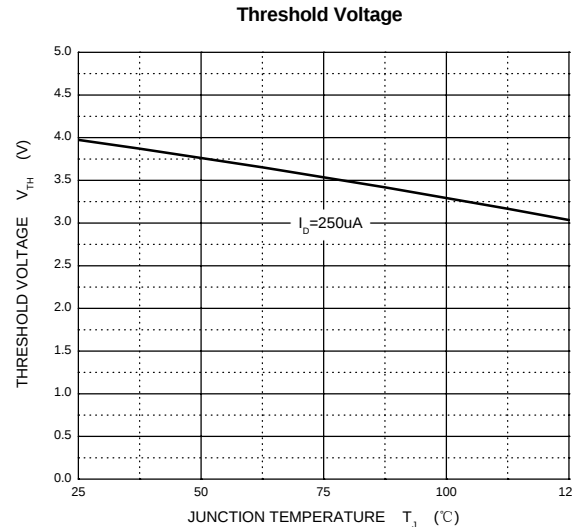
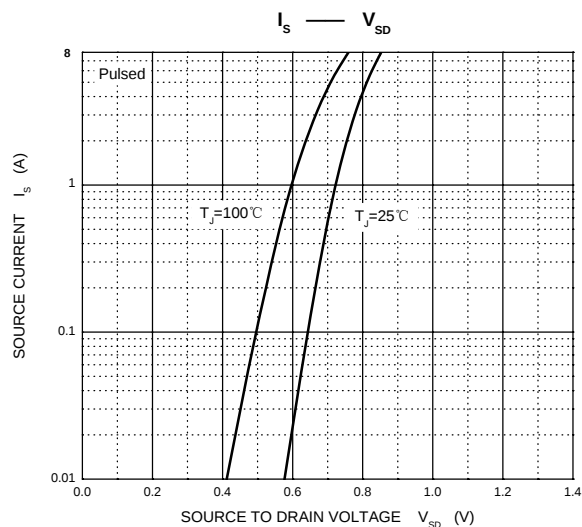
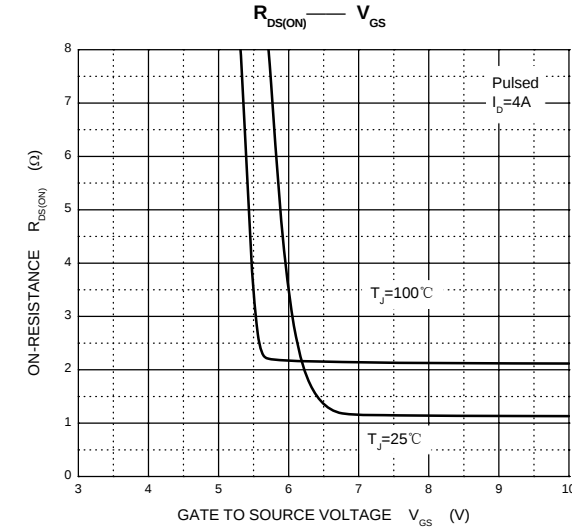
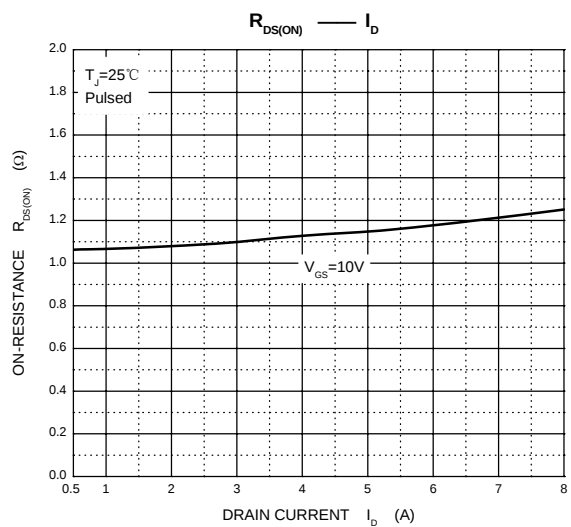
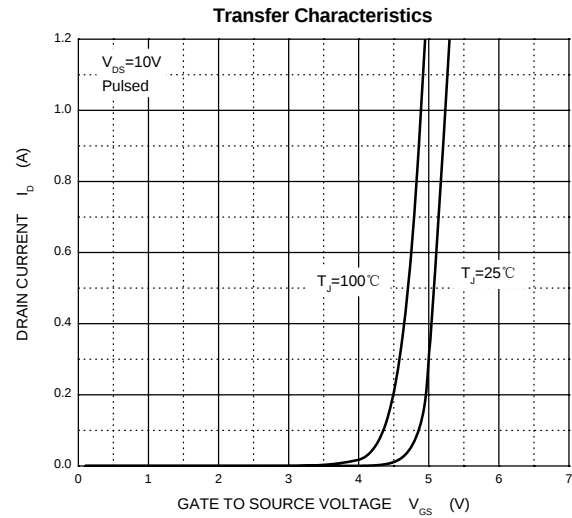
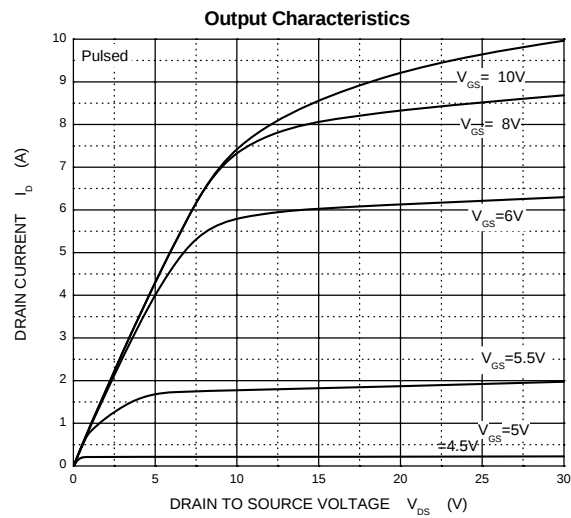
$T_a=25\text{ }^{\circ}\text{C}$ unless otherwise specified

Parameter	Symbol	Test Condition	Min	Typ	Max	Unit
Off characteristics						
Drain-source breakdown voltage	V _{(BR)DSS}	V _{GS} = 0V, I _D =250μA	800			V
Zero gate voltage drain current	I _{DSS}	V _{DS} =800V, V _{GS} =0V			10	μA
		V _{DS} =640V,V _{GS} =0V,T _J =125°C			100	μA
Gate-body leakage current (note2)	I _{GSS}	V _{DS} =0V, V _{GS} =± 30V			± 100	nA
On characteristics						
Gate-threshold voltage	V _{GS(th)}	V _{DS} =V _{GS} , I _D =250μA	3	4	5	V
Static drain-source on-resistance	R _{DS(on)}	V _{GS} =10V, I _D =4A		1.18	1.45	Ω
Forward transconductance	g _{fs}	V _{DS} =50V, I _D =4A		5.6		S
Dynamic characteristics (note 3)						
Input capacitance	C _{iss}	V _{DS} =25V,V _{GS} =0V,f =1MHz		1580	2050	pF
Output capacitance	C _{oss}			135	175	
Reverse transfer capacitance	C _{rss}			13	17	
Switching characteristics (note 2,3)						
Total gate charge	Q _g	V _{DS} =640V,V _{GS} =10V,I _D =8A		35	45	nC
Gate-source charge	Q _{gs}			10		
Gate-drain charge	Q _{gd}			14		
Turn-on delay time	t _{d(on)}	V _{DD} =400V, R _G =25V, I _D =8A		40	90	ns
Turn-on rise time	t _r			110	230	
Turn-off delay time	t _{d(off)}			65	140	
Turn-off fall time	t _f			70	150	
Source-source-drain diode characteristics						
Maximum diode forward continuous current	I _S				8	A
Maximum diode forward pulse current	I _{SM}				32	A
Diode forward voltage	V _{SD}	I _S =8A,V _{GS} =0V			1.4	V

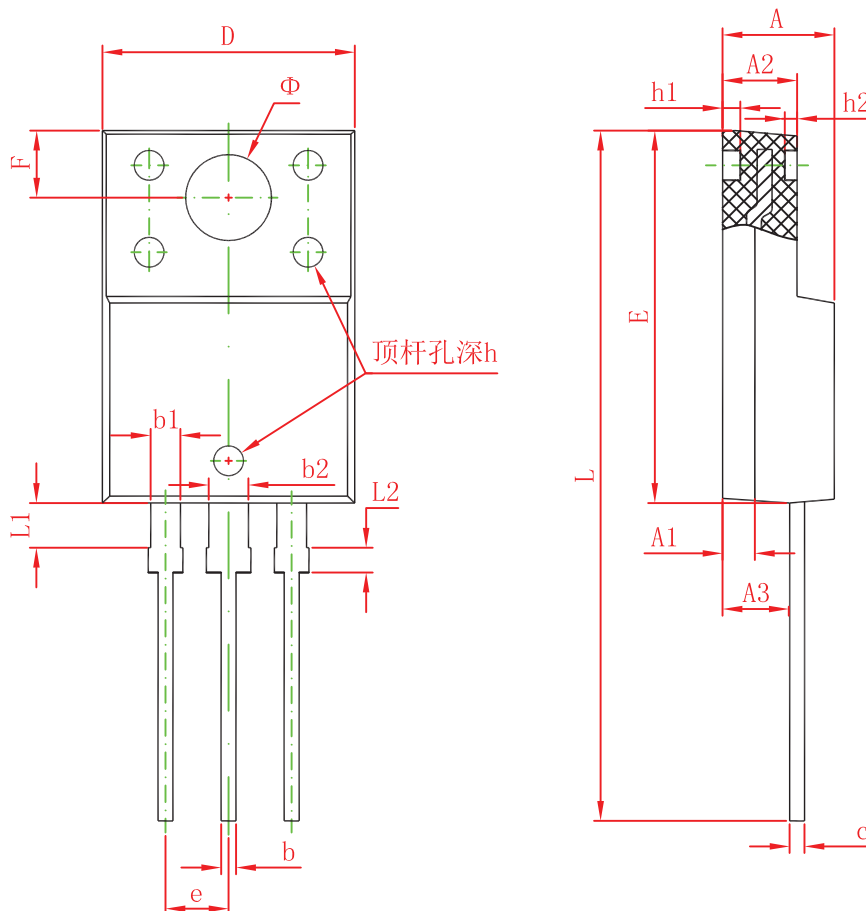
Notes :

1. $L = 25\text{mH}, V_{DD} = 50V, V_{GS} = 10V, R_G = 25\Omega$, Starting $T_J = 25^{\circ}\text{C}$.
2. Pulse Test : Pulse width $\leq 300\mu s$, duty cycle $\leq 2\%$.
3. These parameters have no way to verify.

Typical Characteristics



TO-220F Package Outline Dimensions



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min.	Max.	Min.	Max.
A	4.300	4.700	0.169	0.185
A1	1.300 REF.		0.051 REF.	
A2	2.800	3.200	0.110	0.126
A3	2.500	2.900	0.098	0.114
b	0.500	0.750	0.020	0.030
b1	1.100	1.350	0.043	0.053
b2	1.500	1.750	0.059	0.069
c	0.500	0.750	0.020	0.030
D	9.960	10.360	0.392	0.408
E	14.800	15.200	0.583	0.598
e	2.540 TYP.		0.100 TYP.	
F	2.700 REF.		0.106 REF.	
Φ	3.500 REF.		0.138 REF.	
h	0.000	0.300	0.000	0.012
h1	0.800 REF.		0.031 REF.	
h2	0.500 REF.		0.020 REF.	
L	28.000	28.400	1.102	1.118
L1	1.700	1.900	0.067	0.075
L2	0.900	1.100	0.035	0.043