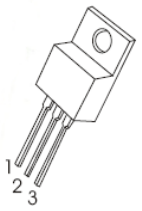
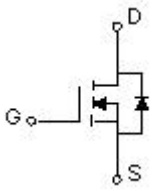
JIANGSU CHANGJIANG ELECTRONICS TECHNOLOGY CO., LTD

TO-220-3L Plastic-Encapsulate MOSFETS

CJP02N80 N-Channel Power MOSFET

TO-220-3L





1. GATE
2. DRAIN
3. SOURCE

GENERAL DESCRIPTION

The CJP02N80 is an N-channel mode power MOSFET using advanced technology to provide costomers with planar stripe. This technology specializes in allowing a minimum on-state resistance and superior switching performance. It also can withstand high energy pulse in the avalanche and commutation mode. The CJP02N80 is universally applied in high efficiency switch mode power supply.

FEATURE

- Excellent package for good heat dissipation
- High switching speed
- 100% avalanche tested

APPLICATION

- Power switching application
- DC/DC converters

Maximum ratings (T_a=25℃ 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	2.4	A
Pulsed Drain Current	I_{DM}	9.6	
Single Pulsed Avalanche Energy (note1)	E_{AS}	180	mJ
Thermal Resistance from Junction to Ambient	$R_{\theta JA}$	62.5	℃/W
Junction Temperature	T_J	150	℃
Storage Temperature Range	T_{STG}	-55 ~+150	
Maximum lead temperature for soldering purposes , 1/8”from case for 5 seconds	T_L	260	

Electrical characteristics (T_a=25℃ unless otherwise noted)

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
Gate-body leakage current	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		5	V
Static drain-source on-resistance	$R_{DS(on)}$	V_{GS} =10V, I_D =1.2A			6.3	Ω
Forward transconductance (note2)	g_{fs}	V_{DS} =50V, I_D =1.2A	1.5	2.65		S
Dynamic characteristics (note 3)						
Input capacitance	C_{iss}	V_{DS} =25V,V_{GS} =0V,f =1MHz			550	pF
Output capacitance	C_{oss}				60	
Reverse transfer capacitance	C_{rss}				7	
Switching characteristics (note 2,3)						
Turn-on delay time	$t_{d(on)}$	V_{DD}=400V, R_G=25Ω, I_D =2.4A			35	ns
Turn-on rise time	t_r				70	
Turn-off delay time	$t_{d(off)}$				60	
Turn-off fall time	t_f				65	
Total Gate Charge	Q_g	V_{DS} =640V,V_{GS} =10V,I_D =2.4A			15	nC
Gate-Source Charge	Q_{gs}			2.6		nC
Gate-Drain Charge	Q_{gd}			6		nC
Drain-Source Diode Characteristics						
Drain-source diode forward voltage	V_{SD}	V_{GS} = 0V, I_S =2.4A			1.4	V
Continuous drain-source diode forward current	I_S				2.4	A
Pulsed drain-source diode forward current	I_{SM}				9.6	A

Notes :

1. I_L=2.4A, V_{DD}=50V, R_G=25Ω,Starting T_J=25℃.
2. Pulse Test : Pulse width≤300μs, duty cycle ≤2%.
3. Guaranteed by design, not subject to production