



JIANGSU CHANGJIANG ELECTRONICS TECHNOLOGY CO., LTD

TO-220 Plastic-Encapsulate MOSFETS

CJP10N60

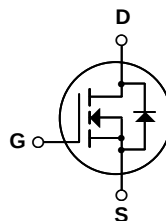
600V N-Channel Power MOSFET

General Description

This advanced technology has been especially tailored to minimize on-state resistance, provide superior switching performance, and withstand high energy pulse in the avalanche and commutation mode. These devices are well suited for high efficiency switch mode power supplies, active power factor correction, electronic lamp ballasts based on half bridge topology.

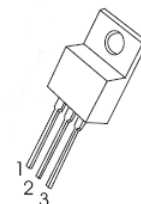
FEATURE

- Low C_{rss}
- Fast switching
- Improved dv/dt capability



TO-220

1. GATE
2. DRAIN
3. SOURCE



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

Parameter	Symbol	Value	Unit
Drain-Source Voltage	V_{DS}	600	V
Gate-Source Voltage	V_{GS}	± 30	
Continuous Drain Current	I_D	10	A
Single Pulsed Avalanche Energy (note1)	E_{AS}	700	mJ
Power Dissipation	P_D	2	W
Thermal Resistance from Junction to Ambient	$R_{\theta JA}$	62.5	$^\circ\text{C}$
Operating Temperature	T_J	150	
Storage Temperature	T_{STG}	-55 ~ +150	

Electrical characteristics (T_a=25°C unless otherwise noted)

Parameter	Symbol	Test Condition	Min	Typ	Max	Units
Off characteristics						
Drain-source breakdown voltage	V _{(BR)DSS}	V _{GS} = 0V, I _D =250μA	600			V
Drain-source diode forward voltage(note2)	V _{SD}	V _{GS} = 0V, I _S =10A			1.4	
Zero gate voltage drain current	I _{DSS}	V _{DS} =600V, V _{GS} =0V			10	μA
Gate-body leakage current, forward(note2)	I _{GSSF}	V _{DS} =0V, V _{GS} =30V			100	nA
Gate-body leakage current, reverse(note2)	I _{GSSR}	V _{DS} =0V, V _{GS} =-30V			-100	
On characteristics (note2)						
Gate-threshold voltage	V _{GS(th)}	V _{DS} =V _{GS} , I _D =250μA	2.0		4.0	V
Static drain-source on-resistance	R _{DS(on)}	V _{GS} =10V, I _D =5.0A			1.0	Ω
Dynamic characteristics (note 3)						
Input capacitance	C _{iss}	V _{DS} =25V, V _{GS} =0V, f =1MHz		1430		pF
Output capacitance	C _{oss}			117		
Reverse transfer capacitance	C _{rss}			2.2		
Switching characteristics(note3)						
Turn-on delay time	t _{d(on)}	V _{DD} =325V, R _G =25Ω, I _D =10A		46		ns
Turn-on rise time	t _r			74		
Turn-off delay time	t _{d(off)}			340		
Turn-off fall time	t _f			66		

Notes :

1. L=14.2mH, I_{AS}=9.5 A, V_{DD}=50V, R_G=25Ω, Starting T_J=25°C.
2. Pulse Test : Pulse width≤300μs, duty cycle ≤2%.
3. These parameters have no way to verify.