



TO-220F Plastic-Encapsulate MOSFETS

CJPF02N65

N-Channel Power MOSFET

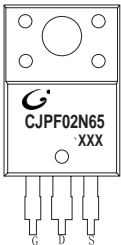
GENERAL DESCRIPTION

This advanced high voltage MOSFET is designed to stand high energy in the avalanche mode and switch efficiently. This new high energy device also offers a drain-to-source diode fast recovery time. Designed for high voltage, high speed switching applications such as power supplies, converters, power motor controls and bridge circuits.

FEATURE

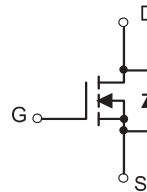
- High Current Rating
- Lower $R_{DS(on)}$
- Lower Capacitance
- Lower Total Gate Charge
- Tighter V_{SD} Specifications
- Avalanche Energy Specified

MARKING



○ = Device code
 dot = Green molding compound device,
 if none, the normal device
 XXX = Date Code

EQUIVALENT CIRCUIT



Maximum ratings ($T_a=25$ unless otherwise noted)

Parameter	Symbol	Value	Unit
Drain-Source Voltage	V_{DS}	650	V
Gate-Source Voltage	V_{GSS}	± 20	
Continuous Drain Current	I_D	2	A
Pulsed Drain Current	I_{DM}	8	
Single Pulsed Avalanche Energy (note1)	E_{AS}	128	mJ
Power Dissipation	P_D	2	W
Thermal Resistance from Junction to Ambient	R_{JA}	62.5	/W
Operating and Storage Temperature Range	T_J, T_{STG}	-55 ~ +150	
Maximum lead temperature for soldering purposes , 1/8"from case for 5 seconds	T_L	260	

Parameter	Symbol	Test Condition	Min	Typ	Max	Unit
Off characteristics						
Drain-source breakdown voltage	$V_{(BR)DSS}$	$V_{GS} = 0V, I_D = 250\mu A$	650			V
Drain-source diode forward voltage(note2)	V_{SD}	$V_{GS} = 0V, I_S = 2A$			1.6	
Zero gate voltage drain current	I_{DSS}	$V_{DS} = 600V, V_{GS} = 0V$			250	μA
Gate-body leakage curren (note2)	I_{GSS}	$V_{DS} = 0V, V_{GS} = \pm 20V$			± 100	nA
On characteristics (note2)						
Gate-threshold voltage	$V_{GS(th)}$	$V_{DS} = V_{GS}, I_D = 250\mu A$	2.0		4.0	V
Static drain-source on-resistance	$R_{DS(on)}$	$V_{GS} = 10V, I_D = 1A$			4.4	
Dynamic characteristics (note 3)						
Input capacitance	C_{iss}	$V_{DS} = 25V, V_{GS} = 0V, f = 1MHz$		435		pF
Output capacitance	C_{oss}			56		
Reverse transfer capacitance	C_{rss}			9.2		
Switching characteristics (note 3)						
Total gate charge	Q_g	$V_{DS} = 480V, V_{GS} = 10V, I_D = 4.0A$		5.0	10	nC
Gate-source charge	Q_{gs}			2.7		
Gate-drain charge	Q_{gd}			2.0		
Turn-on delay time (note3)	$t_{d(on)}$			12		

