

# BRU20N50

# N-CHANNEL MOSFET/N 沟道 MOS 晶体管

用途:用于高电压、高速功率开关应用,如高效率开关模电源、功率因数校正。

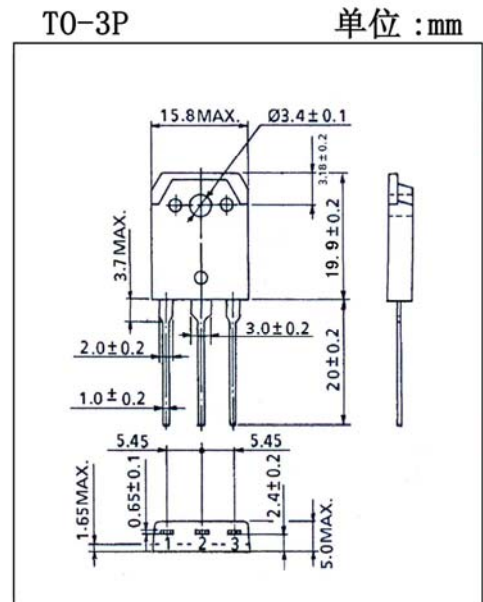
Purpose: Designed for high voltage, high speed power switching applications such as high efficiency switched mode power supplies, active power factor correction.

特点: 低栅极电荷, 开关速度快, 雪崩能量高, dv/dt 能力强。

Features: Low gate charge, Fast switching capability, Avalanche energy specified, Improved dv/dt capability.

### 极限参数/Absolute maximum ratings (Ta=25°C)

参数符号 Symbol	数值 Rating	单位 Unit
V <sub>DSS</sub>	500	V
I <sub>D</sub> (Tc=25°C)	20	A
I <sub>D</sub> (Tc=100°C)	13	A
I <sub>DP</sub>	80	A
V <sub>GSS</sub>	±30	V
E <sub>AR</sub>	28	mJ
E <sub>AS</sub>	1110	mJ
dv/dt	4.5	V/ns
P <sub>D</sub> (Tc=25°C)	280	W
T <sub>j</sub>	150	°C
T <sub>stg</sub>	-55~150	°C
R <sub>thJA</sub>	40	°C/W
R <sub>thJC</sub>	0.44	°C/W



引脚: 1. G 2. D 3. S

### 电性能参数/Electrical Characteristics (Ta=25°C)

参数符号 Symbol	测试条件 Test Conditions			最小值 Min	典型值 Typ	最大值 Max	单位 Unit
V <sub>DSS</sub>	V <sub>GS</sub> =0V	I <sub>D</sub> =250 μA		500			V
I <sub>DSS</sub>	V <sub>DS</sub> =500V	V <sub>GS</sub> =0V				1.0	μA
	V <sub>DS</sub> =400V	T <sub>C</sub> =125°C				10	
I <sub>GSS</sub>	V <sub>GS</sub> =±30V	V <sub>DS</sub> =0V				±100	nA
V <sub>GS(th)</sub>	V <sub>DS</sub> =V <sub>GS</sub>	I <sub>D</sub> =250 μA		2.0		4.0	V
R <sub>DS(on)</sub>	V <sub>GS</sub> =10V	I <sub>D</sub> =10A			0.21	0.26	Ω
V <sub>SD</sub>	V <sub>GS</sub> =0V	I <sub>SD</sub> =20A				1.5	V
C <sub>iss</sub>	V <sub>DS</sub> =25V	V <sub>GS</sub> =0V	f=1.0MHz		2700		pF
C <sub>oss</sub>					400		
C <sub>rss</sub>					40		
t <sub>d(on)</sub>	V <sub>DD</sub> =250V	I <sub>D</sub> =20A	R <sub>G</sub> =2.5 Ω		100		ns
t <sub>r</sub>					400		
t <sub>d(off)</sub>					100		
t <sub>f</sub>					100		
Q <sub>g</sub>	V <sub>DS</sub> =400V	I <sub>D</sub> =20A	V <sub>GS</sub> =10V		70		nC
Q <sub>gs</sub>					18		
Q <sub>gd</sub>					35		

