

IRFP3205

Rev.E Mar.-2016

描述 / Descriptions

TO-3P 塑封封装 N 沟 MOS 场效应管。N-Channel MOSFET in a TO-3P Plastic Package.

特征 / Features

阻抗低，开关速度快。

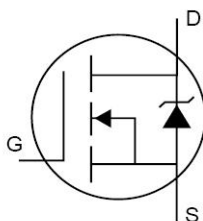
Low On-Resistance, fast switching.

用途 / Applications

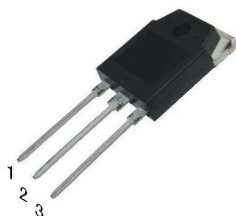
用于高功率 DC/DC 转换和功率开关。

These devices are well suited for high efficiency switching DC/DC converters and switch mode power supplies.

内部等效电路 / Equivalent Circuit



引脚排列 / Pinning



PIN1 : Gate PIN 2 : Drain PIN 3 : Source

放大及印章代码 / h_{FE} Classifications & Marking

见印章说明。See Marking Instructions.

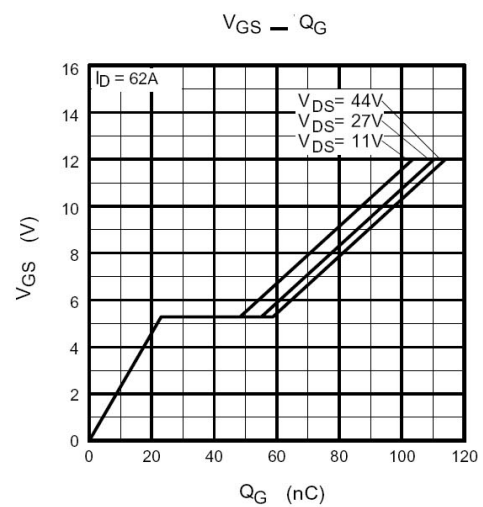
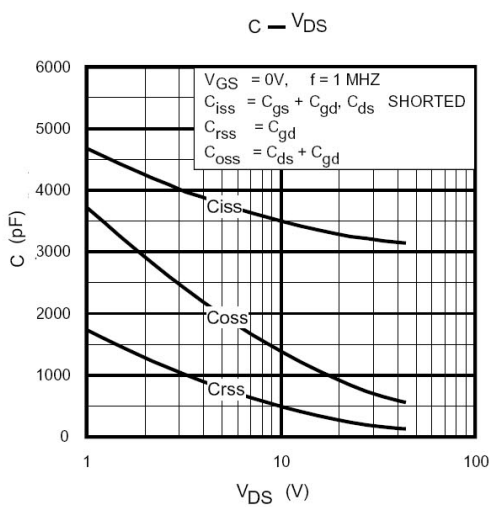
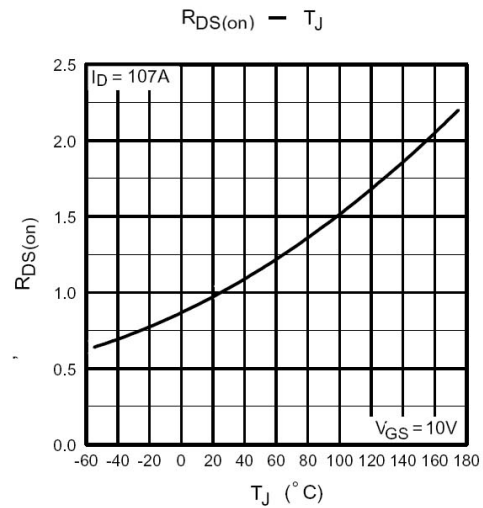
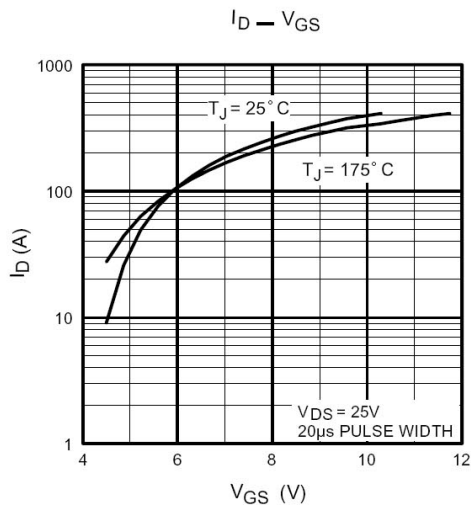
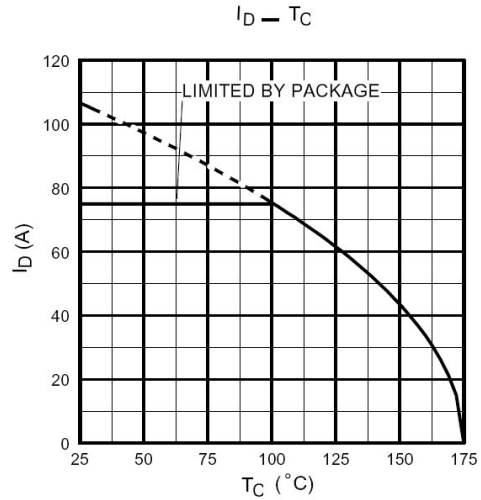
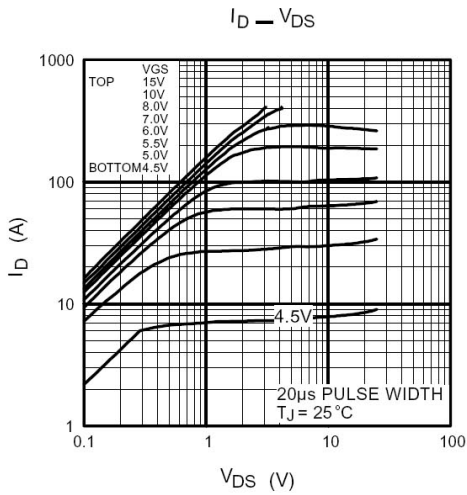
极限参数 / Absolute Maximum Ratings(Ta=25°C)

参数 Parameter	符号 Symbol	数值 Rating	单位 Unit
Drain-to-Source Breakdown Voltage	V_{DSS}	55	V
Continuous Drain Current	$I_D(T_c=25^\circ\text{C})$	110	A
Continuous Drain Current	$I_D(T_c=100^\circ\text{C})$	80	A
Pulsed Drain Current	I_{DM}	390	A
Gate-to-Source Voltage	V_{GSS}	± 20	V
Avalanche Current	I_{AR}	62	A
Single Pulse Avalanche Energy	E_{AS}	1050	mJ
Repetitive Avalanche Energy	E_{AR}	20	mJ
Power Dissipation	$P_D(T_c=25^\circ\text{C})$	320	W
Operating Junction and Storage Temperature Range	T_J, T_{STG}	-55 to 150	$^\circ\text{C}$

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

参数 Parameter	符号 Symbol	测试条件 Test Conditions	最小值 Min	典型值 Typ	最大值 Max	单位 Unit
Drain-to-Source Breakdown Voltage	BV_{DSS}	$V_{GS}=0V$ $I_D=250\mu A$	55			V
Drain-to-Source Leakage Current	I_{DSS}	$V_{DS}=55V$ $V_{GS}=0V$			25	μA
		$V_{DS}=44V$ $V_{GS}=0V$ $T_c=150^\circ\text{C}$			250	μA
Gate-to-Source Forward Leakage	I_{GSS}	$V_{GS}=\pm 20V$ $V_{DS}=0V$			± 0.1	μA
Gate Threshold Voltage	$V_{GS(th)}$	$V_{DS}=V_{GS}$ $I_D=250\mu A$	2		4	V
Static Drain-to-Source On-Resistance	$R_{DS(on)}$	$V_{GS}=10V$ $I_D=62A$			8	m Ω
Forward Transconductance	g_{FS}	$V_{DS}=25V$ $I_D=62A$	44			S
Diode Forward Voltage	V_{SD}	$V_{GS}=0V$ $I_S=62A$			1.3	V
Input Capacitance	C_{iss}	$V_{DS}=25V$ $V_{GS}=0V$ $f=1\text{MHz}$		3247		pF
Output Capacitance	C_{oss}			781		
Reverse Transfer Capacitance	C_{rss}			211		
Turn-On Delay Time	$t_{d(on)}$	$V_{DD}=28V$ $I_D=62A$ $R_G=4.5\Omega$		14		ns
Rise Time	t_r			101		
Turn-Off Delay Time	$t_{d(off)}$			50		
Fall Time	t_f			65		

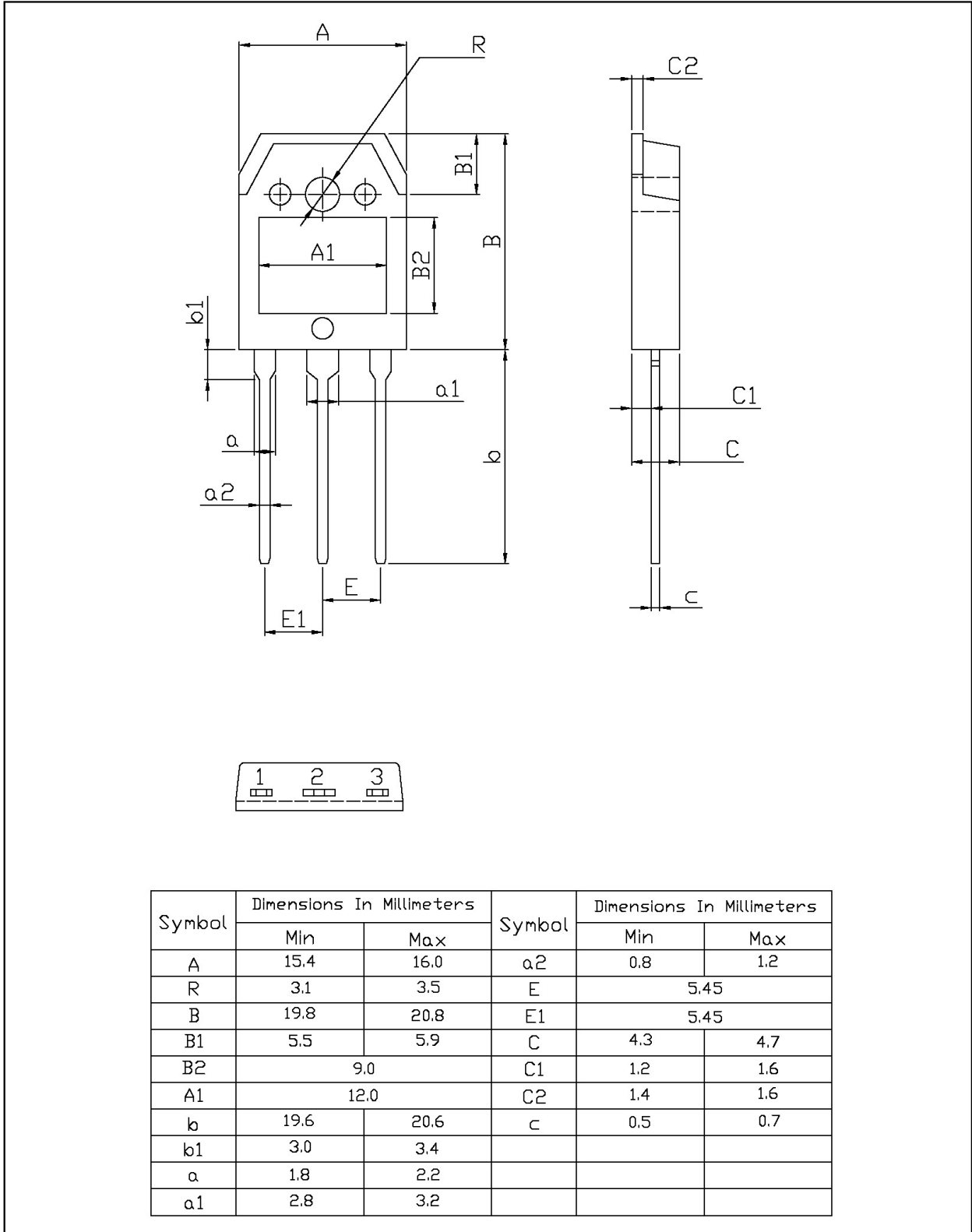
电参数曲线图 / Electrical Characteristic Curve



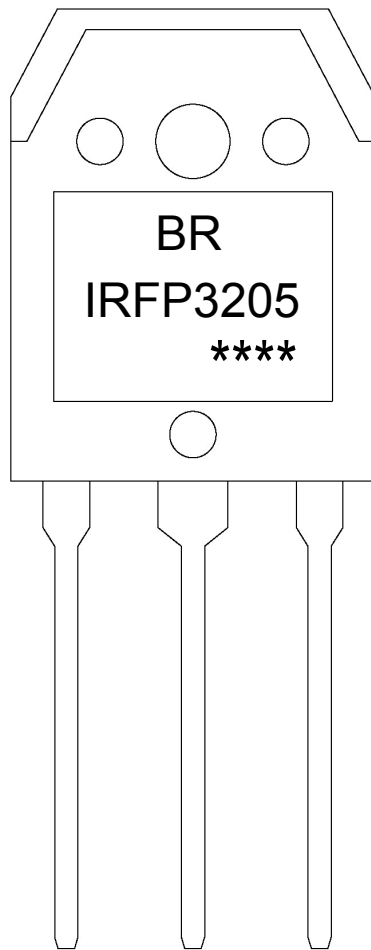
外形尺寸图 / Package Dimensions

TO-3P

单位: mm



印章说明 / Marking Instructions



说明：

BR: 为公司代码

IRFP3205： 为产品型号

****： 为生产批号代码，随生产批号变化。

Note:

BR: Company Code.

IRFP3205: Product Type.

****: Lot No. Code, code change with Lot No.

波峰焊温度曲线图(无铅) / Temperature Profile for Dip Soldering(Pb-Free)



说明：

- 1、预热温度 25 ~ 150°C，时间 60 ~ 90sec;
- 2、峰值温度 255±5°C，时间持续为 5±0.5sec;
- 3、焊接制程冷却速度为 2 ~ 10°C/sec.

Note:

- 1.Preheating:25~150°C, Time:60~90sec.
- 2.Peak Temp.:255±5°C, Duration:5±0.5sec.
3. Cooling Speed: 2~10°C/sec.

耐焊接热试验条件 / Resistance to Soldering Heat Test Conditions

温度：270±5°C

时间：10±1 sec.

Temp:270±5°C

Time:10±1 sec

包装规格 / Packaging SPEC.

套管包装 / TUBE

Package Type 封装形式	Units 包装数量					Dimension 包装尺寸 (unit: mm ³)		
	Units/Tube 只/套管	Tubes/Inner Box 套管/盒	Units/Inner Box 只/盒	Inner Boxes/Outer Box 盒/箱	Units/Outer Box 只/箱	Tube 套管	Inner Box 盒	Outer Box 箱
TO-3P	30	15	450	5	2250	497.5×46×8	555×164×50	575×290×180

使用说明 / Notices