

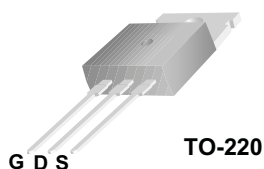


产品描述

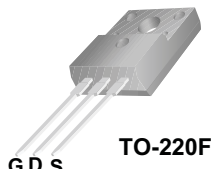
IRF740 为N沟道增强型高压功率MOS场效应管。该产品广泛适用于AC-DC开关电源，DC-DC电源转换器，高压H桥PMW马达驱动。

产品特点

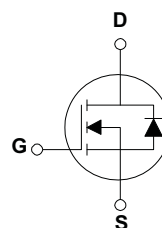
10A, 400V, $R_{DS(on)} = 0.54 \Omega @ V_{GS} = 10 V$
低电荷、低反向传输电容
开关速度快



TO-220



TO-220F



极限值 (TC=25°C)

参数名称	符号	IRF740	IRF740FP	单位
漏极-源极电压	V_{DSS}	400		V
漏极电流@TC=25°C	I_D	10		A
栅源电压	V_{GSS}	± 30		V
耗散功率@TC=25°C	P_D	134	44	W
结温	T_J	-55~150		°C
储存温度	T_{stg}	-55~150		°C
雪崩	E_{AS}	450		mJ

动态特性值

参数说明	符号	测试条件	最小值	典型值	最大值	单位
输入电容	C_{iss}	$V_{DS}=25V, V_{GS}=0V, f=1.0MHz$	--	1400	1800	pF
输出电容	C_{oss}	$V_{DS}=25V, V_{GS}=0V, f=1.0MHz$	--	150	195	pF
反向传输电容	C_{rss}	$V_{DS}=25V, V_{GS}=0V, f=1.0MHz$	--	35	45	pF

特性参数值 (TC=25° C)

参数说明	符号	测试条件	最小值	典型值	最大值	单位
漏源反向电压	BV_{DSS}	$V_{GS}=0V, I_D=250\mu A$	400	--	--	V
漏源截止电流	I_{DSS}	$V_{DS}=400V, V_{GS}=0V$	--	--	10	μA
栅源截止电流	$I_{GSS(F/R)}$	$V_{GS}=\pm 30V, V_{DS}=0V$	--	--	± 100	nA
通态电阻	$R_{DS(ON)}$	$V_{GS}=10V, I_D=5.0A$	--	--	0.54	Ω
栅源极开启电压	$V_{GS(th)}$	$V_{DS}=V_{GS}, I_D=250\mu A$	2.0		4.0	V
跨 导	g_{FS}	$I_D=5.0A, V_{DS}=40V$	--	9.6	--	S

动态特性

参数说明	符号	测试条件	最小值	典型值	最大值	单位
栅极电荷	Qg	$V_{DS}=320V$ $I_D=10A$ $V_{GS}=10V$	--	41	53	nC
栅源电荷	Qgs		--	7	--	nC
栅漏电荷	Qgd		--	17	--	nC

开关特性

参数说明	符号	测试条件	最小值	典型值	最大值	单位
延迟时间(开启)	Td(on)	$V_{DD}=200V$ $I_D=10A$ $R_G=25\Omega$	--	20	50	ns
上升时间	Tr		--	80	170	ns
延迟时间	Td(off)		--	125	260	ns
下降时间	tf		--	85	180	ns

特性曲线

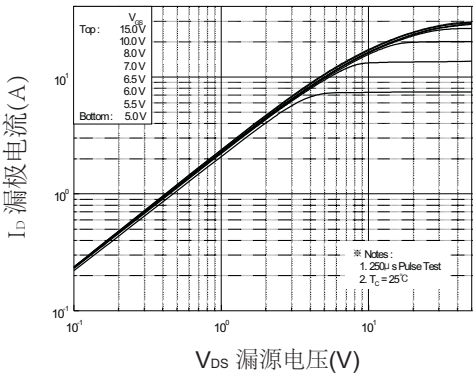


图1. 通态特性

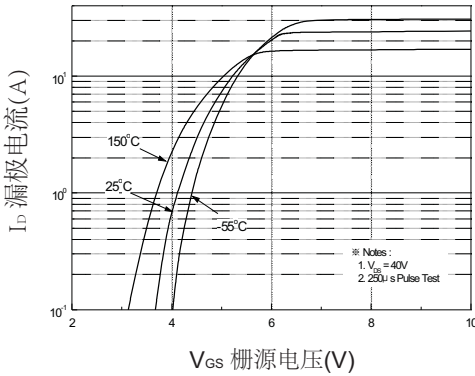


图2. 变化特性

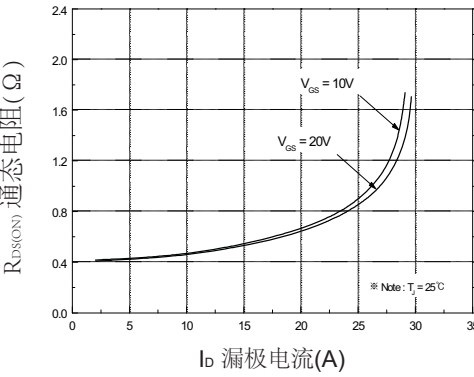


图3. 通态电阻与漏极电流和栅极电压的关系

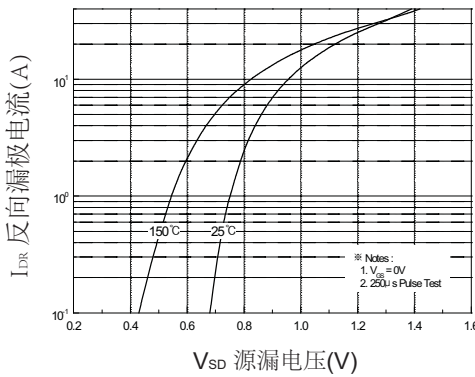


图4. 二极管正向压降与源极电流和温度的关系

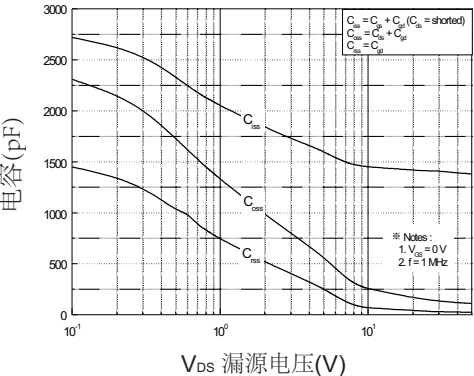


图5. 电容特性

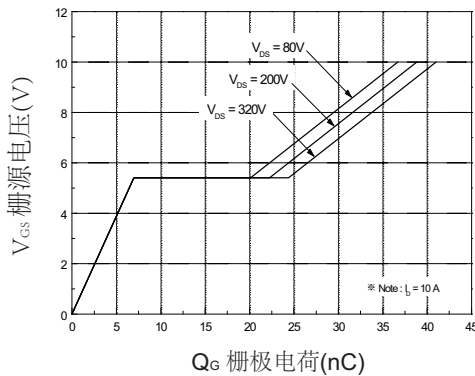
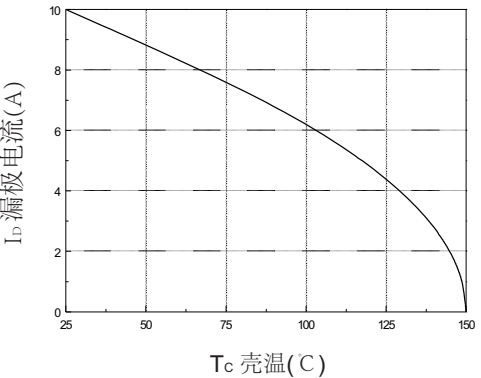
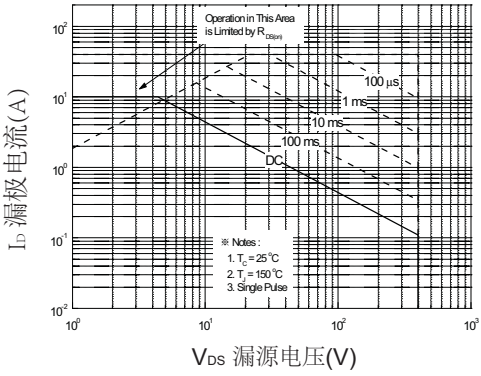
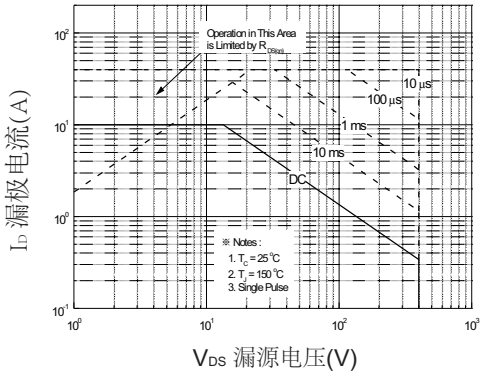
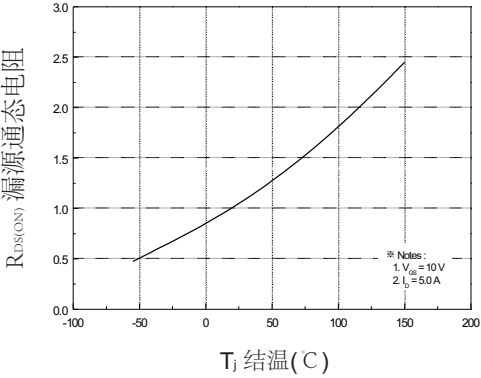
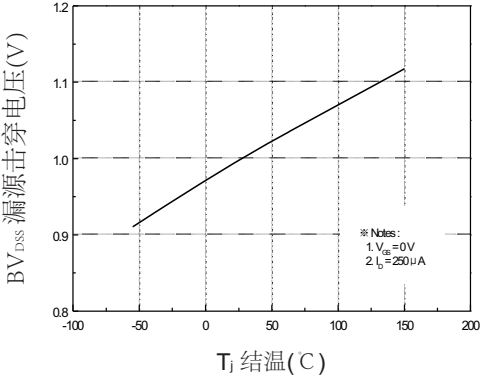


图6. 栅极电荷特性

特性曲线



特性曲线

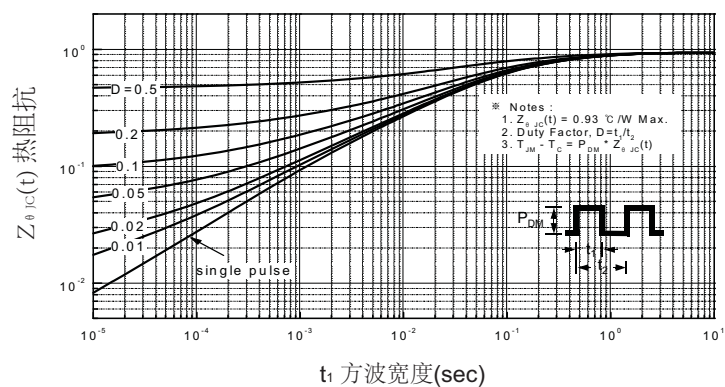


图11-1. 热阻抗变化曲线(TO-220)

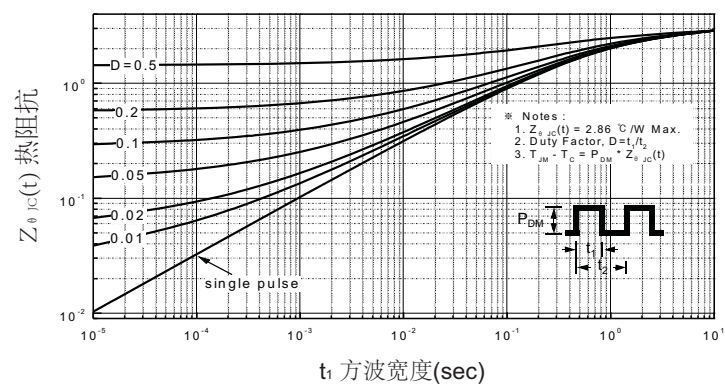
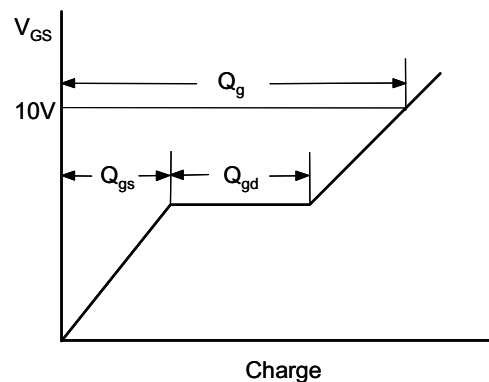
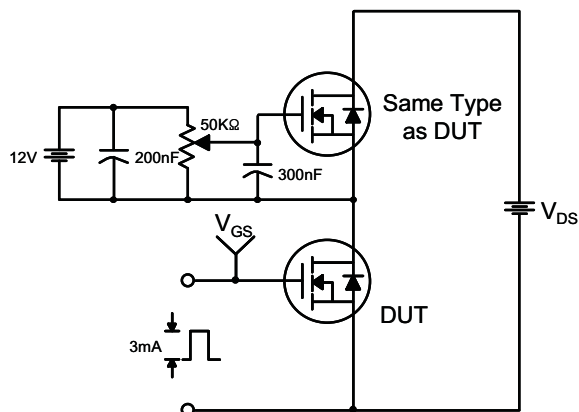
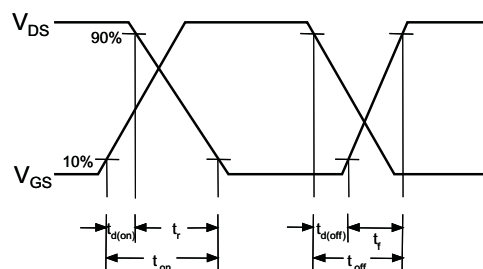
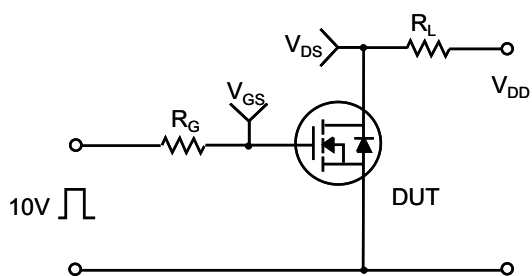


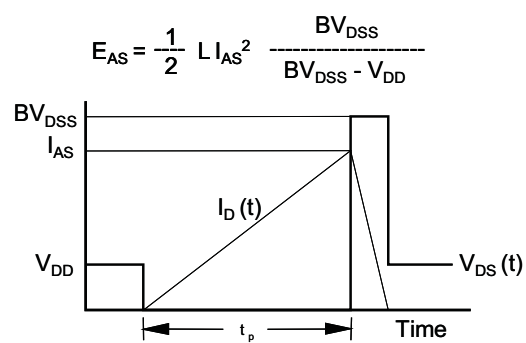
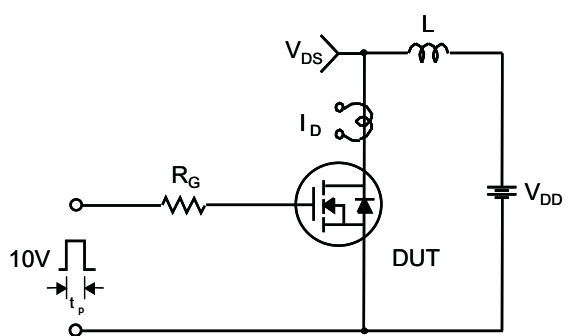
图11-2. 热阻抗变化曲线(TO-220F)



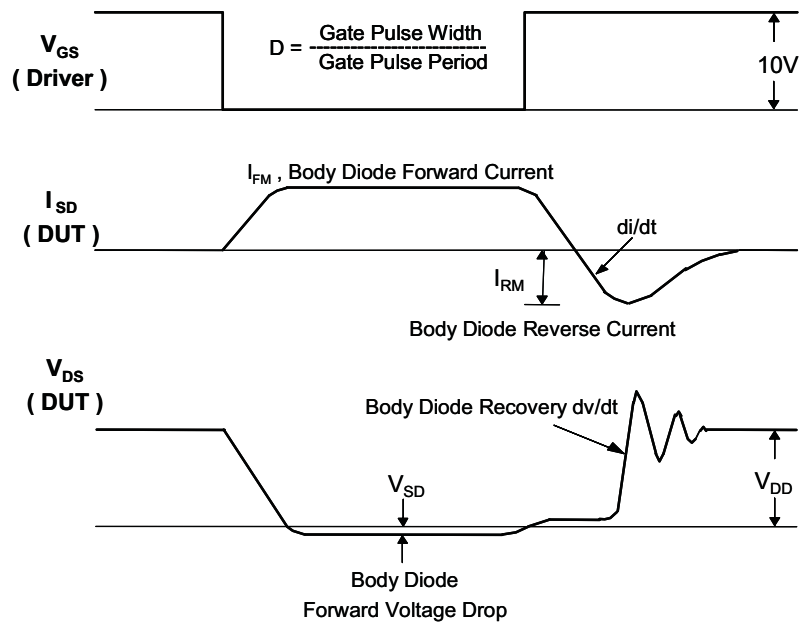
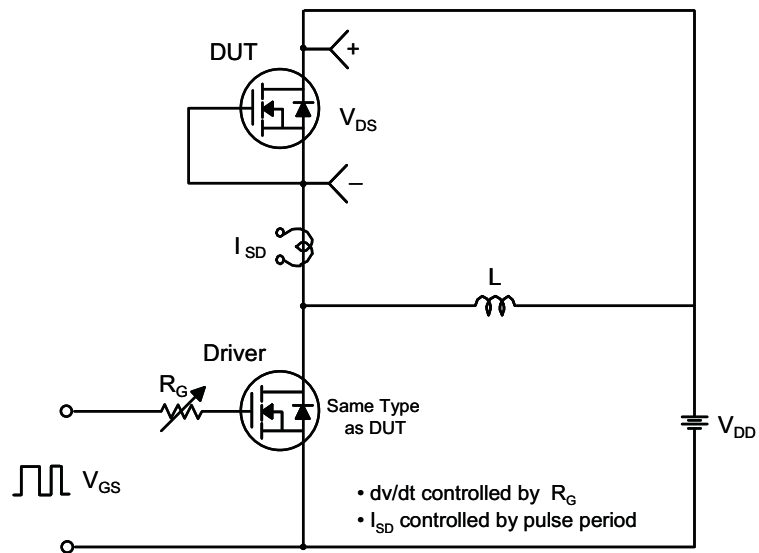
栅极电荷测试电路和波形



负载开关测试电路和波形



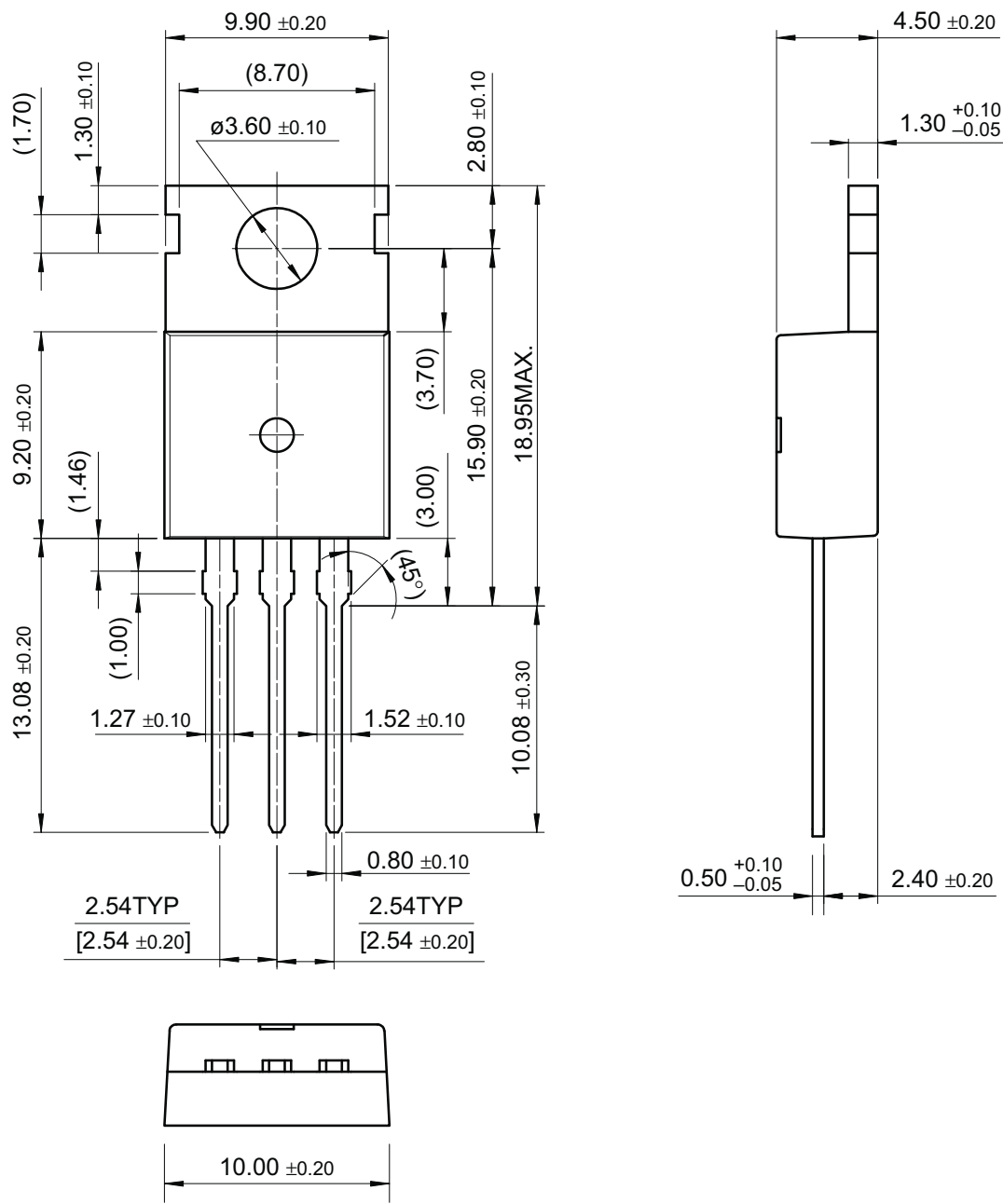
电感负载开关测试电路和波形



内置二极管反向恢复 dv/dt 测试电路和波形

外形尺寸

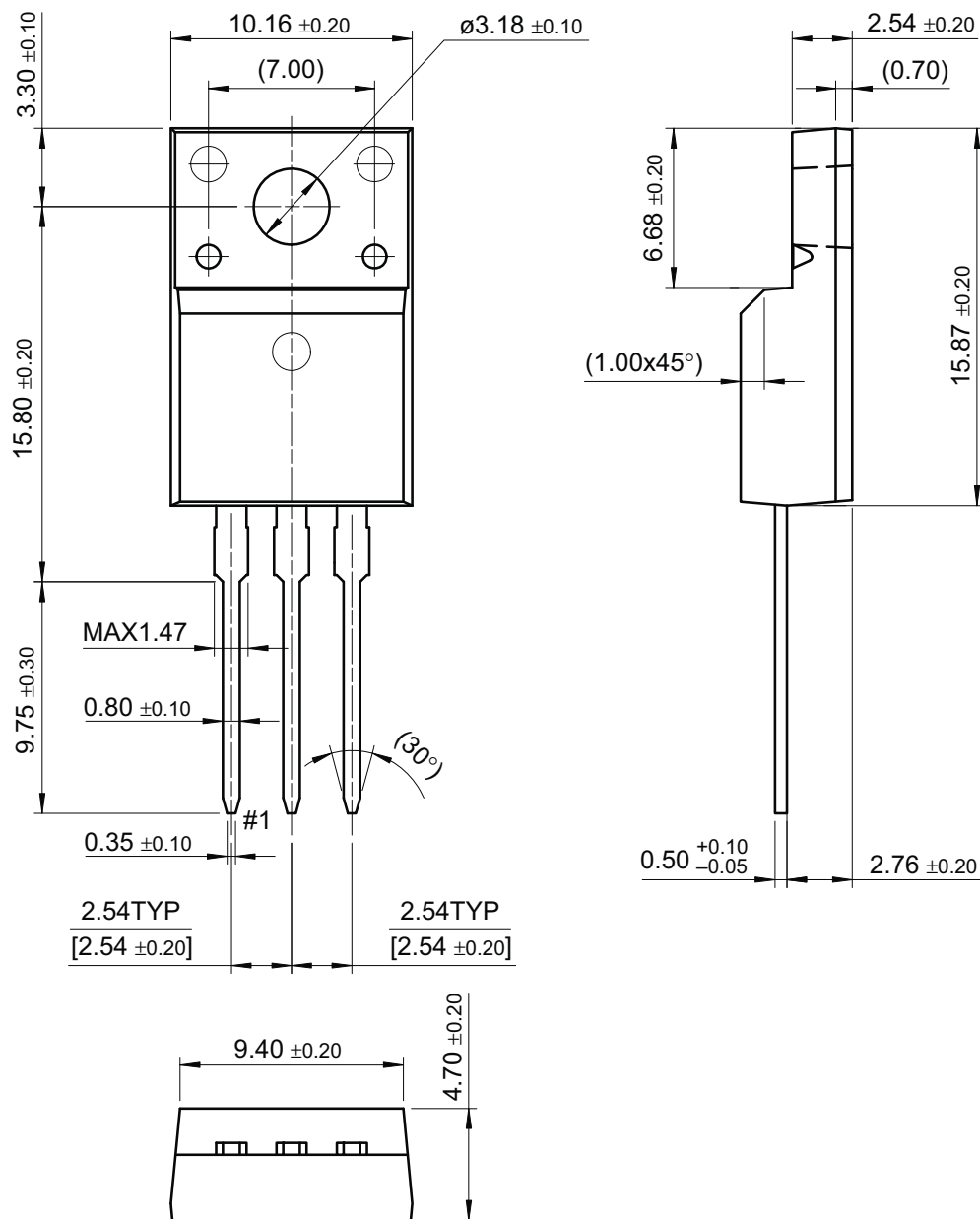
TO-220



尺寸单位:毫米

外形尺寸

TO-220F



尺寸单位:毫米