SHENZHEN HAOLIN ELECTRONICS TECHNOLOGY CO., LTD

TO-220F Plastic-Encapsulate Transistors

TO-220F

1. BASE
2. COLLECTOR
3. EMITTER

HF13005 (AHD) TRANSISTOR (NPN)

FEATURES

· power switching applications

MAXIMUM RATINGS (Ta=25℃ unless otherwise noted)

Symbol	Parameter	Value	Units
V_{CBO}	Collector-Base Voltage	700	V
V_{CEO}	Collector-Emitter Voltage	480	V
V_{EBO}	Emitter-Base Voltage	9	V
I_C	Collector Current -Continuous	1.5	A
P_C	Collector Power Dissipation	2	W
T_J	Junction Temperature	150	℃
T_{stg}	Storage Temperature	-55-150	℃

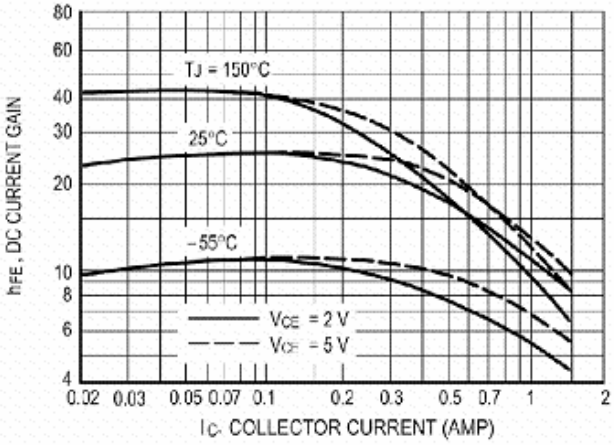
ELECTRICAL CHARACTERISTICS (Tamb=25℃ unless otherwise specified)

Parameter	Symbol	Test conditions	MIN	TYP	MAX	UNIT
Collector-base breakdown voltage	$V_{(BR)CBO}$	I_C =5mA, I_E=0	700			V
Collector-emitter breakdown voltage	$V_{(BR)CEO}$	I_C=10mA, I_B=0	460			V
Emitter-base breakdown voltage	$V_{(BR)EBO}$	I_E=2mA, I_C=0	9			V
Collector cut-off current	I_{CBO}	V_{CB}=700V,I_E=0			1	mA
Collector cut-off current	I_{CEO}	V_{CE}=400V,I_B=0			0.5	mA
Emitter cut-off current	I_{EBO}	V_{EB}=9V, I_C=0			1	mA
DC current gain	h_{FE1}	V_{CE}=5V, I_C= 0.5 A	8		40	
	h_{FE2}	V_{CE}=5V, I_C= 1.5A	5			
Collector-emitter saturation voltage	$V_{CE(sat)}$	I_C=1A,I_B=0.25A			0.6	V
Base-emitter saturation voltage	$V_{BE(sat)}$	I_C=1A,I_B=0.25A			1.2	V
Transition frequency	f_T	V_{CE}=10V,Ic=100mA, f =1MHz	5			MHz
Fall time	t_f	I_C=1A, I_{B1}=-I_{B2}=0.2A, V_{CC}=100V			0.5	μs
Storage time	t_S	I_C=250mA (UI9600)	2		4	μ s

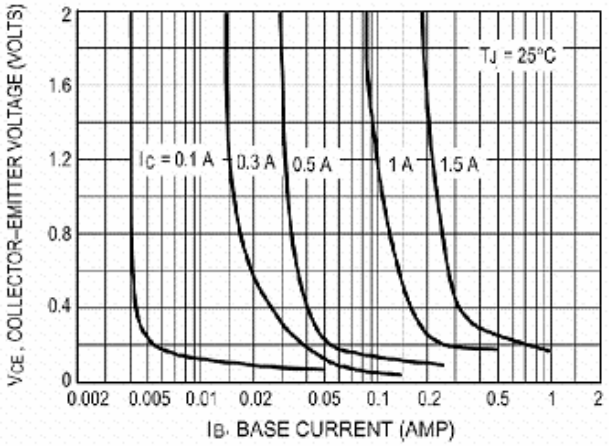
CLASSIFICATION OF h_{FE1}

Range	8-10	10-15	15-20	20-25	25-30	30-35	35-40

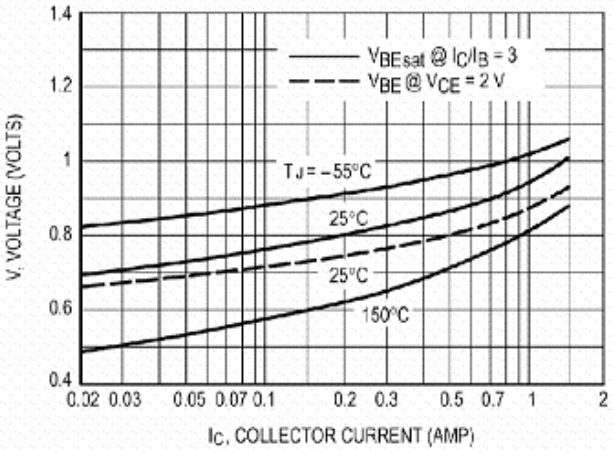
Typical Characteristics HF13005



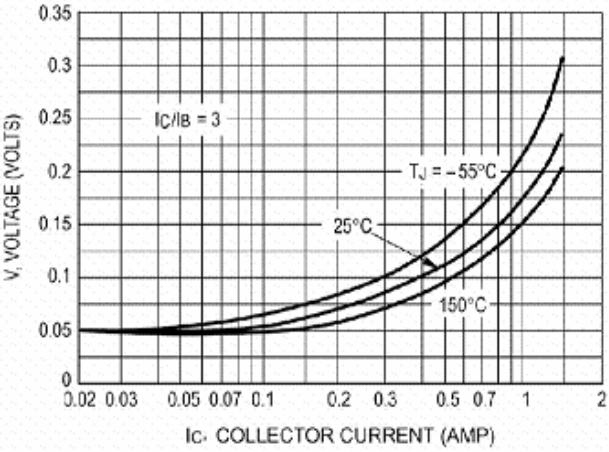
DC Current Gain



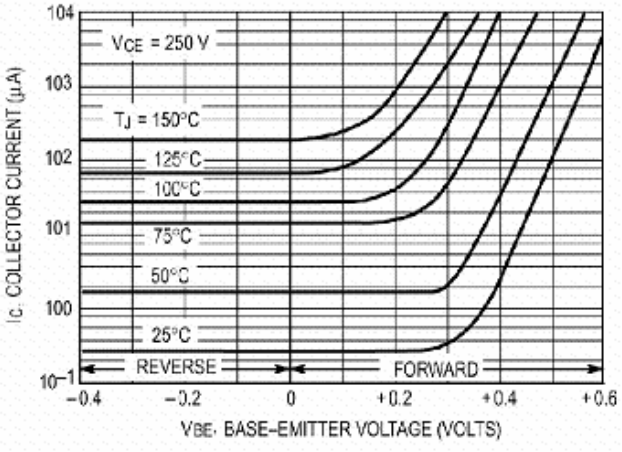
Collector Saturation Region



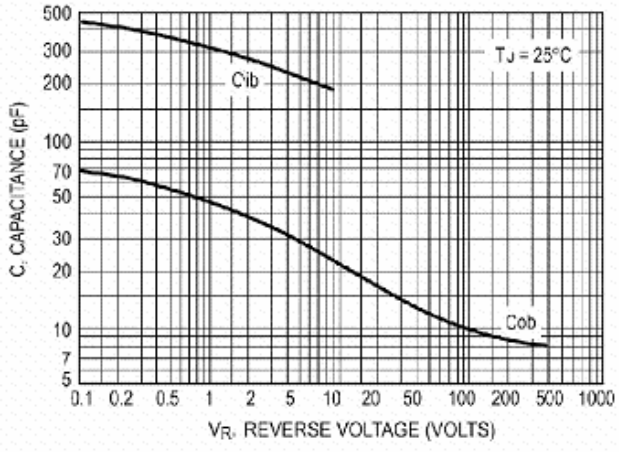
Base–Emitter Voltage



Collector–Emitter Saturation Region



Collector Cutoff Region



Capacitance

TO-220F PACKAGE OUTLINE DIMENSIONS

TO-220F