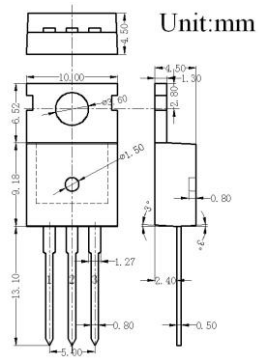
TO-220 Plastic-Encapsulate Transistors

HM13005 TRANSISTOR(NPN)



1. BASE
2. COLLECTOR
3. EMITTER

FEATURES

Power switching applications

Maximum ratings (Ta=25℃ unless otherwise noted)

Symbol	Parameter	Value	Unit
V_{CBO}	Collector-Base Voltage	700	V
V_{CEO}	Collector-Emitter Voltage	400	V
V_{EBO}	Emitter-Base Voltage	9	V
I_C	Collector Current -Continuous	4	A
P_C	Collector Power Dissipation	2	W
T_J	Junction Temperature	150	℃
T_{stg}	Storage Temperature	-55~150	℃

ELECTRICAL CHARACTERISTICS (Ta=25℃ unless otherwise specified)

Parameter	Symbol	Test conditions	Min	Typ	Max	Unit
Collector-base breakdown voltage	$V_{(BR)CBO}$	I_C= 0.1mA, I_E=0	700			V
Collector-emitter breakdown voltage	$V_{(BR)CEO}$	I_C= 10mA, I_B=0	400			V
Emitter-base breakdown voltage	$V_{(BR)EBO}$	I_E= 0.1mA, I_C=0	9			V
Collector cut-off current	I_{CBO}	V_{CB}= 700V, I_E=0			100	uA
Collector cut-off current	I_{CEO}	V_{CE}= 400V, I_B=0			100	uA
Emitter cut-off current	I_{EBO}	V_{EB}= 9V, I_C=0			100	uA
DC current gain	h_{FE1}	V_{CE}= 5V, I_C= 1A	10		60	
	h_{FE2}	V_{CE}= 5V, I_C= 1mA	5			
	h_{FE3}	V_{CE}= 5V, I_C=100mA	8			
	h_{FE4}	V_{CE}= 5V, I_C=500mA	10			
Collector-emitter saturation voltage	$V_{CE(sat)}$	I_C=2A,I_B=0.5A			1.0	V
Base-emitter saturation voltage	$V_{BE(sat)}$	I_C=2A, I_B=0.5A			1.5	V
Transition Frequency	f_T	V_{CE}=10V, I_C=0.5A,f=1MHZ	5			MHZ
Fall time	t_f	I_C=0.5A,UI=9600			0.6	μs
Storage time	t_s		1.8		6.6	μs

CLASSIFICATION OF h_{FE1}

Rank										
Range	10-15	15-20	20-25	25-30	30-35	35-40	40-45	45-50	50-55	55-60

Typical Characterisitics