

TO-220 Plastic-Encapsulate Transistors

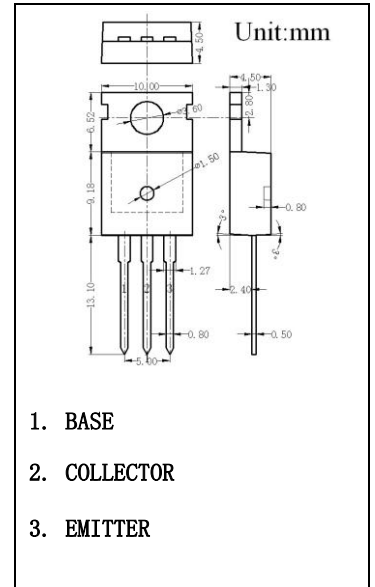
HM13005 TRANSISTOR(NPN)

FEATURES

Power switching applications

Maximum ratings (Ta=25°C 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	°C
T _{stg}	Storage Temperature	-55~150	°C



ELECTRICAL CHARACTERISTICS (Ta=25°C 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, U _I =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 Characteristics

