

TO-220 Plastic-Encapsulate Transistors

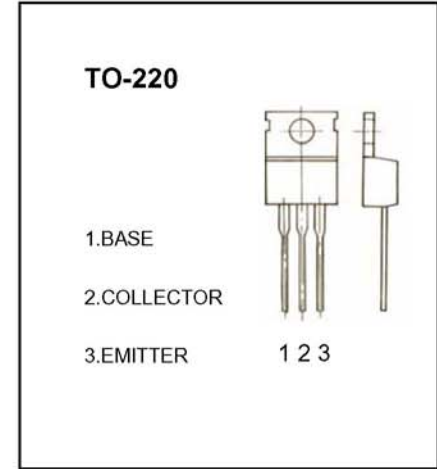
13007 TRANSISTOR (NPN)

FEATURES

power switching applications

MAXIMUM RATINGS (T_A=25°C unless otherwise noted)

Symbol	Parameter	Value	Units
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	8	A
P _C	Collector Power Dissipation	2	W
T _J	Junction Temperature	150	°C
T _{stg}	Storage Temperature	-55-150	°C



ELECTRICAL CHARACTERISTICS (T_{amb}=25°C unless otherwise specified)

Parameter	Symbol	Test conditions	MIN	TYP	MAX	UNIT
Collector-base breakdown voltage	V _{(BR)CBO}	I _C = 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 = 1mA, 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			100	μA
Emitter cut-off current	I _{EBO}	V _{EB} = 9V, I _C =0			100	μA
DC current gain	h _{FE1}	V _{CE} = 5V, I _C = 2 A	8		40	
	h _{FE2}	V _{CE} =5V, I _C =5A	5		30	
Collector-emitter saturation voltage	V _{CE(sat)}	I _C =2A, I _B =0.4A			1	V
		I _C =5A, I _B =1A			2	
		I _C =8A, I _B =2A			3	
Base-emitter saturation voltage	V _{BE(sat)}	I _C =2A, I _B = 0.4A			1.2	V
		I _C =5A, I _B =1A			1.6	
Transition frequency	f _T	I _C =500mA, V _{CE} =10V, f=1MHz	4			MHz
Collector output capacitance	C _{ob}	V _{CE} =10V, I _E =0, f=0.1MHz		80		pF
Fall time	t _f	V _{CC} =125V, I _C =5A I _{B1} =-I _{B2} =1A			0.7	μs
Storage time	t _s	I _C =0.5A	2.7		7.7	μs

CLASSIFICATION OF h_{FE(1)}

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