



TO-92 Plastic-Encapsulate Transistors

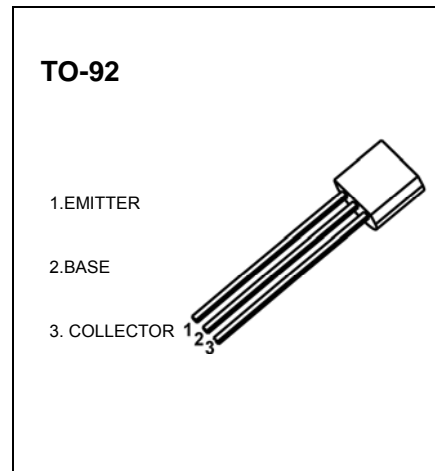
2N3906 TRANSISTOR (PNP)

FEATURE

- PNP silicon epitaxial planar transistor for switching and Amplifier applications
- As complementary type, the NPN transistor 2N3904 is Recommended
- This transistor is also available in the SOT-23 case with the type designation MMBT3906

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

Symbol	Parameter	Value	Unit
V _{CB0}	Collector-Base Voltage	-40	V
V _{CE0}	Collector-Emitter Voltage	-40	V
V _{EB0}	Emitter-Base Voltage	-5	V
I _c	Collector Current -Continuous	-0.2	A
P _c	Collector Power Dissipation	0.625	W
T _J	Junction Temperature	150	°C
T _{stg}	Storage Temperature	-55~150	°C



ELECTRICAL CHARACTERISTICS (T_a=25°C unless otherwise specified)

Parameter	Symbol	Test conditions	Min	Typ	Max	Unit
Collector-base breakdown voltage	V _{(BR)CBO}	I _c = -10μA, I _E =0	-40			V
Collector-emitter breakdown voltage	V _{(BR)CEO}	I _c = -1mA, I _B =0	-40			V
Emitter-base breakdown voltage	V _{(BR)EBO}	I _E = -10μA, I _c =0	-5			V
Collector cut-off current	I _{CBO}	V _{CB} = -40 V, I _E =0			-0.1	μA
Collector cut-off current	I _{CEX}	V _{CE} = -30 V, V _{BE(off)} =-3V			-50	nA
Emitter cut-off current	I _{EBO}	V _{EB} = -5 V, I _c =0			-0.1	μA
DC current gain	h _{FE1}	V _{CE} =-1 V, I _c = -10mA	100		400	
	h _{FE2}	V _{CE} =-1 V, I _c = -50mA	60			
	h _{FE3}	V _{CE} =-1 V, I _c = -100mA	30			
Collector-emitter saturation voltage	V _{CE(sat)}	I _c = -50mA, I _B = -5mA			-0.4	V
Base-emitter saturation voltage	V _{BE(sat)}	I _c = -50mA, I _B = -5mA			-0.95	V
Transition frequency	f _T	V _{CE} =-20V, I _c = -10mA f = 100MHz	250			MHz
Delay Time	t _d	V _{CC} =-3V, V _{BE} =-0.5V,			35	ns
Rise Time	t _r	I _c =-10mA, I _{B1} =-1mA			35	ns
Storage Time	t _s	V _{CC} =-3V, I _c =-10mA			225	ns
Fall Time	t _f	I _{B1} =I _{B2} =-1mA			75	ns

CLASSIFICATION OF h_{FE1}

Rank	O	Y	G
Range	100-200	200-300	300-400

Typical Characteristics

2N3906

