

TO-18 Plastic-Encapsulate Transistors

TRANSISTOR (NPN)

FEATURES

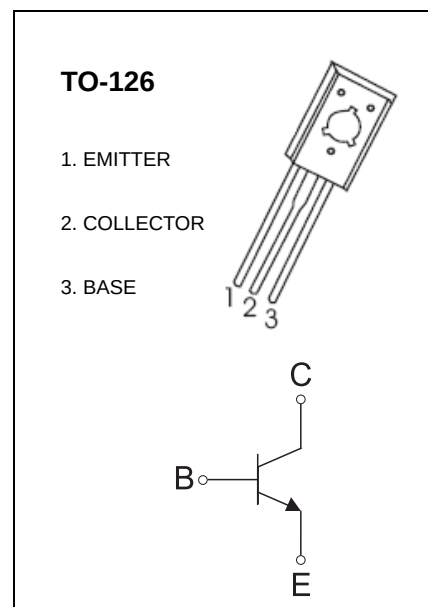
- Low saturation voltage.
- Excellent h_{FE} linearity and high h_{FE} .

Mechical Data

- Case: TO-18
- Molding compound: UL flammability classification rating 94V-0
- Terminals: Solder plated, solderable per MIL- STD-202, Method 208
- Polarity: Color band denotes cathode end

Applications

- Power amplifier application.



MAXIMUM RATINGS ($T_a=25^\circ\text{C}$ unless otherwise noted)

Symbol	Parameter	Value	Unit
V_{CBO}	Collector-Base Voltage	40	V
V_{CEO}	Collector-Emitter Voltage	30	V
V_{EBO}	Emitter-Base Voltage	6	V
I_C	Collector Current -Continuous	3	A
P_C	Collector Power Dissipation	1.25	W
T_J, T_{stg}	Operation Junction and Storage Temperature Range	-55-150	$^\circ\text{C}$

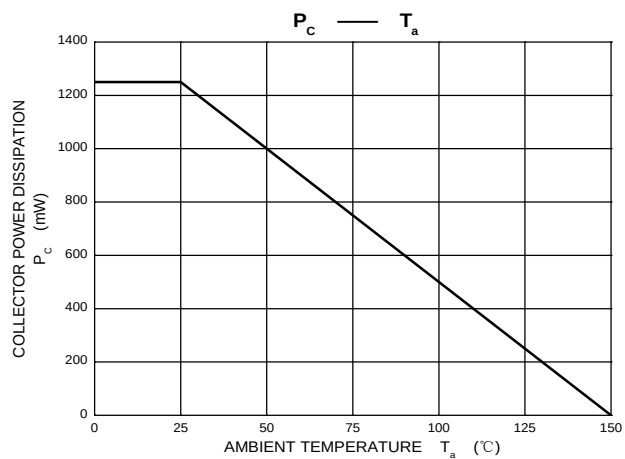
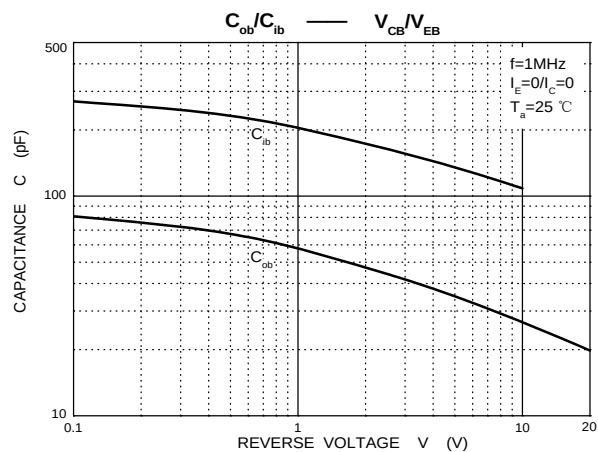
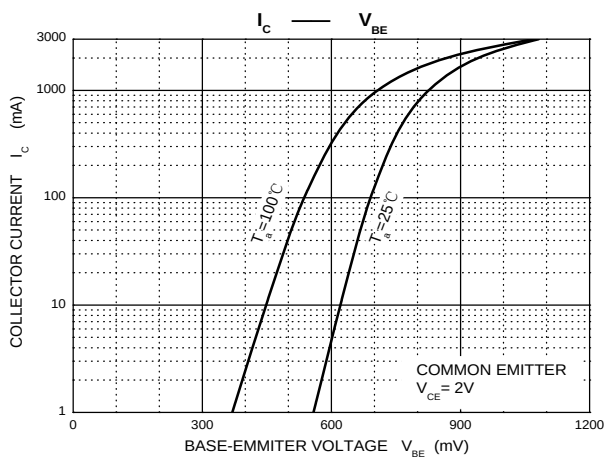
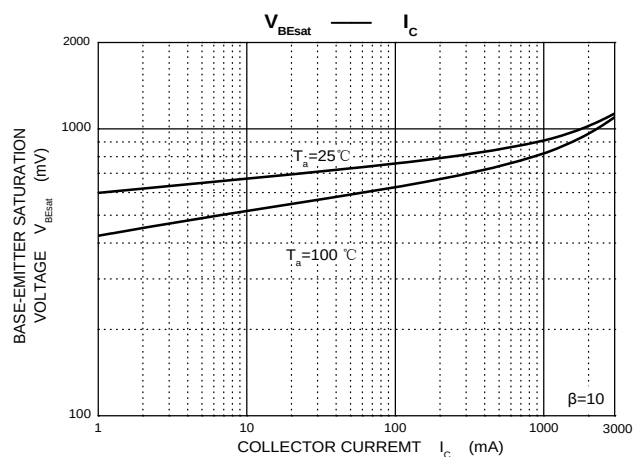
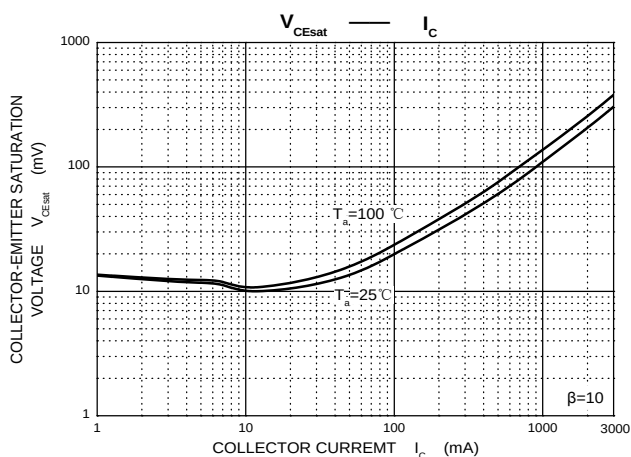
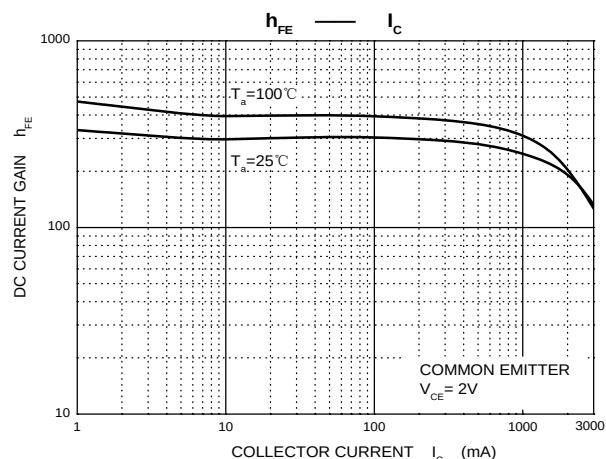
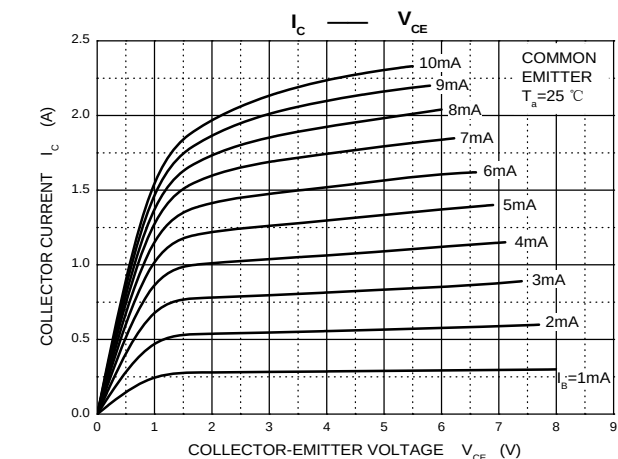
$T_a=25^\circ\text{C}$ unless otherwise specified

Parameter	Symbol	Test conditions	Min	Typ	Max	Unit
Collector-base breakdown voltage	$V_{(BR)CBO}$	$I_C = 100\mu\text{A}, I_E=0$	40			V
Collector-emitter breakdown voltage	$V_{(BR)CEO}$	$I_C = 10\text{mA}, I_B=0$	30			V
Emitter-base breakdown voltage	$V_{(BR)EBO}$	$I_E = 100\mu\text{A}, I_C=0$	6			V
Collector cut-off current	I_{CBO}	$V_{CB}= 40\text{ V}, I_E=0$			1	μA
Collector cut-off current	I_{CEO}	$V_{CE}= 30\text{ V}, I_B=0$			10	μA
Emitter cut-off current	I_{EBO}	$V_{EB}= 6\text{ V}, I_C=0$			1	μA
DC current gain	h_{FE}	$V_{CE}= 2\text{ V}, I_C= 1\text{A}$	60		400	
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C= 2\text{A}, I_B= 0.2\text{ A}$			0.5	V
Base-emitter saturation voltage	$V_{BE(sat)}$	$I_C= 2\text{A}, I_B= 0.2\text{ A}$			1.5	V
Transition frequency	f_T	$V_{CE}= 5\text{V}, I_C=0.1\text{A}$ $f=10\text{MHz}$		90		MHz

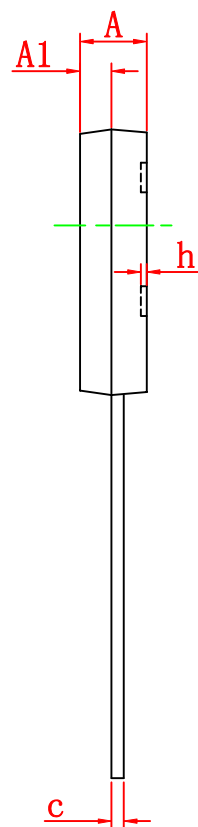
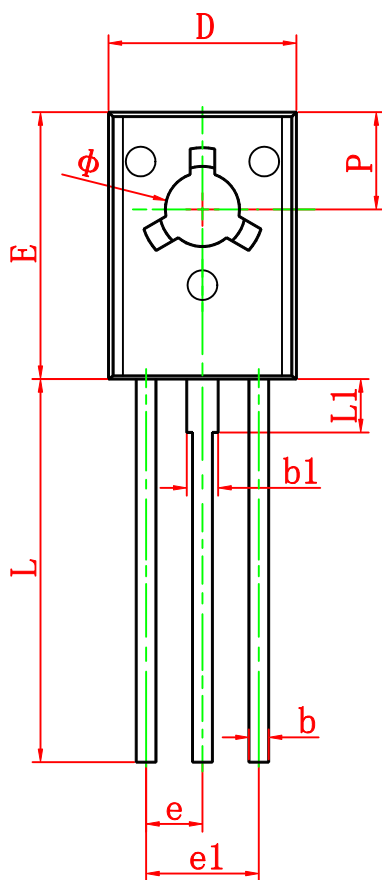
CLASSIFICATION OF h_{FE}

Rank	R	O	Y	GR
Range	60-120	100-200	160-320	200-400

Typical Characteristics



TO-126 Package Outline Dimensions



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min	Max	Min	Max
A	2.500	2.900	0.098	0.114
A1	1.100	1.500	0.043	0.059
b	0.660	0.860	0.026	0.034
b1	1.170	1.370	0.046	0.054
c	0.450	0.600	0.018	0.024
D	7.400	7.800	0.291	0.307
E	10.600	11.000	0.417	0.433
e	2.290 TYP		0.090 TYP	
e1	4.480	4.680	0.176	0.184
h	0.000	0.300	0.000	0.012
L	15.300	15.700	0.602	0.618
L1	2.100	2.300	0.083	0.091
P	3.900	4.100	0.154	0.161
Φ	3.000	3.200	0.118	0.126