

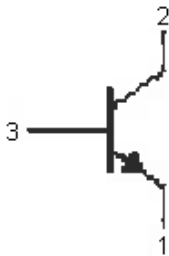
NPN Medium Power Transistor



Applications:

Audio amplifier
Voltage regulator
DC - DC converter
Relay driver

Fig. 1 simplified outline (TO - 126) and symbol



Pinning

Pin	Description
1	Emitter
2	Collector; connected to mounting base
3	Base

Absolute Maximum Ratings ($T_a = 25^\circ\text{C}$)

Symbol	Parameter	Conditions	Value	Unit
V_{CBO}	Collector - base voltage	Open emitter	40	V
V_{CEO}	Collector - emitter voltage	Open base	30	V
V_{EBO}	Emitter - base voltage	Open collector	5	V
I_C	Collector current (DC)		3	A
I_{CM}	Collector current - peak		7	A
P_D	Total power dissipation	$T_a = 25^\circ\text{C}$	1	W
		$T_a = 25^\circ\text{C}$	10	
T_j	Junction temperature		150	$^\circ\text{C}$
T_{stg}	Storage temperature		-55 to 150	$^\circ\text{C}$

Characteristics ($T_j = 25^\circ\text{C}$ Unless Otherwise Specified)

Symbol	Parameter	Conditions	Minimum	Typical	Maximum	Unit
$V_{(BR) CEO}$	Collector - emitter breakdown voltage	$I_C = 10 \text{ mA}; I_B = 0$	30	-	-	V
V_{CEsat}	Collector - emitter saturation voltage	$I_C = 2 \text{ A}; I_B = 0.2 \text{ A}$	-	-	0.5	V
V_{BEsat}	Base - emitter saturation voltage	$I_C = 2 \text{ A}; I_B = 0.2 \text{ A}$	-	-	2	V
I_{CBO}	Collector cut-off current	$V_{CB} = 30 \text{ V}; I_E = 0$	-	-	1	μA
I_{EBO}	Emitter cut-off current	$V_{EB} = 3 \text{ V}; I_C = 0$	-	-	1	μA
h_{FE-1}	DC current gain	$I_C = 20 \text{ mA}; V_{CE} = 2 \text{ V}$	30	-	-	-
h_{FE-2}	DC current gain	$I_C = 1 \text{ A}; V_{CE} = 2 \text{ V}$	60	-	400	-
f_T	Transition frequency	$I_C = 1 \text{ A}; V_{CE} = 2 \text{ V}$	-	90	-	MHz
C_{OB}	collector output capacitance	$f = 1 \text{ MHz}; V_{CB} = 10 \text{ V}$	-	45	-	pF

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h_{FE}-2 Classifications

R	Q	P	E
60 - 120	100 - 200	160 - 320	200 - 400

Package outline

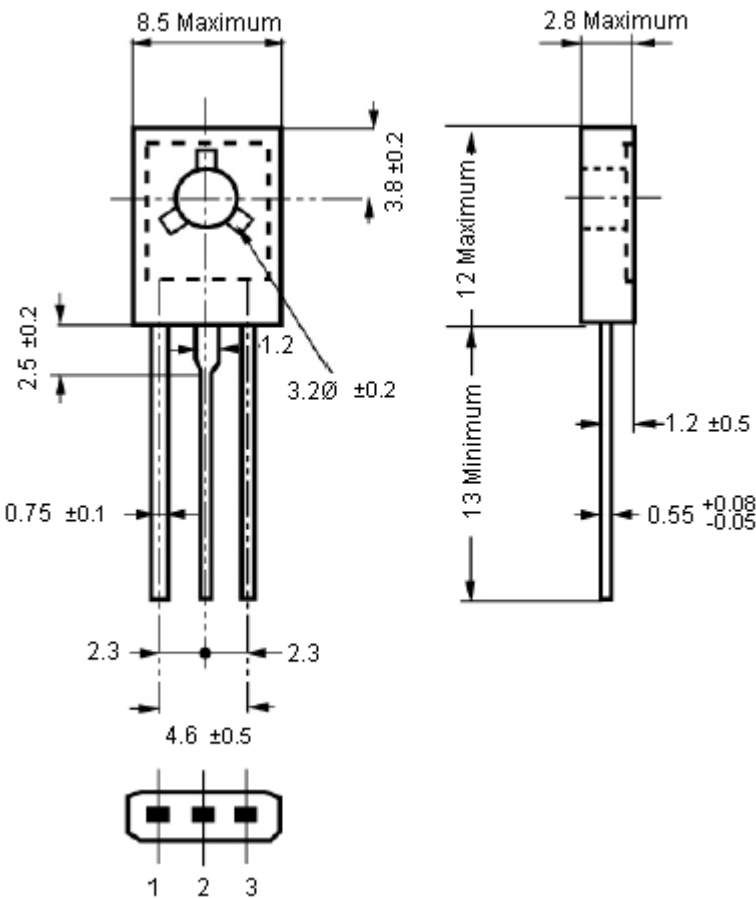
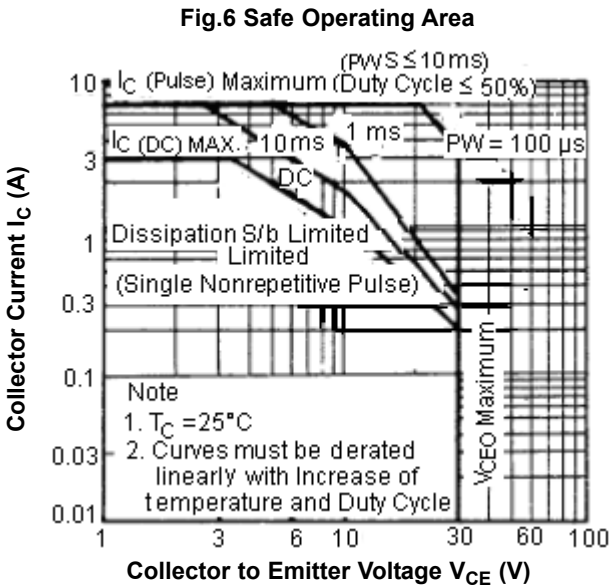
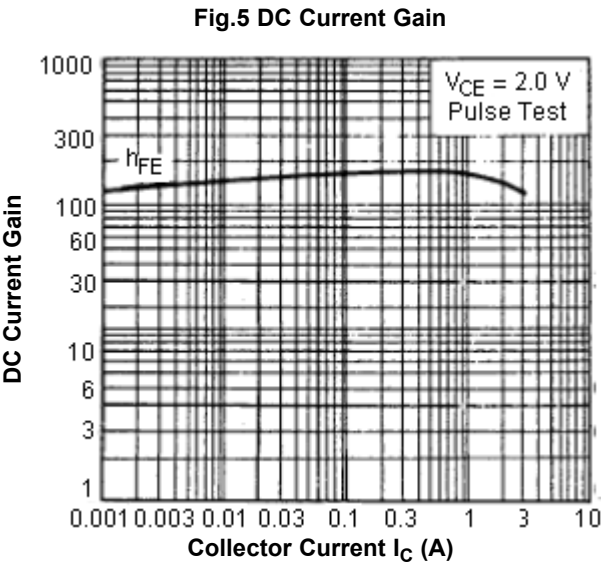
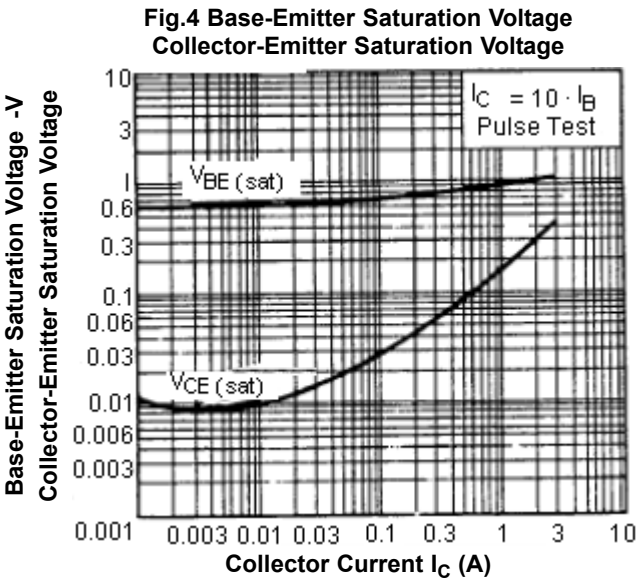
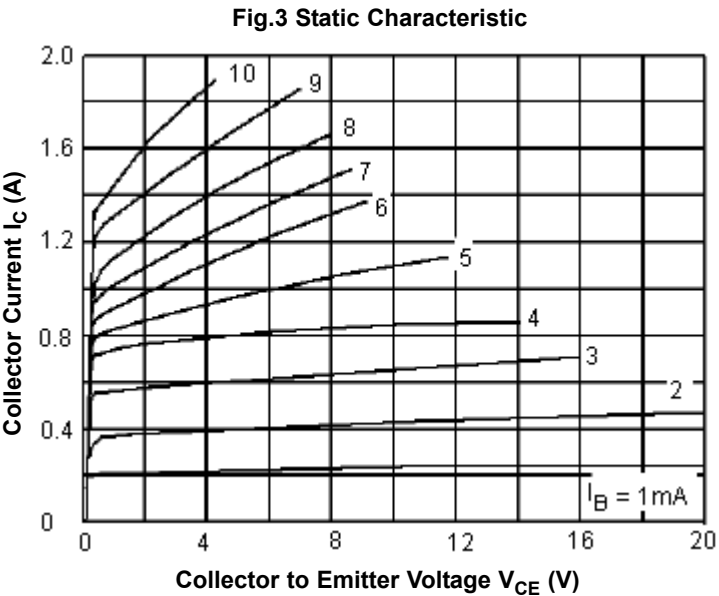


Fig. 2 Outline dimensions

NPN Medium Power Transistor



Part Number Table

Description	Part Number
NPN Medium Power Transistor	2SD882

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