

## NPN Silicon Epitaxial Planar Transistor

## D882

### FEATURES

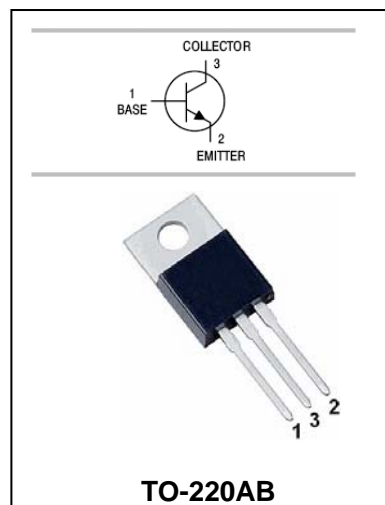
- Low saturation voltage.
- Excellent  $h_{FE}$  linearity and high  $h_{FE}$ .
- Less cramping space required due to small and thin Package and reducing the trouble for attachment to a radiator.



Lead-free

### APPLICATIONS

- Power amplifier application.



### MAXIMUM RATING @ $T_a=25^{\circ}\text{C}$ unless otherwise specified

Symbol	Parameter	Value	Units
$V_{CBO}$	Collector-Base Voltage	40	V
$V_{CEO}$	Collector-Emitter Voltage	30	V
$V_{EBO}$	Emitter-Base Voltage	5	V
$I_C$	Collector Current -Continuous	3	A
$P_C$	Collector Dissipation	2	W
$T_j, T_{stg}$	Junction and Storage Temperature	-55 to +150	$^{\circ}\text{C}$



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**ELECTRICAL CHARACTERISTICS @ Ta=25°C unless otherwise specified**

Parameter	Symbol	Test conditions	MIN	TYP	MAX	UNIT
Collector-base breakdown voltage	$V_{(BR)CBO}$	$I_C=100\mu A, I_E=0$	40			V
Collector-emitter breakdown voltage	$V_{(BR)CEO}$	$I_C=10mA, I_B=0$	30			V
Emitter-base breakdown voltage	$V_{(BR)EBO}$	$I_E=100\mu A, I_C=0$	6			V
Collector cut-off current	$I_{CBO}$	$V_{CB}=40V, I_E=0$			1	$\mu A$
Collector cut-off current	$I_{CEO}$	$V_{CE}=30V, I_B=0$			1	$\mu A$
Emitter cut-off current	$I_{EBO}$	$V_{EB}=3V, I_C=0$			1	$\mu A$
DC current gain	$h_{FE}$	$V_{CE}=2V, I_C=20mA$	30	150		
		$V_{CE}=2V, I_C=1A$	60	160	400	
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C=2A, I_B=0.2A$		0.3	0.5	V
Base-emitter saturation voltage	$V_{BE(sat)}$	$I_C=2A, I_B=0.2A$		1.0	2.0	V
Transition frequency	$f_T$	$V_{CE}=5V, I_C=0.1A$		90		MHz
Collector output capacitance	$C_{ob}$	$V_{CB}=10V, I_E=0, f=1MHz$		45		pF

**CLASSIFICATION OF  $h_{FE}$**

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

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TYPICAL CHARACTERISTICS @ Ta=25°C unless otherwise specified

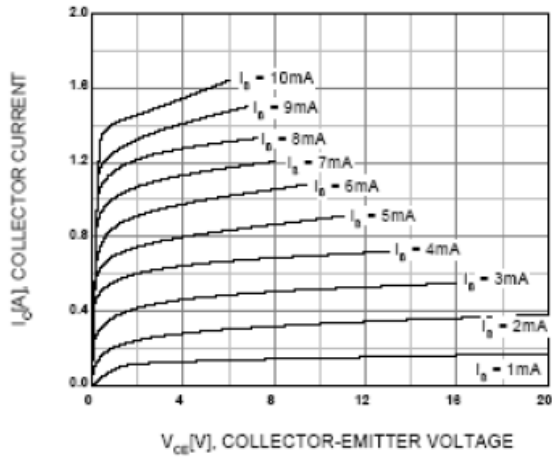


Figure 1. Static Characteristic

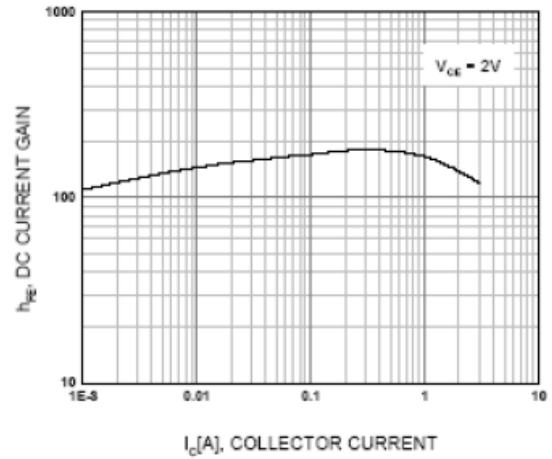


Figure 2. DC current Gain

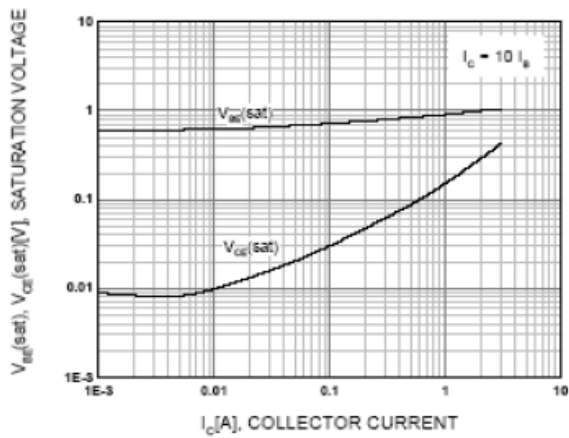


Figure 3. Base-Emitter Saturation Voltage  
Collector-Emitter Saturation Voltage

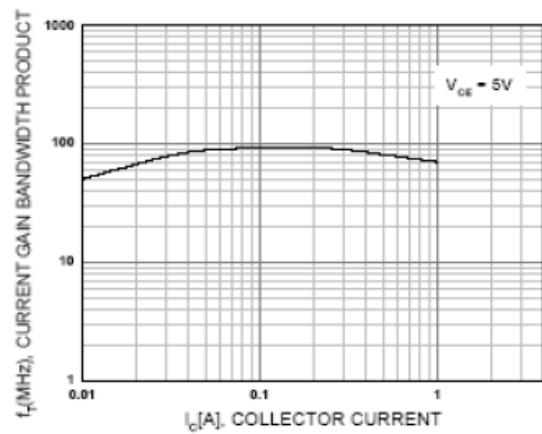


Figure 4. Current Gain Bandwidth Product



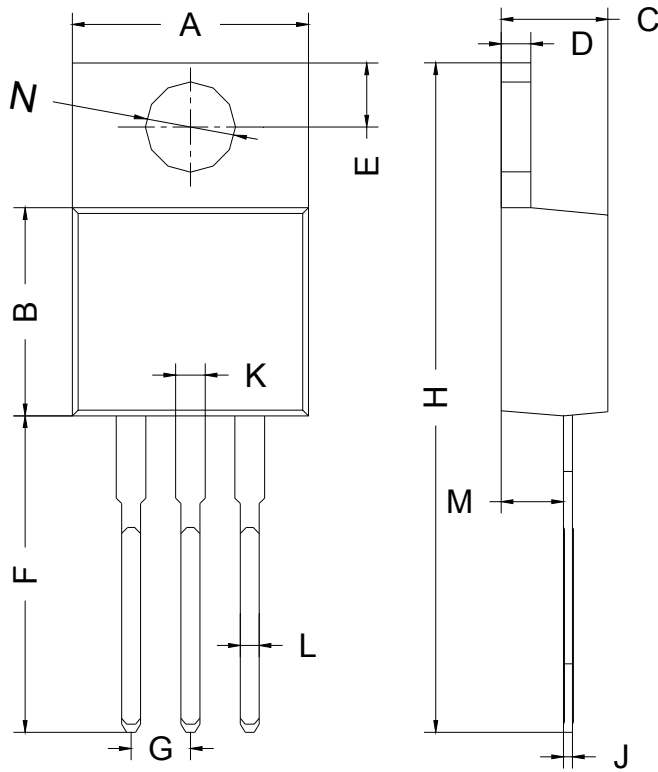
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**PACKAGE OUTLINE**

Plastic surface mounted package

TO-220AB



TO-220AB		
Dim	Min	Max
A	9.80	10.30
B	8.70	9.10
C	4.57 Typical	
D	1.27 Typical	
E	2.64	2.84
F	13.14	13.74
G	2.44	2.64
H	28.03	28.83
J	0.38 Typical	
K	1.22	1.32
L	0.71	0.91
M	2.50 Typical	
N	3.86 Typical	
All Dimensions in mm		