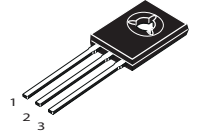


### 2SB776 PNP Epitaxial Planar Transistors 2SD886 NPN Epitaxial Planar Transistors

 Lead(Pb)-Free

#### TO-18

1.EMITTER  
2.COLLECTOR  
3.BASE



#### ABSOLUTE MAXIMUM RATINGS ( $T_a=25^{\circ}\text{C}$ )

Rating	Symbol	PNP/2SB776	NPN/2SD886	Unit
Collector-Emitter Voltage	$V_{CEO}$	-50	50	V
Collector-Base Voltage	$V_{CBO}$	-50	50	V
Emitter-Base Voltage	$V_{EBO}$	-5.0	5.0	V
Collector Current	$I_C$	-3.0	3.0	A
Total Device Dissipation $T_a=25^{\circ}\text{C}$	$P_D$	1.0		W
Junction Temperature	$T_J$	+150		
Storage Temperature	$T_{stg}$	-55 to +150		$^{\circ}\text{C}$

#### Device Marking

2SB776=B776 , 2SD886=D886

#### ELECTORICAL CHARACTERISTICS

Characteristics	Symbol	Min	Max	Unit
Collect-Emmitter Breakdown Voltage ( $I_C=-5/5\text{ mA}$ , $I_E=0$ )	$V_{(BR)CEO}$	-50/50	-	V
Collect-Base Breakdown Voltage ( $I_C=-100/100\ \mu\text{A}$ , $I_E=0$ )	$V_{(BR)CBO}$	-50/50	-	V
Emitter-Base Breakdown Voltage ( $I_E=-100/100\ \mu\text{A}$ , $I_C=0$ )	$V_{(BR)EBO}$	-5.0/5.0	-	V
Collector Cutoff Current ( $V_{CB}=-50/50\text{ V}$ , $I_E=0$ )	$I_{CBO}$	-	-1.0/1.0	$\mu\text{A}$
Emitter Cutoff Current ( $V_{EB}=-3.0/3.0\text{Vdc}$ , $I_C=0$ )	$I_{EBO}$	-	-1.0/1.0	$\mu\text{A}$

**ELECTRICAL CHARACTERISTICS** ( $T_A=25^\circ\text{C}$  unless otherwise noted) (Continued)

Characteristics	Symbol	Min	TYP	Max	Unit
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**ON CHARACTERISTICS**

DC Current Gain* ( $I_C = -1.0/1.0\text{ A}, V_{CE} = -2.0/2.0\text{ V}$ )	$h_{FE} (1)$	100	-	400	-
DC Current Gain* ( $I_C = -20/20\text{ mA}, V_{CE} = -2.0/2.0\text{ V}$ )	$h_{FE} (2)$	100	-	-	-
Collector-Emitter Saturation Voltage ( $I_C = -2.0/2.0\text{ A}, I_B = -0.2/0.2\text{ A}$ )	$V_{CE(sat)}$	-	-	-0.5/0.5	V
Base-Emitter Saturation Voltage ( $I_C = -2.0/2.0\text{ A}, I_B = -0.2/0.2\text{ A}$ )	$V_{BE(sat)}$	-	-	-2.0/2.0	V
Transition Frequency ( $I_C = -0.1/0.1\text{ mA}, V_{CE} = -5.0/5.0\text{ V}, f = 10\text{ MHz}$ )	$f_T$	-	80	-	MHz
Collector Output Capacitance ( $I_E = 0, V_{CB} = 10\text{ V}, f = 1\text{ MHz}$ )	$C_{ob}$	-	45	-	pF

\* Pulse Test

## Typical Characteristics 2SB776

Fig.1 Static characteristics

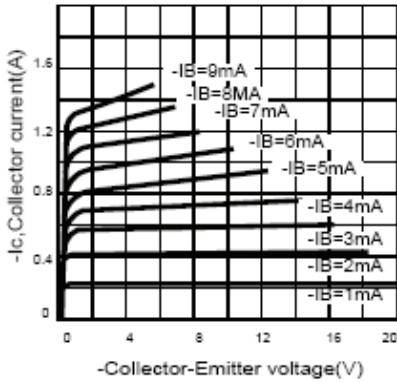


Fig.2 Derating curve of safe operating areas

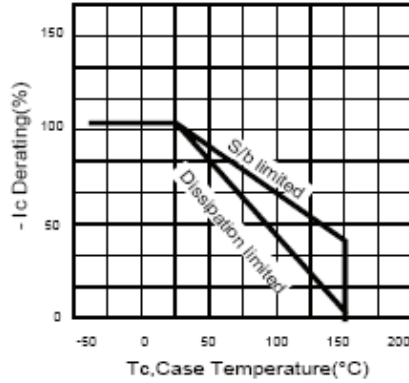


Fig.3 Power Derating

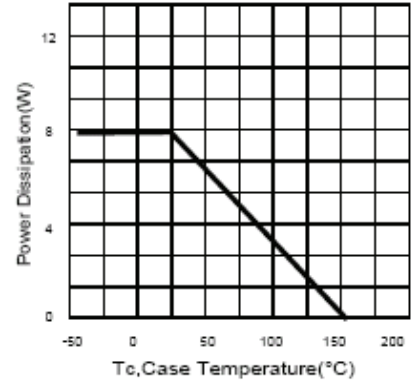


Fig.4 Collector Output capacitance

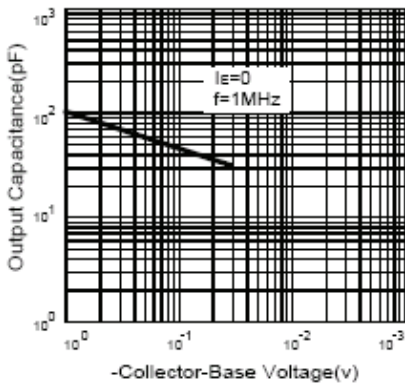


Fig.5 Current gain-bandwidth product

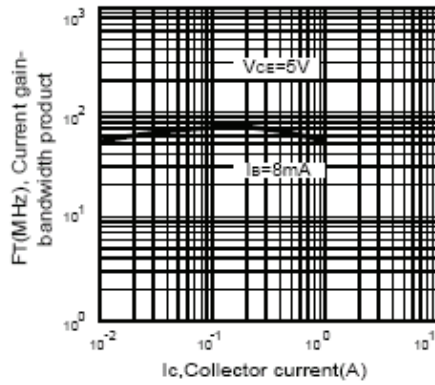


Fig.6 Safe operating area

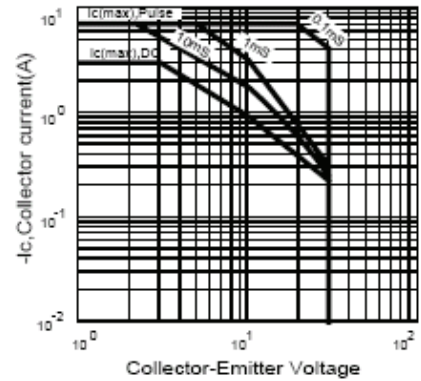


Fig.7 DC current gain

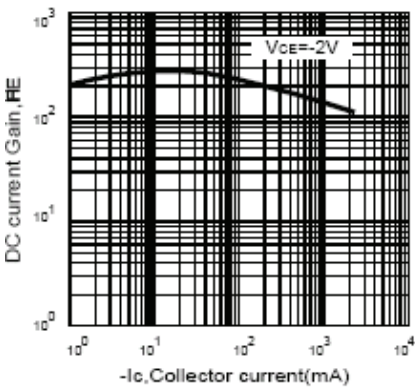
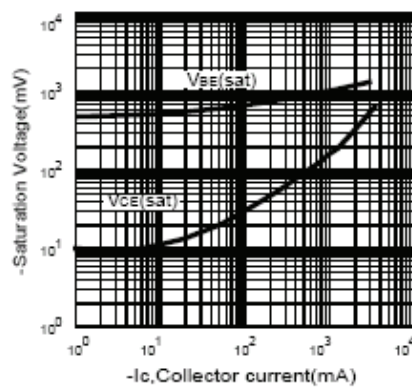


Fig.8 Saturation Voltage



# Typical Characteristics 2SD886

Fig.1 Static characteristics

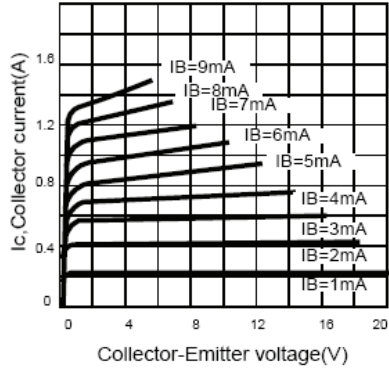


Fig.2 Derating curve of safe operating areas

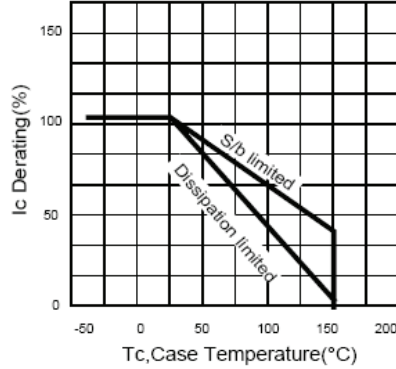


Fig.3 Power Derating

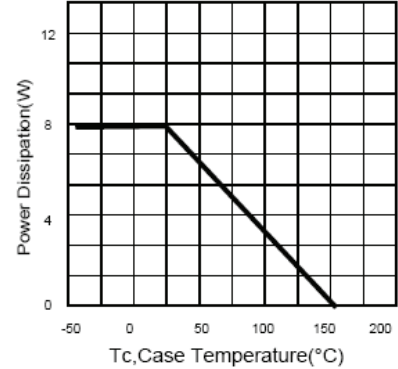


Fig.4 Collector Output capacitance

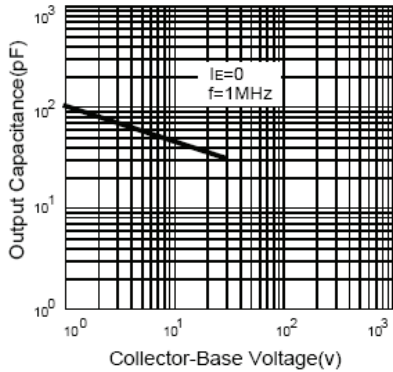


Fig.5 Current gain-bandwidth product

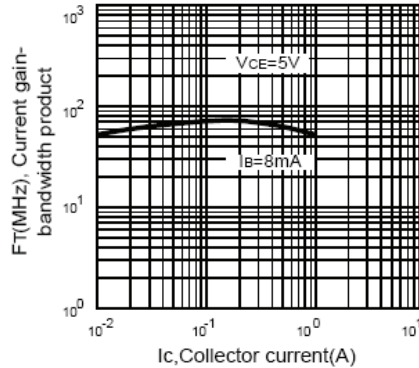


Fig.6 Safe operating area

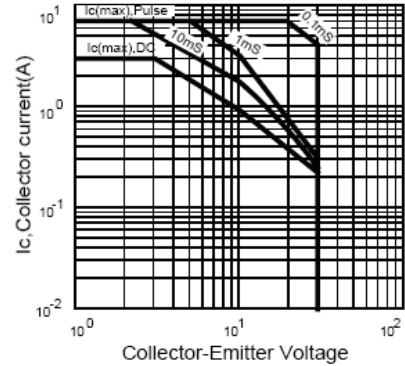


Fig.7 DC current gain

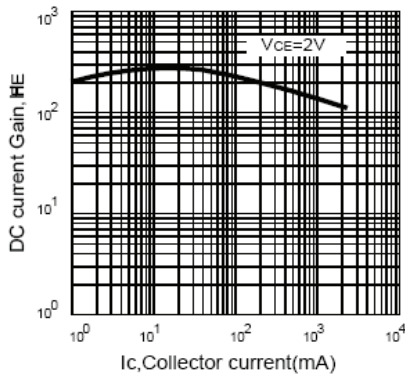
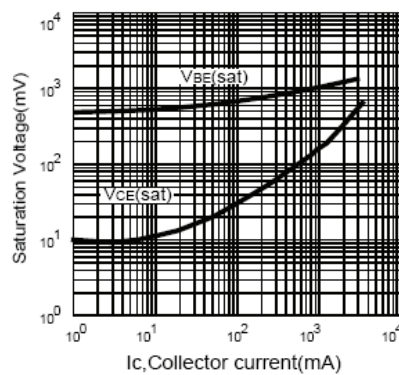
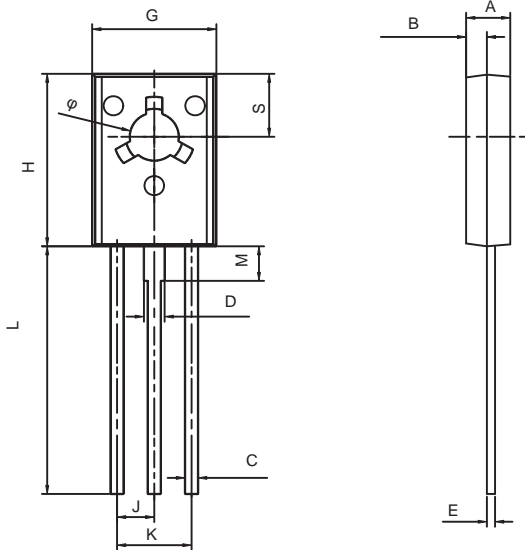


Fig.8 Saturation Voltage



TO-126 Outline Dimensions

unit:mm



TO-126		
Dim	Min	MAX
A	2.500	2.900
B	1.100	1.500
C	0.660	0.860
D	1.170	1.370
E	0.450	0.600
G	7.400	7.800
H	10.600	11.000
J	2.290TYP	
K	4.480	4.680
L	15.300	15.700
M	2.100	2.300
S	3.900	4.100
$\phi$	3.000	3.200