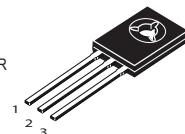


PNP/NPN Epitaxial Planar Transistors

 **Lead(Pb)-Free**

TO-126

1.EMITTER
2.COLLECTOR
3.BASE



ABSOLUTE MAXIMUM RATINGS (Ta=25°C)

Rating	Symbol	PNP/2SB772	NPN/2SD882	Unit
Collector-Emitter Voltage	V _{CEO}	-30	30	V _{dc}
Collector-Base Voltage	V _{CBO}	-40	40	V _{dc}
Emitter-Base Voltage	V _{EBO}	-5.0	5.0	V _{dc}
Collector Current (DC)	I _C (DC)	-3.0	3.0	A _{dc}
Collector Current (Pulse) ⁽¹⁾	I _C (Pulse)	-7.0	7.0	A _{dc}
Base Current	I _B (Pulse)	-0.6	0.6	A _{dc}
Total Device Dissipation Ta=25°C	P _D	1.0		W
Total Device Dissipation Tc=25°C	P _D	10		W
Junction Temperature	T _j	150		°C
Storage, Temperature	T _{stg}	-55 to +150		°C

Device Marking

2SB772=B772 , 2SD882=D882

ELECTRICAL CHARACTERISTICS

Characteristics	Symbol	Min	Max	Unit
Collector-Emitter Breakdown Voltage (I _C = -10/10 mA _{dc} , I _B =0)	V _{(BR)CEO}	-30/30	-	V _{dc}
Collector-Base Breakdown Voltage (I _C = -100/100 μA _{dc} , I _E =0)	V _{(BR)CBO}	-40/40	-	V _{dc}
Emitter-Base Breakdown Voltage (I _E = -100/100 μA _{dc} , I _C =0)	V _{(BR)EBO}	-5.0/5.0	-	V _{dc}
Collector Cutoff Current (V _{CE} = -30/30 V _{dc} , I _B =0)	I _{CEO}	-	-1.0/1.0	μA _{dc}
Collector Cutoff Current (V _{CB} = -40/40 V _{dc} , I _E =0)	I _{CBO}	-	-1.0/1.0	μA _{dc}
Emitter Cutoff Current (V _{EB} = -6.0/6.0V _{dc} , I _C =0)	I _{EBO}	-	-1.0/1.0	μA _{dc}

NOTE: 1.PW ≤350us, duty cycle ≤2%

2SB772
2SD882



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

Characteristics	Symbol	Min	TYP	Max	Unit
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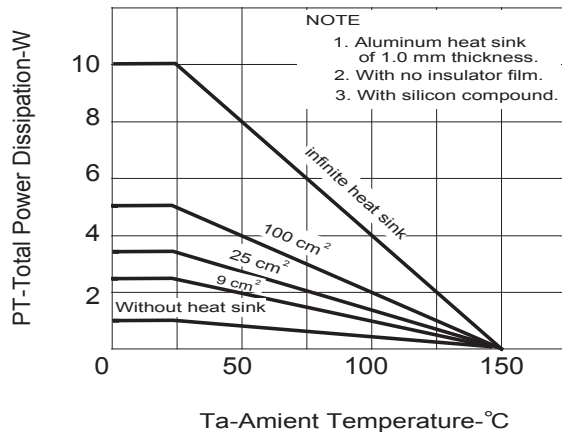
ON CHARACTERISTICS

DC Current Gain ($I_C = -1.0/1.0\text{ Adc}$, $V_{CE} = -2.0/2.0\text{ Vdc}$)	$h_{FE} (1)$	60	-	400	-
DC Current Gain ($I_C = -100/100\text{ mAdc}$, $V_{CE} = -2.0/2.0\text{ Vdc}$)	$h_{FE} (2)$	32	-	-	-
Collector-Emitter Saturation Voltage ($I_C = -2.0/2.0\text{ Adc}$, $I_B = -0.2/0.2\text{ mAdc}$)	$V_{CE(sat)}$	-	-	-0.5/0.5	Vdc
Base-Emitter Saturation Voltage ($I_C = -2.0/2.0\text{ Adc}$, $I_B = -0.2/0.2\text{ mAdc}$)	$V_{BE(sat)}$	-	-	-2.0/2.0	Vdc
Current-Gain-Bandwidth Product ($I_C = -0.1/0.1\text{ mAdc}$, $V_{CE} = -5.0/5.0\text{ Vdc}$, $f = 10\text{ MHz}$)	f_T	-	80/90	-	MHz

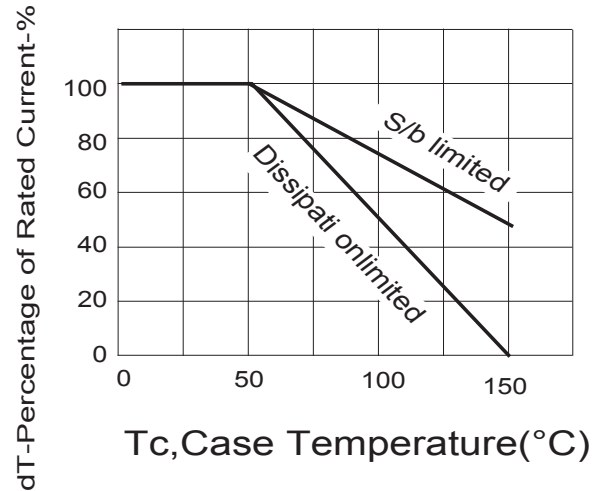
Classification of $h_{FE}(1)$

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

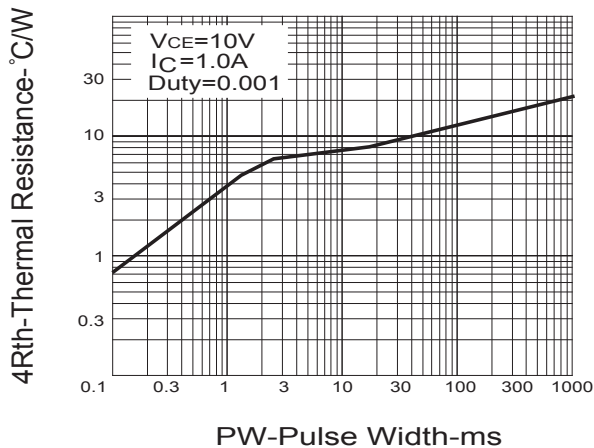
F1. Total Power Dissipation VS. Ambient Temperature



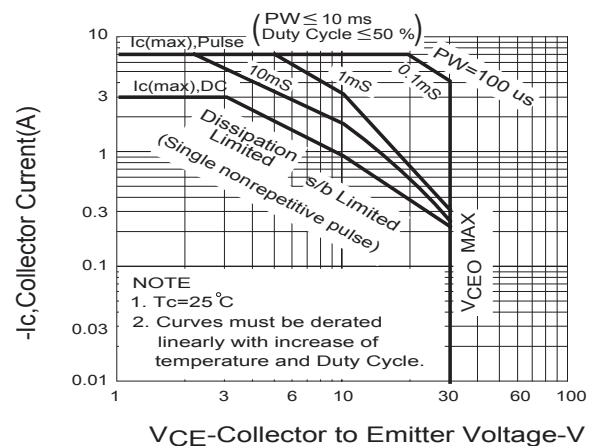
F.2 Derating Curve for All Types



F3. Thermal Resistance VS. Pulse Width

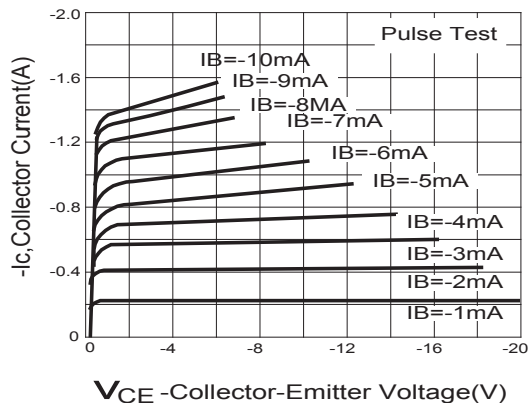


F4. Safe Operating Areas



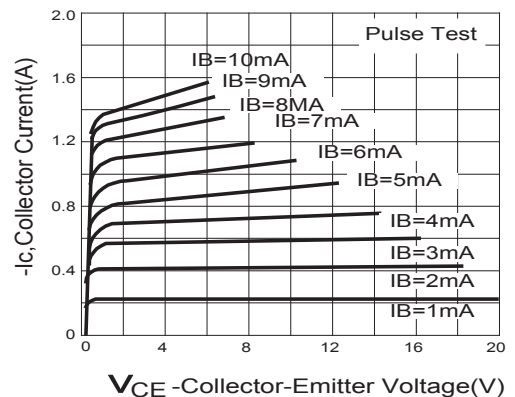
2SB772

F5. Collector Current VS. Collector To Emitter Voltage

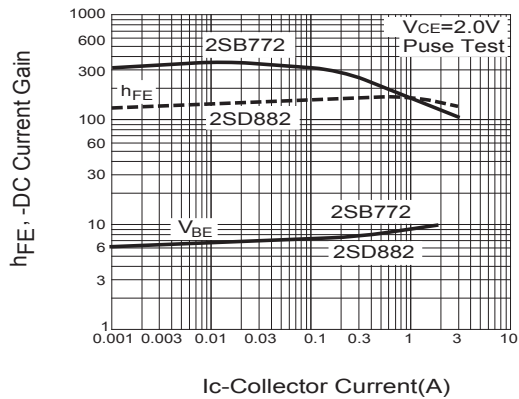


2SD882

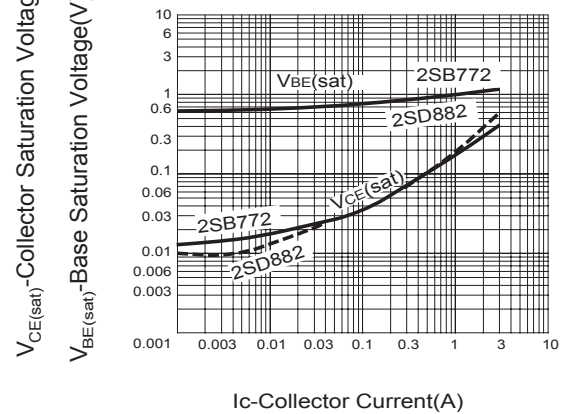
F6. Collector Current VS. Collector To Emitter Voltage



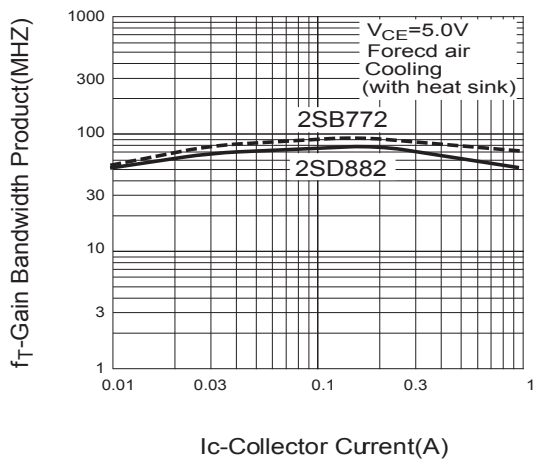
F7. h_{FE} , V_{BE} - I_C



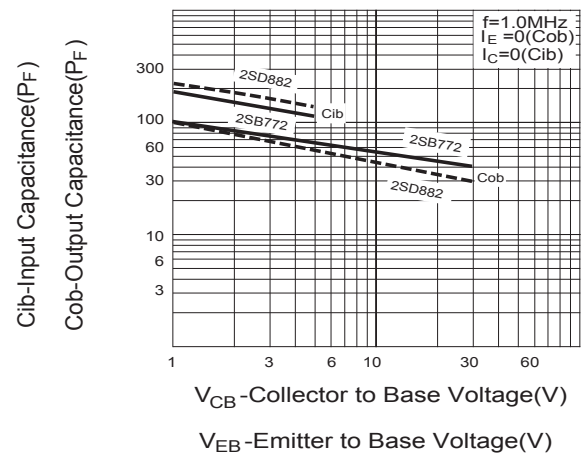
F8. $V_{CE(sat)}$, $V_{BE(sat)}$ - I_C



F9. f_T - I_C

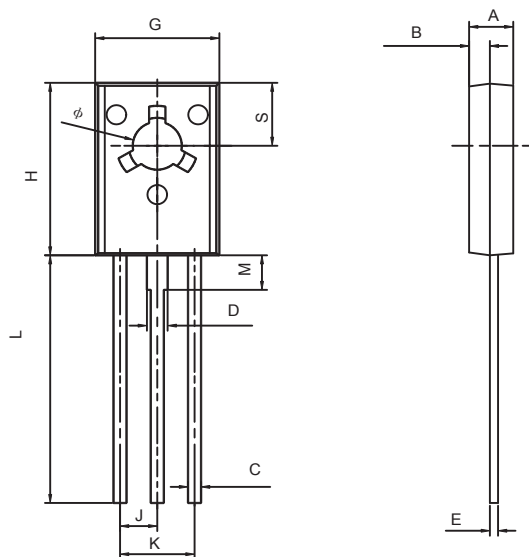


F10. C_{ob} - V_{CB} , C_{ib} - V_{CE}



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
φ	3.000	3.200