

# TO-126 Plastic-Encapsulate Transistors

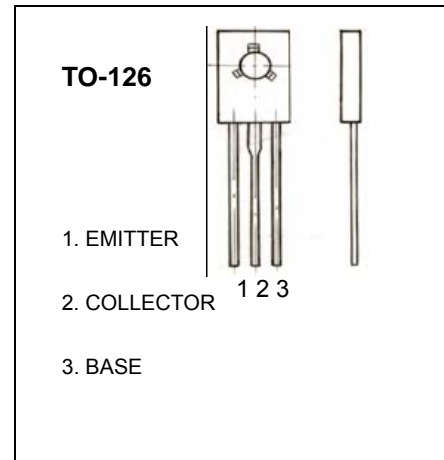
## D882 TRANSISTOR (NPN)

### FEATURES

Power dissipation

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

Symbol	Parameter	Value	Units
$V_{CBO}$	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
$P_D$	Collector Power Dissipation	1.25	W
$T_J$	Junction Temperature	150	$^\circ\text{C}$
$T_{stg}$	Storage Temperature	-55-150	$^\circ\text{C}$



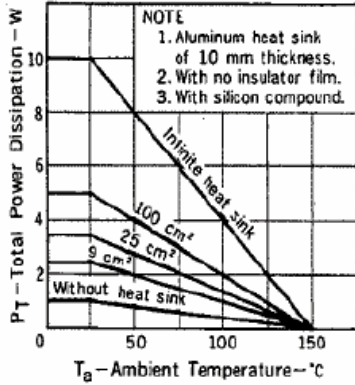
### ELECTRICAL CHARACTERISTICS ( $T_{amb}=25^\circ\text{C}$ unless otherwise specified)

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	$V(BR)_{EBO}$	$I_E = 100\mu\text{A}, I_C=0$	5			V
Collector cut-off current	$I_{CBO}$	$V_{CB}= 40\text{ V}, I_E=0$			1	$\mu\text{A}$
Collector cut-off current	$I_{CEO}$	$V_{CE}= 30\text{ V}, I_B=0$			10	$\mu\text{A}$
Emitter cut-off current	$I_{EBO}$	$V_{EB}= 6\text{ V}, I_C=0$			1	$\mu\text{A}$
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

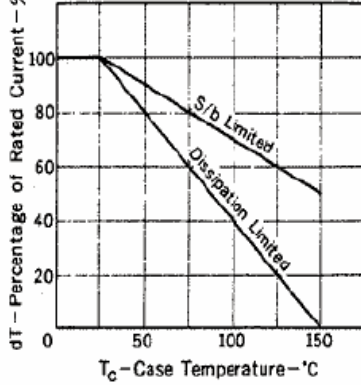
### CLASSIFICATION OF $h_{FE}$

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

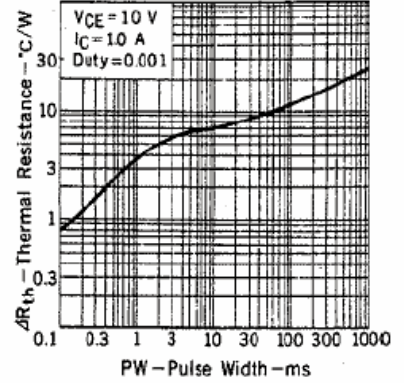
**TOTAL POWER DISSIPATION vs. AMBIENT TEMPERATURE**



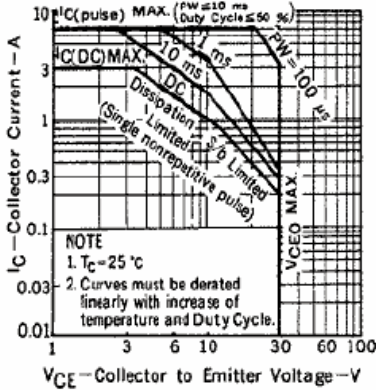
**DERATING CURVES FOR ALL TYPES**



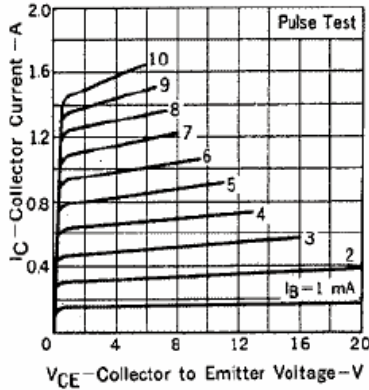
**THERMAL RESISTANCE vs. PULSE WIDTH**



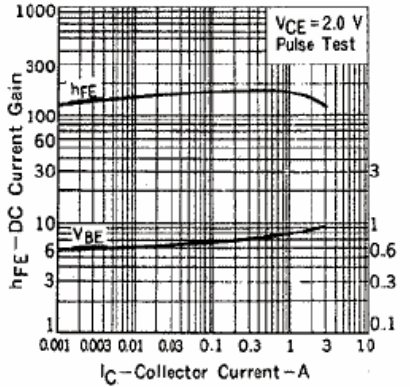
**SAFE OPERATING AREAS**



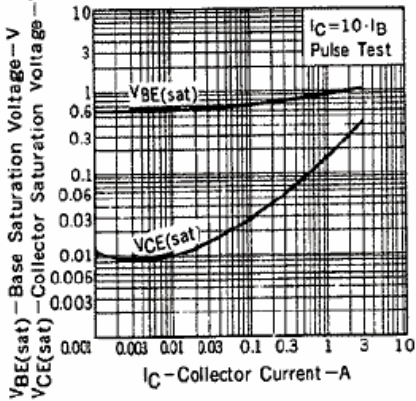
**COLLECTOR CURRENT vs. COLLECTOR TO EMITTER VOLTAGE**



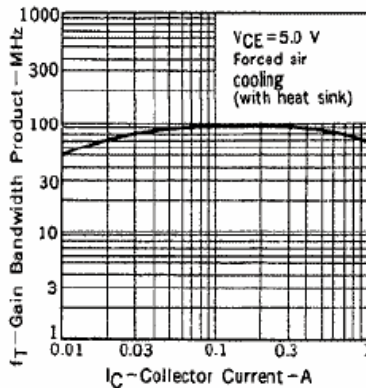
**DC CURRENT GAIN, BASE TO EMITTER VOLTAGE vs. COLLECTOR CURRENT**



**BASE AND COLLECTOR SATURATION VOLTAGE vs. COLLECTOR CURRENT**



**GAIN BANDWIDTH PRODUCT vs. COLLECTOR CURRENT**



**INPUT AND OUTPUT CAPACITANCE vs. REVERSE VOLTAGE**

