

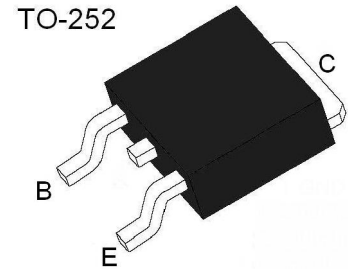
TO-252 Plastic-Encapsulate Transistors (NPN)

Feature

- Low saturation voltage
- High current output up to 3A
- Complement to 2SB772
- Marking: D882

Application

- Audio power amplifier
- DC-DC convertor
- Voltage regulator



Maximum Rating ($T_A=25^{\circ}\text{C}$ unless otherwise noted)

Parameter	Symbol	Value	Unit
Collector-Base Voltage	BV_{CBO}	40	V
Collector-Emitter Voltage	BV_{CEO}	30	V
Emitter-Base Voltage	BV_{EBO}	6	V
Collector Current	I_C	3	A
Collector Power Dissipation	P_C	1.25	W
Junction Temperature	T_j	150	$^{\circ}\text{C}$
Storage Temperature	T_{stg}	-55~150	$^{\circ}\text{C}$

Electrical Characteristics ($T_A=25^{\circ}\text{C}$ unless otherwise specified)

Parameter	Symbol	Conditions	Value			Unit
			Min	Typ	Max	
Collector-base breakdown voltage	BV_{CBO}	$I_C = 100\mu\text{A}, I_E = 0$	40			V
Collector-emitter breakdown voltage	BV_{CEO}	$I_C = 1\text{mA}, I_B = 0$	30			V
Emitter-base breakdown voltage	BV_{EBO}	$I_E = 100\mu\text{A}, I_C = 0$	6			V
Collector -base cut-off current	I_{CBO}	$V_{CB} = 40\text{V}, I_E = 0$			1	μA
Collector- emitter cut-off current	I_{CEO}	$V_{CE} = 30\text{V}, I_E = 0$			10	μA
Emitter- base cut-off current	I_{EBO}	$V_{EB} = 3\text{V}, I_C = 0$			1	μA
DC current gain*	h_{FE}	$V_{CE} = 2\text{V}, I_C = 20\text{mA}$	30			
		$V_{CE} = 2\text{V}, I_C = 1.0\text{A}$	60		400	
Collector-emitter saturation voltage*	$V_{CE(sat)}$	$I_C = 2.0\text{A}, I_B = 0.2\text{A}$			0.5	V
Base -emitter saturation voltage*	$V_{BE(sat)}$	$I_C = 2.0\text{A}, I_B = 0.2\text{A}$			1.5	V
Transition frequency	f_T	$V_{CE} = 5\text{V}, I_B = 0.1\text{A}$	50			MHz

Note *Pulse Test: $PW \leq 350\mu\text{s}$, Duty Cycle $\leq 2\%$

Classification of h_{FE}

Classification	Q	P	E
h_{FE}	100-200	160-320	200-400



Typical Characteristics

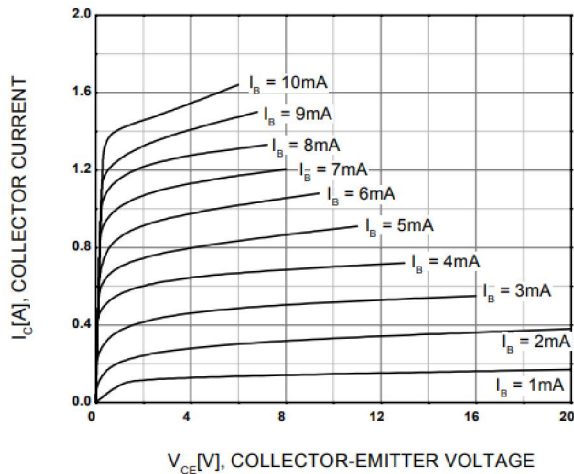


Figure 1. Static Characteristic

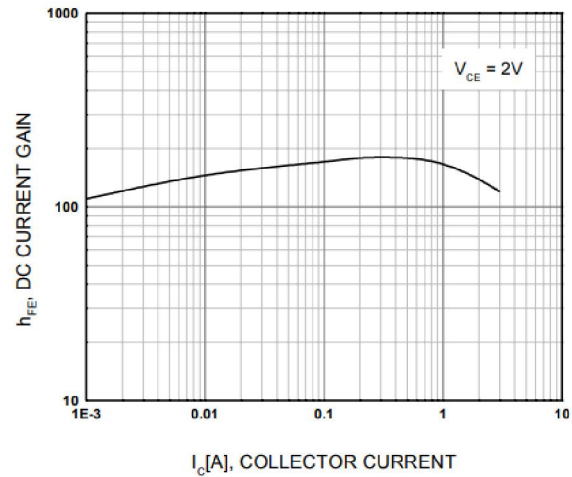


Figure 2. DC current Gain

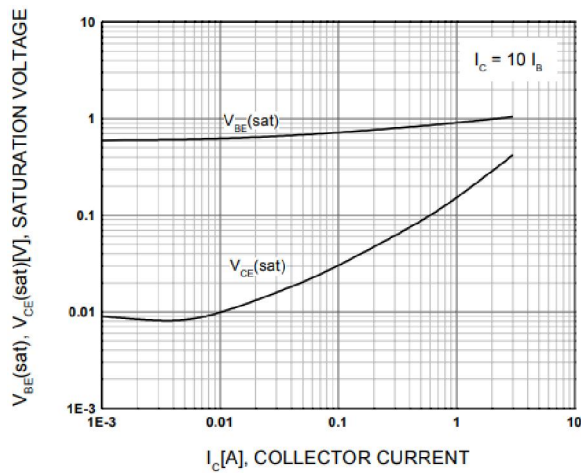


Figure 3. Base-Emitter Saturation Voltage
Collector-Emitter Saturation Voltage

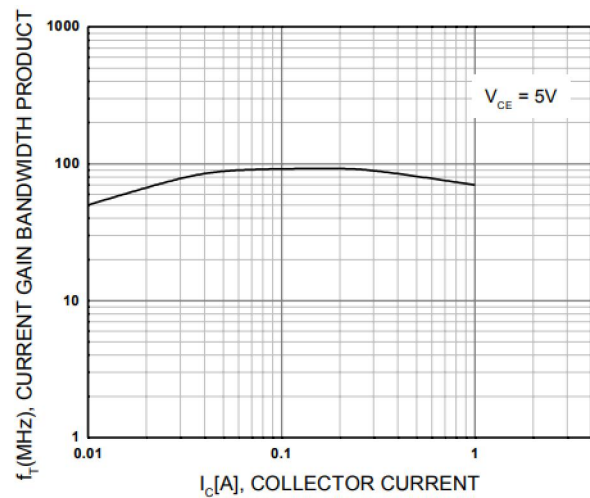


Figure 4. Current Gain Bandwidth Product

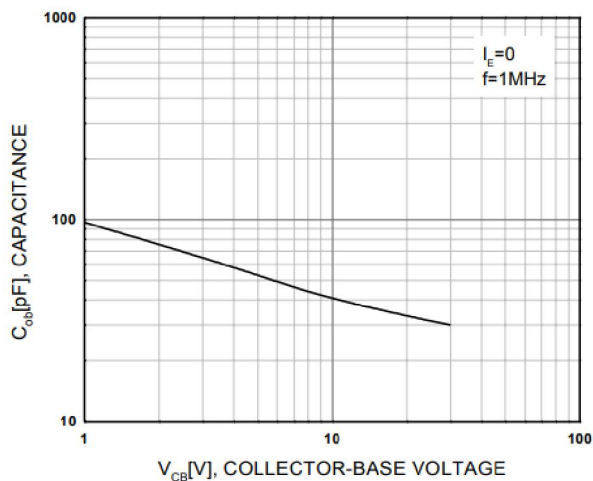


Figure 5. Collector Output Capacitance

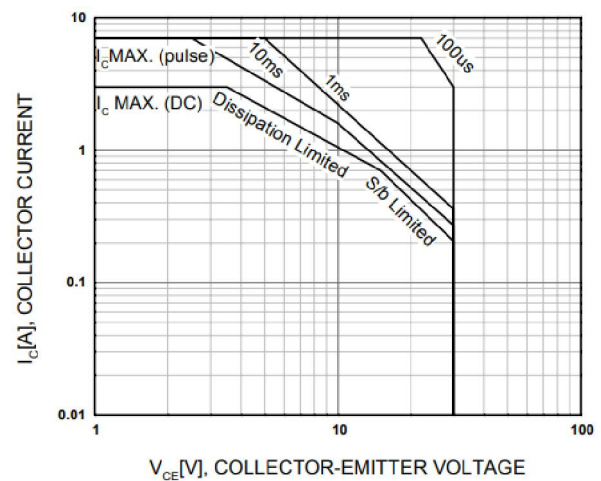
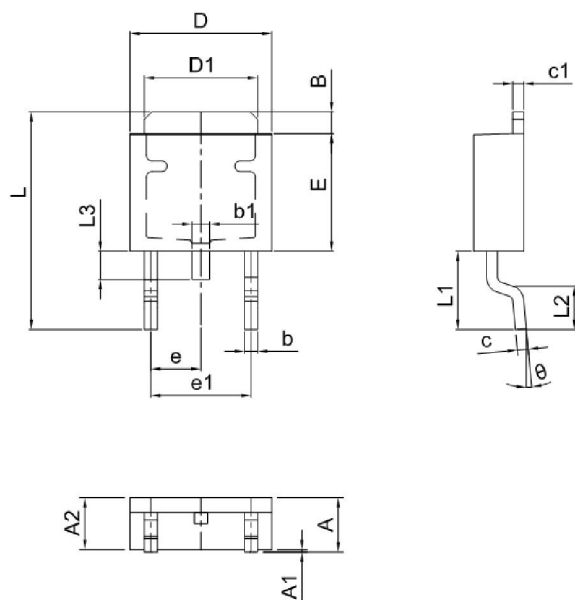


Figure 6. Safe Operating Area

Package Dimensions



Symbol	Millimeter		Inches	
	Min.	Max.	Min.	Max.
A	2.20	2.50	0.087	0.098
A1	0.00	0.12	0.000	0.005
A2	2.20	2.40	0.087	0.094
B	1.20	1.60	0.047	0.063
b	0.50	0.70	0.020	0.028
b1	0.70	0.90	0.028	0.035
c	0.40	0.60	0.016	0.024
c1	0.40	0.60	0.016	0.024
D	6.35	6.65	0.250	0.262
D1	5.20	5.40	0.205	0.213
E	5.40	5.70	0.213	0.224
e	2.20	2.40	0.087	0.094
e1	4.40	4.80	0.173	0.189
L	9.60	10.20	0.378	0.402
L1	2.70	3.10	0.106	0.122
L2	1.40	1.80	0.055	0.071
L3	0.90	1.50	0.035	0.059
θ	0°	8°	0°	8°