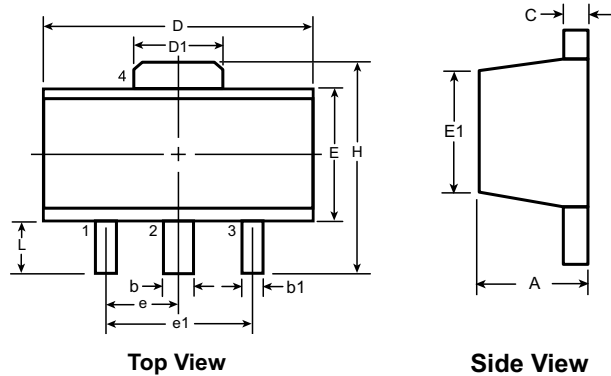


■ Features

- Excellent hFE linearity and high hFE
hFE = 60 to 400 ($V_{CE} = 2\text{ V}$, $I_C = 3\text{ A}$)

SOT-89 PACKAGE OUTLINE



Symbol	A	b	b1	C	D	D1	E	E1	e	e1	H	L	
Dimensions (mm)	MIN	1.40	0.44	0.36	0.3	4.40	1.50	2.29	2.00 [†]	1.50	3.00	3.94	0.89
	NOM	-	-	-	-	-	-	-	-	BSC	BSC	-	-
	MAX	1.60	0.56	0.48	0.5	4.60	1.75	2.60	2.29	-	-	4.25	1.20

Dimensions in mm

Absolute Maximum Ratings ($T_a = 25\text{ }^\circ\text{C}$)

Parameter	Symbol	Value	Unit
Collector to Base Voltage	V_{CBO}	40	V
Collector to Emitter Voltage	V_{CEO}	30	V
Emitter to Base Voltage	V_{EBO}	5	V
Collector Current	I_C	3	A
Peak Collector Current (t = 10 ms)	I_{CP}	7	A
Total power dissipation ($T_a = 25\text{ }^\circ\text{C}$)	P_{tot}	1	W
Total power dissipation ($T_c = 25\text{ }^\circ\text{C}$)	P_{tot}	10	W
Junction Temperature	T_j	150	$^\circ\text{C}$
Storage Temperature Range	T_{stg}	- 55 to + 150	$^\circ\text{C}$

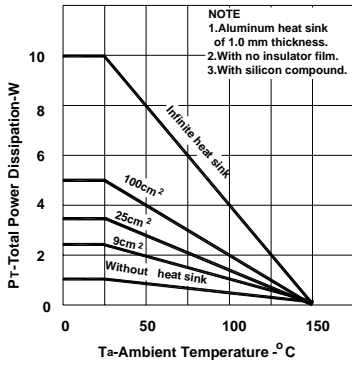
D882

Characteristics at $T_a = 25\text{ }^\circ\text{C}$

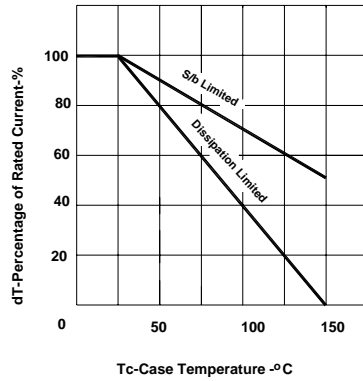
Parameter	Symbol	Min.	Typ.	Max.	Unit
DC Current Gain at $V_{CE} = 2\text{ V}$, $I_C = 20\text{ mA}$	h_{FE}	30	-	-	-
at $V_{CE} = 2\text{ V}$, $I_C = 1\text{ A}$	h_{FE}	60	-	120	-
Current Gain Group R	h_{FE}	100	-	200	-
Q	h_{FE}	160	-	320	-
P	h_{FE}	200	-	400	-
E	h_{FE}	-	-	-	-
Collector Base Cutoff Current at $V_{CB} = 30\text{ V}$	I_{CBO}	-	-	1	μA
Emitter Base Cutoff Current at $V_{EB} = 3\text{ V}$	I_{EBO}	-	-	1	μA
Collector Emitter Saturation Voltage at $I_C = 2\text{ A}$, $I_B = 0.2\text{ A}$	$V_{CE(sat)}$	-	-	0.5	V
Base Emitter Saturation Voltage at $I_C = 2\text{ A}$, $I_B = 0.2\text{ A}$	$V_{BE(sat)}$	-	-	2	V
Gain Bandwidth Product at $V_{CE} = 5\text{ V}$, $I_C = 0.1\text{ A}$	f_T	-	90	-	MHz
Output Capacitance at $V_{CB} = 10\text{ V}$, $f = 1\text{ MHz}$	C_{ob}	-	45	-	pF

RATING AND CHARACTERISTIC CURVES (D882)

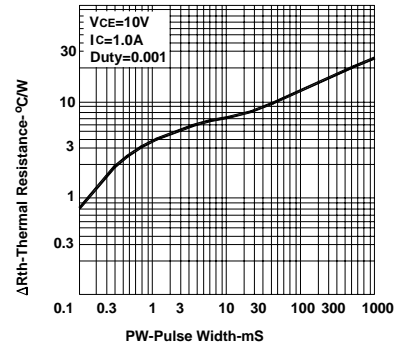
TOTAL POWER DISSIPATION vs. AMBIENT TEMPERATURE



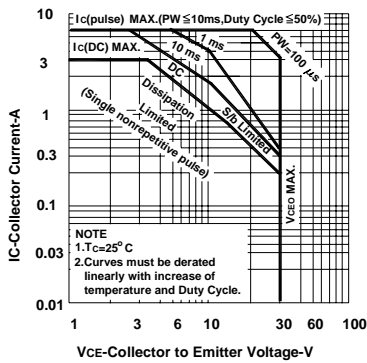
DERATING CURVES FOR ALL TYPES



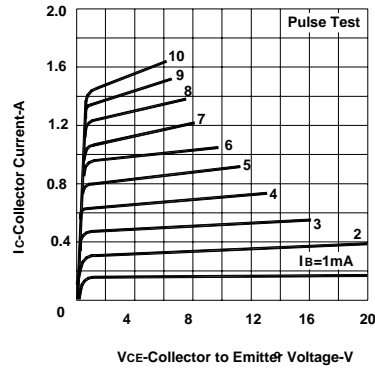
THERMAL RESISTANCE vs. PULSE WIDTH



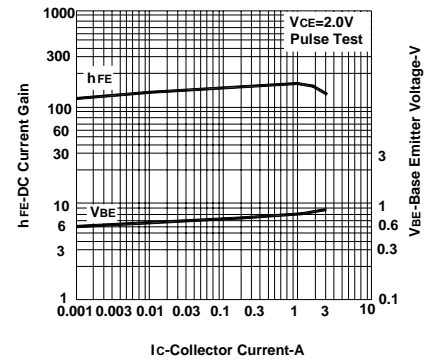
SAFE OPERATING AREAS



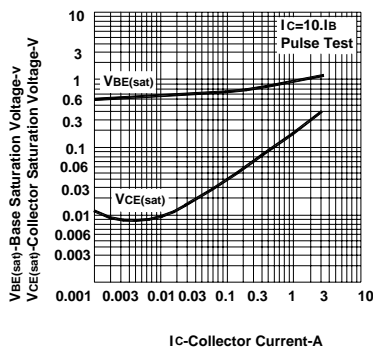
COLLECTOR CURRENT vs. COLLECTOR TO EMITTER VOLTAGE



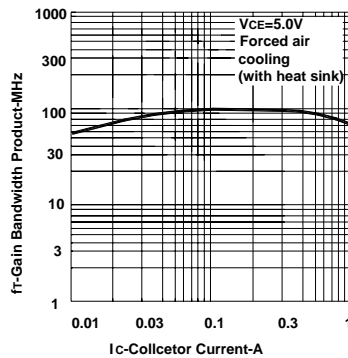
DC CURRENT GAIN, BASE TO EMITTER VOLTAGE vs. COLLECTOR CURRENT



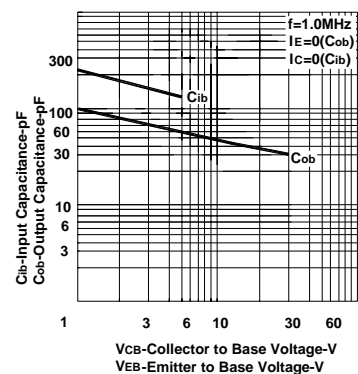
BASE AND COLLECTOR SATURATION VOLTAGE vs. COLLECTOR CURRENT



GAIN BANDWIDTH PRODUCT vs. COLLECTOR CURRENT



INPUT AND OUTPUT CAPACITANCE vs. REVERSE VOLTAGE



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