

TO-92 Plastic-Encapsulate Transistors

AV2001 TRANSISTOR (NPN)

FEATURES

Power dissipation

$$P_{CM} : 0.6 \text{ W (Tamb=25)}$$

Collector current

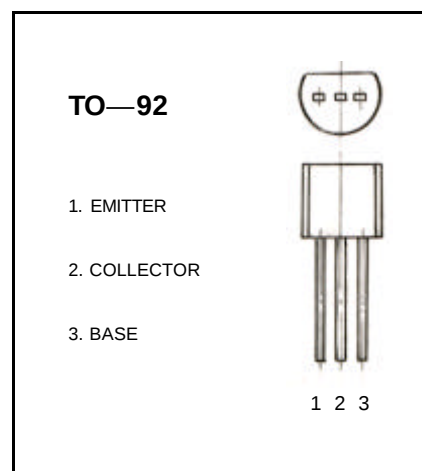
$$I_{CM} : 0.7 \text{ A}$$

Collector-base voltage

$$V_{(BR)CBO} : 30 \text{ V}$$

Operating and storage junction temperature range

$$T_J, T_{stg} : -55 \text{ to } +150$$



ELECTRICAL CHARACTERISTICS (Tamb=25 unless otherwise specified)

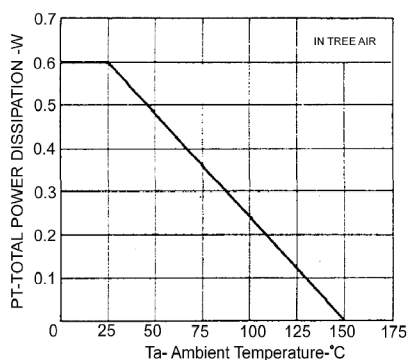
Parameter	Symbol	Test conditions	MIN	MAX	UNIT
Collector-base breakdown voltage	$V_{(BR)CBO}$	$I_C=100\mu A, I_E=0$	30		V
Collector-emitter breakdown voltage	$V_{(BR)CEO}$	$I_C=10mA, I_B=0$	25		V
Emitter-base breakdown voltage	$V_{(BR)EBO}$	$I_E=100\mu A, I_C=0$	5		V
Collector cut-off current	I_{CBO}	$V_{CB}=30 \text{ V}, I_E=0$		0.1	μA
Collector cut-off current	I_{CEO}	$V_{CE}=20 \text{ V}, I_B=0$		0.1	μA
Emitter cut-off current	I_{EBO}	$V_{EB}=5 \text{ V}, I_C=0$		0.1	μA
DC current gain	h_{FE}	$V_{CE}=1V, I_C=100mA$	90	400	
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C=700mA, I_B=70mA$		0.6	V
Base-emitter saturation voltage	$V_{BE(sat)}$	$I_C=700mA, I_B=70mA$		1.2	V
Transition frequency	f_T	$V_{CE}=6V, I_C=10mA$ $f=30MHz$	50		MHz

CLASSIFICATION OF h_{FE}

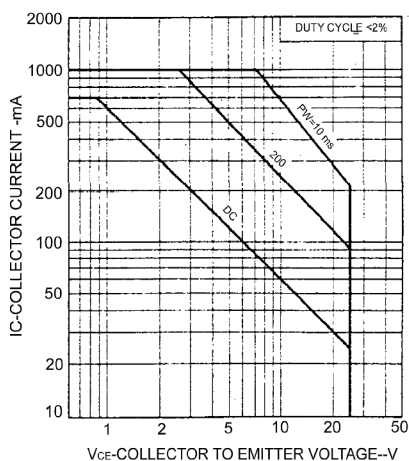
Rank	M	L	K
Range	90-180	135-270	200-400

Typical Characteristics

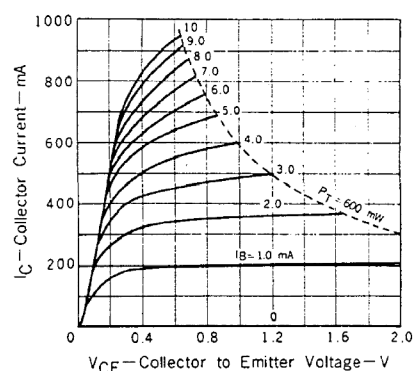
TOTAL POWER DISSIPATION VS
AMBIENT TEMPERATURE



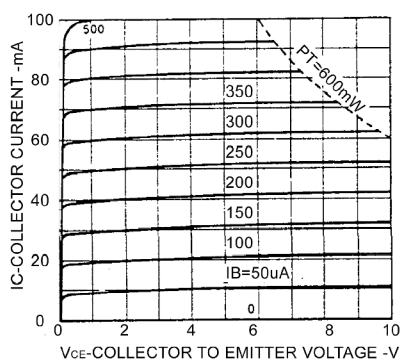
SAFE OPERATING AREA



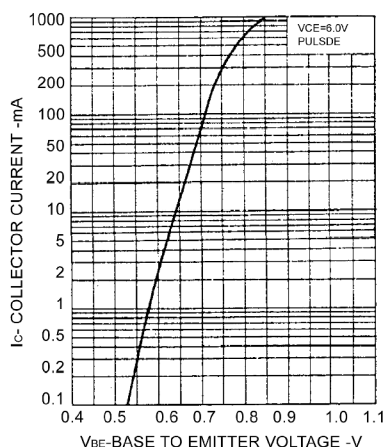
COLLECTOR CURRENT vs.
COLLECTOR TO EMITTER VOLTAGE



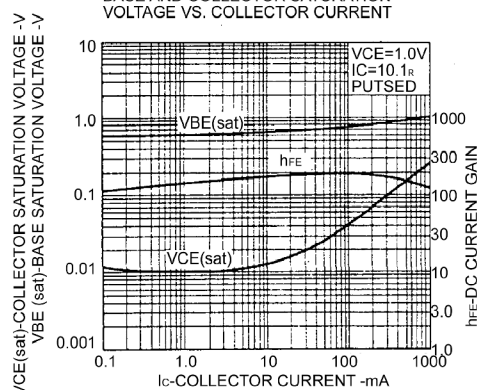
COLLECTOR CURRENT vs.
COLLECTOR TO EMITTER VOLTAGE



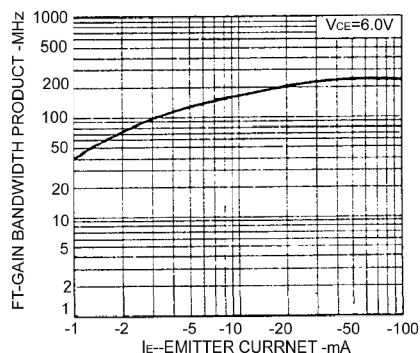
COLLECTOR CURRENT vs.
BASE TO EMITTER VOLTAGE



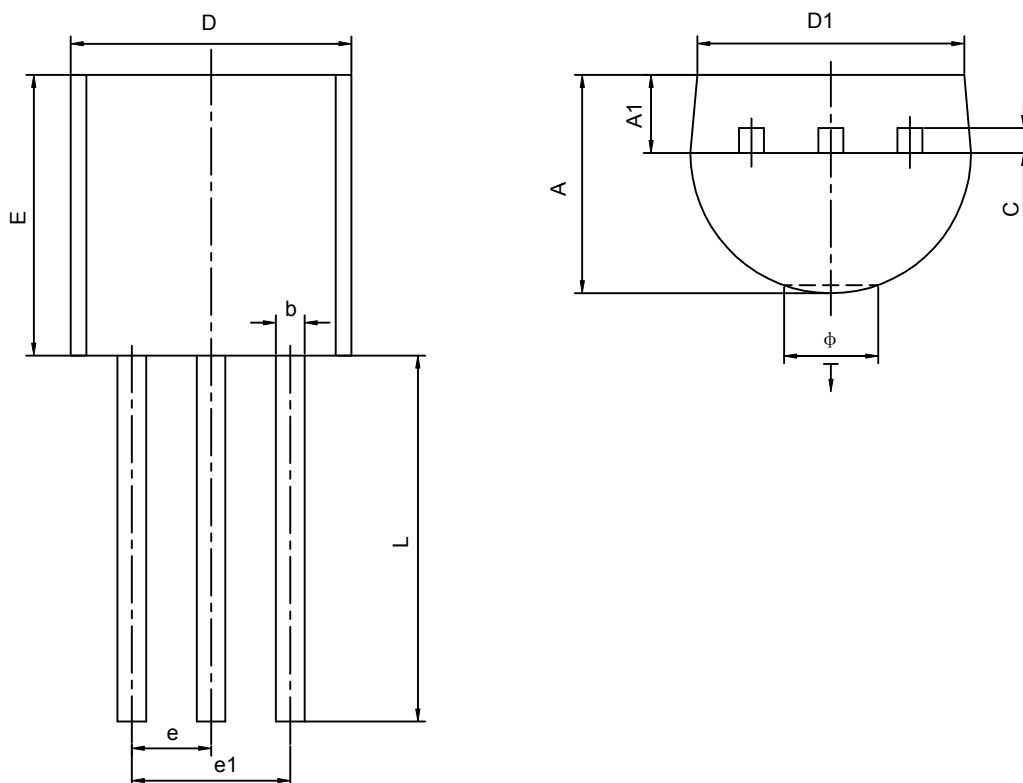
DC CURRENT GAIN,
BASE AND COLLECTOR SATURATION
VOLTAGE VS. COLLECTOR CURRENT



GAIN BANDWIDTH PRODUCT
vs. EMITTER CURRENT



TO-92 PACKAGE OUTLINE DIMENSIONS



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min	Max	Min	Max
A	3.300	3.700	0.130	0.146
A1	1.100	1.400	0.043	0.055
b	0.380	0.550	0.015	0.022
c	0.360	0.510	0.014	0.020
D	4.400	4.700	0.173	0.185
D1	3.430		0.135	
E	4.300	4.700	0.169	0.185
e	1.270TYP		0.050TYP	
e1	2.440	2.640	0.096	0.104
L	14.100	14.500	0.555	0.571
ϕ		1.600		0.063
$\downarrow$	0.000	0.380	0.000	0.015