TO-92 Plastic-Encapsulate Transistors

AV1959 TRANSISTOR（ NPN ）

FEATURES

Power dissipation

P_{CM} : 0.5 W（Tamb=25℃）

Collector current

I_{CM} : 0.5 A

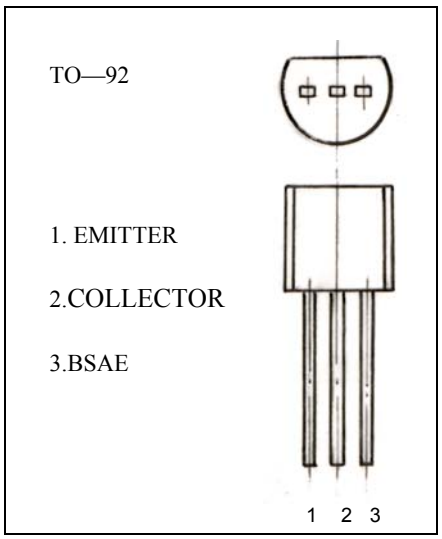
Collector-base voltage

$V_{(BR)CBO}$: 35 V

Operating and storage junction temperature range

T_{stg}: -55℃ to +150℃

T_j : 150℃

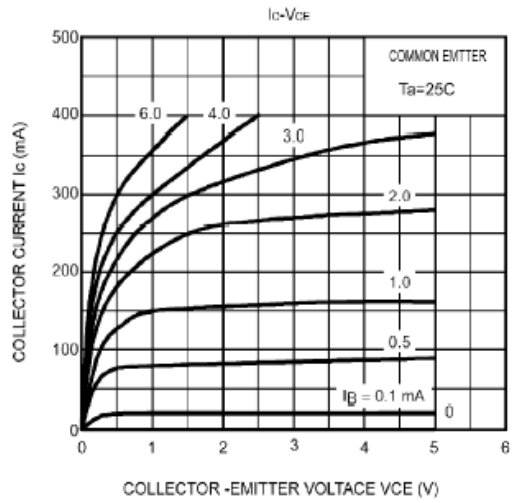


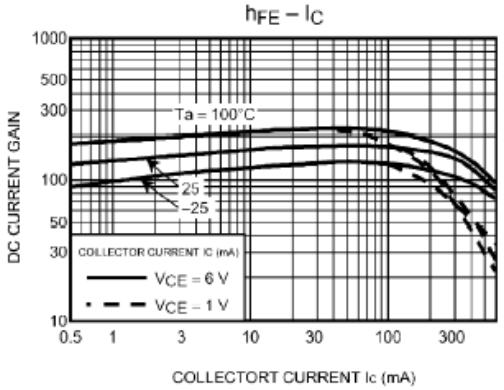
ELECTRICAL CHARACTERISTICS（Tamb=25℃ unless otherwise specified）

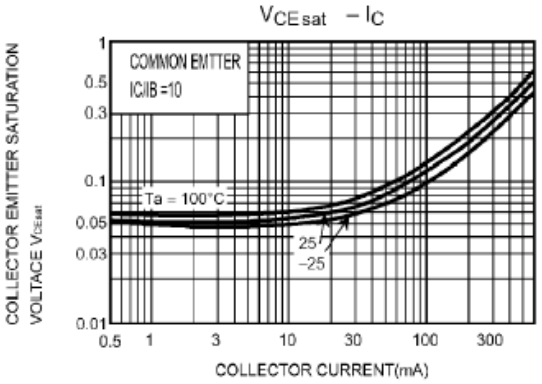
Parameter	Symbol	Test conditions	MIN	TYP	MAX	UNIT
Collector-base breakdown voltage	$V(BR)_{CBO}$	Ic= 100 μA， I_E=0	35			V
Collector-emitter breakdown voltage	$V(BR)_{CEO}$	Ic= 0. 1 mA， I_B=0	30			V
Emitter-base breakdown voltage	$V(BR)_{EBO}$	I_E= 100 μA， I_C=0	5			V
Collector cut-off current	I_{CBO}	V_{CB}=35 V， I_E=0			0. 1	μA
Emitter cut-off current	I_{EBO}	V_{EB}= 5 V， I_C=0			0.1	μA
DC current gain	$H_{FE(1)}$	V_{CE}=1V, $I_{C=0}$	70		400	
	$H_{FE(2)}$	V_{CE}= 6V, I_C= 400mA	25			
Collector-emitter saturation voltage	V_{CE}(sat)	I_C= 100mA, I_B=10mA			0.25	V
Base-emitter voltage	V_{BE}	V_{CE}=1V, I_C=100mA			1.0	V
Transition frequency	f_T	V_{CE}= 6 V, I_C= 20mA	200			MHz

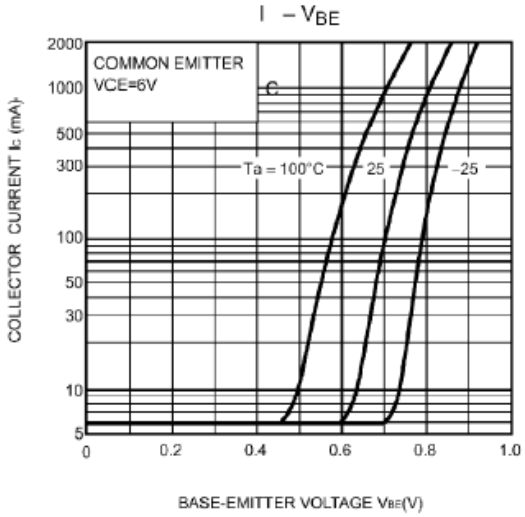
CLASSIFICATION OF H_{FE}

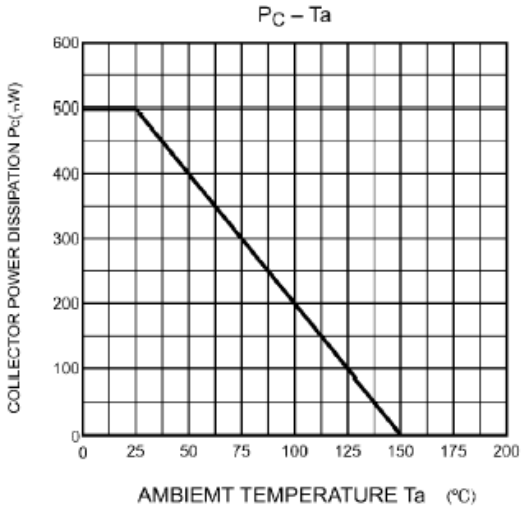
Rank		O	Y	GR
Range	$H_{FE(1)}$	70-140	120-240	200-400
	$H_{FE(2)}$	25(min)	40(min)	

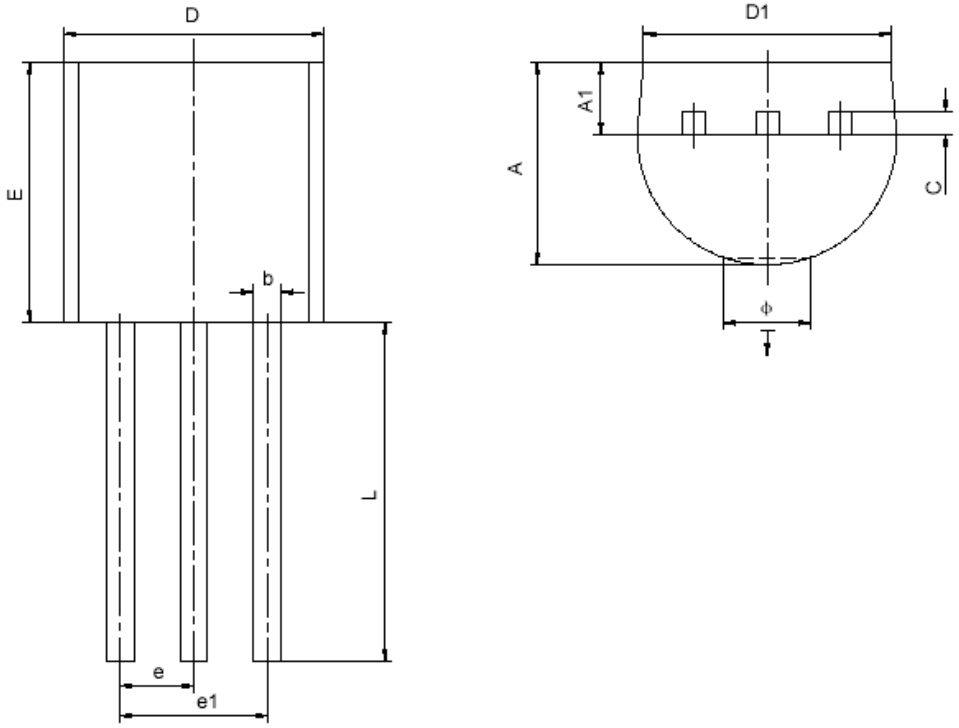

IC-VCE
COMMON EMITTER
Ta=25C
6.0
4.0
3.0
2.0
1.0
0.5
IB = 0.1 mA
0
COLLECTOR CURRENT IC (mA)
COLLECTOR -EMITTER VOLTACE VCE (V)


hFE – IC
Ta = 100°C
25
–25
COLLECTOR CURRENT IC (mA)
VCE = 6 V
VCE = 1 V
DC CURRENT GAIN
COLLECTORT CURRENT IC (mA)


VCE sat – IC
COMMON EMITTER
IC/IB =10
Ta = 100°C
25
–25
COLLECTOR EMITTER SATURATION VOLTACE VCE sat
COLLECTOR CURRENT(mA)


I – VBE
COMMON EMITTER
VCE=6V
Ta = 100°C
25
–25
COLLECTOR CURRENT IC (mA)
BASE-EMITTER VOLTAGE VBE(V)


PC – Ta
COLLECTOR POWER DISSIPATION PC(mW)
AMBIEMT TEMPERATURE Ta (°C)



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
Ö		1.600		0.063
T	0.000	0.380	0.000	0.015