2SB1424 TRANSISTOR (PNP)

1.BASE
2.COLLECTOR
3.EMITTER

SOT-89

FEATURES

- Excellent DC current gain
- Low collector-emitter saturation voltage
- Complement the 2SD2150

MAXIMUM RATINGS (T_a=25℃ unless otherwise noted)

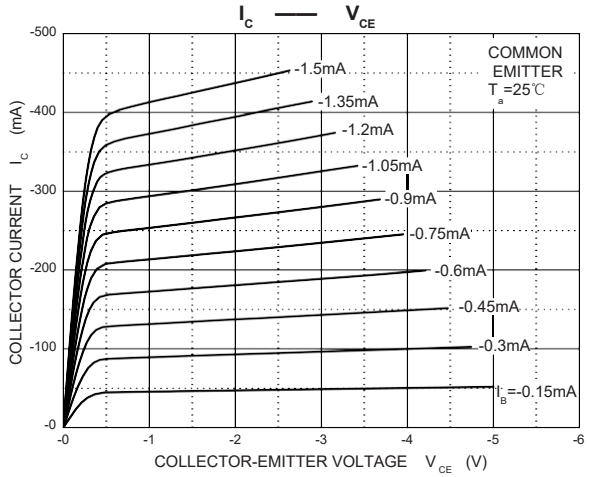
Symbol	Parameter	Value	Unit
V_{CBO}	Collector-Base Voltage	-20	V
V_{CEO}	Collector-Emitter Voltage	-20	V
V_{EBO}	Emitter-Base Voltage	-6	V
I_C	Collector Current	-3	A
P_C	Collector Power Dissipation	500	mW
$R_{\theta JA}$	Thermal Resistance From Junction To Ambient	250	℃/W
T_J,T_{stg}	Operation Junction and Storage Temperature Range	-55~+150	℃

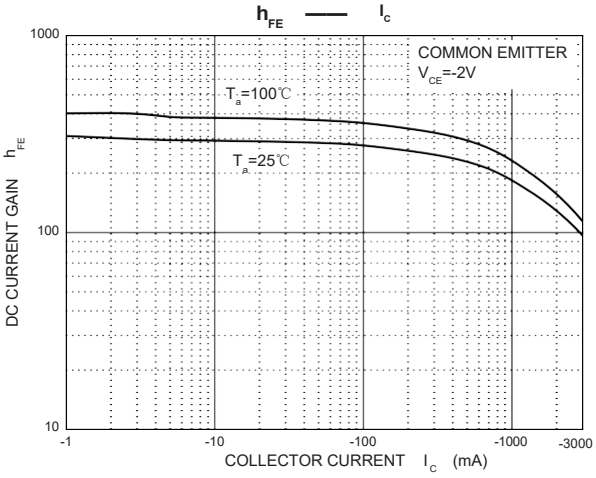
ELECTRICAL CHARACTERISTICS (T_a=25℃ unless otherwise specified)

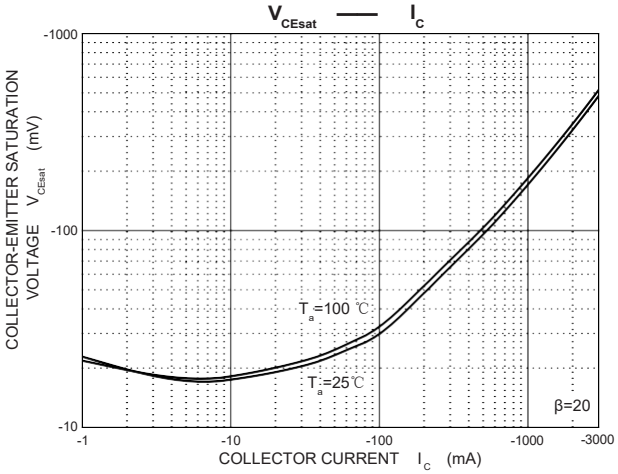
Parameter	Symbol	Test conditions	Min	Typ	Max	Unit
Collector-base breakdown voltage	$V_{(BR)CBO}$	I_C=-50μA,I_E=0	-20			V
Collector-emitter breakdown voltage	$V_{(BR)CEO}$	I_C=-1mA,I_B=0	-20			V
Emitter-base breakdown voltage	$V_{(BR)EBO}$	I_E=-50μA,I_C=0	-6			V
Collector cut-off current	I_{CBO}	V_{CB}=-20V,I_E=0			-0.1	μA
Emitter cut-off current	I_{EBO}	V_{EB}=-5V,I_C=0			-0.1	μA
DC current gain	h_{FE}	V_{CE}=-2V, I_C=-0.1A	120		390	
Collector-emitter saturation voltage	$V_{CE(sat)}$	I_C=-2A,I_B=-0.1A			-0.5	V
Collector output capacitance	C_{ob}	V_{CB}=-10V,I_E=0, f=1MHz		35		pF
Transition frequency	f_T	V_{CE}=-2V,I_C=-0.5A, f=100MHz		240		MHz

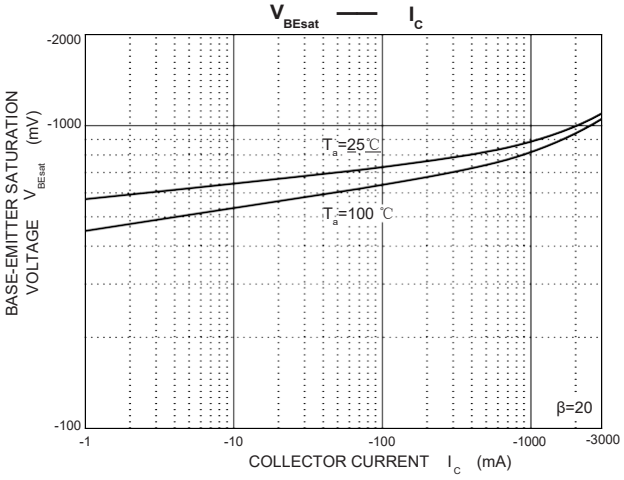
CLASSIFICATION OF h_{FE}

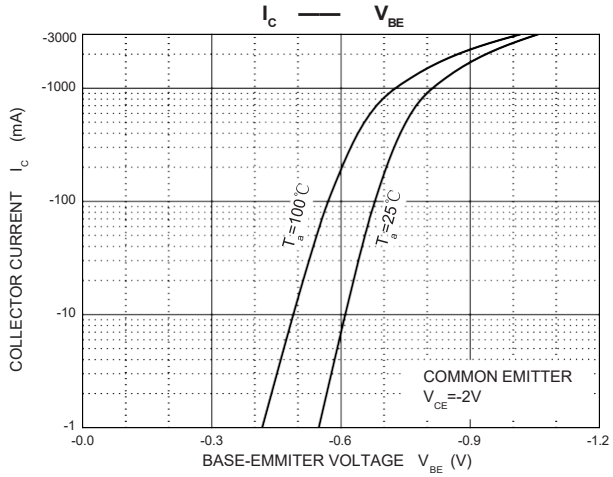
RANK	Q	R
RANGE	120－270	180－390
MARKING	AEQ	AER

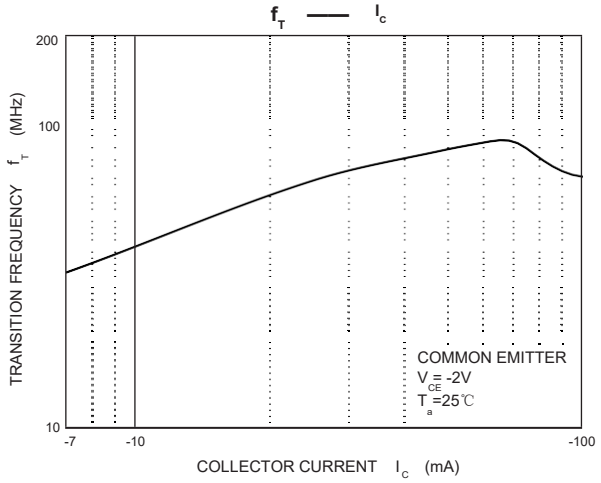

I_C — V_{CE}
COMMON EMITTER
T_a=25℃
-1.5mA
-1.35mA
-1.2mA
-1.05mA
-0.9mA
-0.75mA
-0.6mA
-0.45mA
-0.3mA
I_B=-0.15mA
COLLECTOR CURRENT I_C (mA)
COLLECTOR-EMITTER VOLTAGE V_{CE} (V)

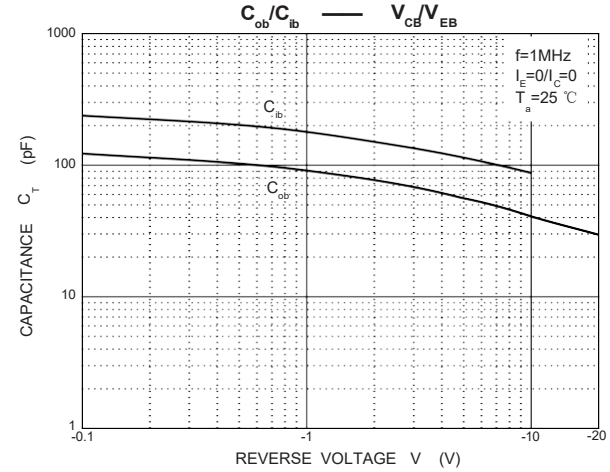

h_{FE} — I_C
COMMON EMITTER
V_{CE}=-2V
T_a=100℃
T_a=25℃
DC CURRENT GAIN h_{FE}
COLLECTOR CURRENT I_C (mA)

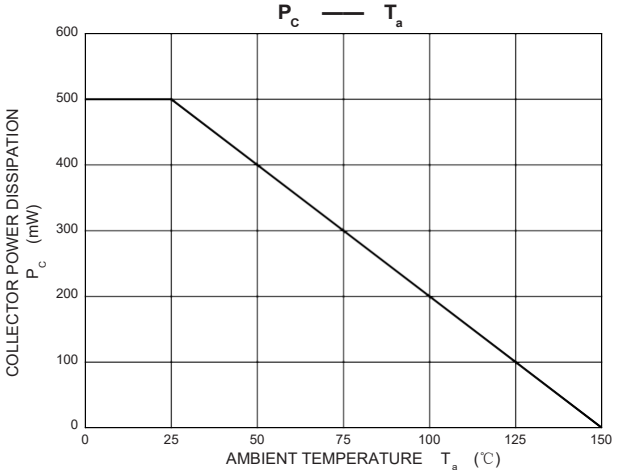

V_{CEsat} — I_C
T_a=100 ℃
T_a=25 ℃
β=20
COLLECTOR-EMITTER SATURATION VOLTAGE V_{CEsat} (mV)
COLLECTOR CURRENT I_C (mA)


V_{BEsat} — I_C
T_a=25℃
T_a=100 ℃
β=20
BASE-EMITTER SATURATION VOLTAGE V_{BEsat} (mV)
COLLECTOR CURRENT I_C (mA)


I_C — V_{BE}
T_a=100℃
T_a=25℃
COMMON EMITTER
V_{CE}=-2V
COLLECTOR CURRENT I_C (mA)
BASE-EMMITER VOLTAGE V_{BE} (V)


f_T — I_C
COMMON EMITTER
V_{CE} = -2V
T_a=25℃
TRANSITION FREQUENCY f_T (MHz)
COLLECTOR CURRENT I_C (mA)


C_{ob}/C_{ib} — V_{CB}/V_{EB}
f=1MHz
I_E=0/I_C=0
T_a=25 ℃
C_{ib}
C_{ob}
CAPACITANCE C_T (pF)
REVERSE VOLTAGE V (V)


P_C — T_a
COLLECTOR POWER DISSIPATION P_C (mW)
AMBIENT TEMPERATURE T_a (℃)