2SB1568 TRANSISTOR (PNP)


TO-220C


TO-220F

1.BASE

2.COLLECTOR

3.EMITTER

FEATURES

- Available inTO-220CF package
- Darling connection provides high dc current gain (h_{FE})
- Damper diode is incorporated
- Built in resistors between base and emitter
- Power amplifler

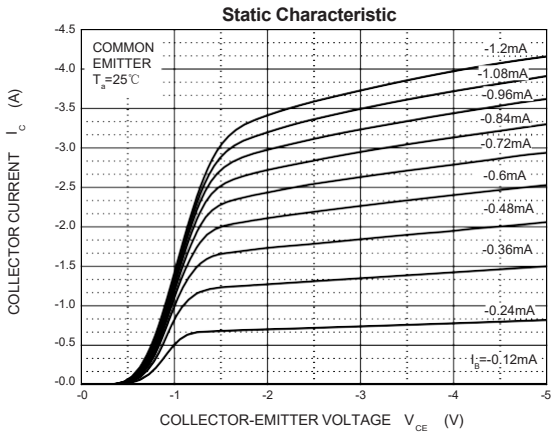
MAXIMUM RATINGS (T_a=25℃ unless otherwise noted)

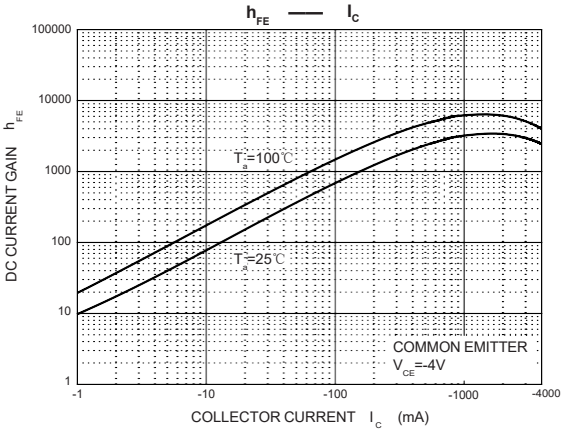
Symbol	Parameter	Value	Unit
V_{CBO}	Collector-Base Voltage	-80	V
V_{CEO}	Collector-Emitter Voltage	-80	V
V_{EBO}	Emitter-Base Voltage	-7	V
I_C	Collector Current	-4	A
P_C	Collector Power Dissipation	2	W
$R_{\theta JA}$	Thermal Resistance from Junction to Ambient	62.5	℃/W
T_J,T_{stg}	Operation Junction and Storage Temperature Range	-55~+150	℃

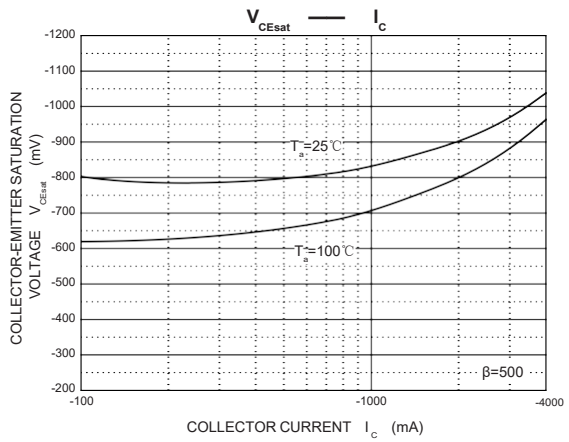
ELECTRICAL CHARACTERISTICS (T_a=25℃ unless otherwise specified)

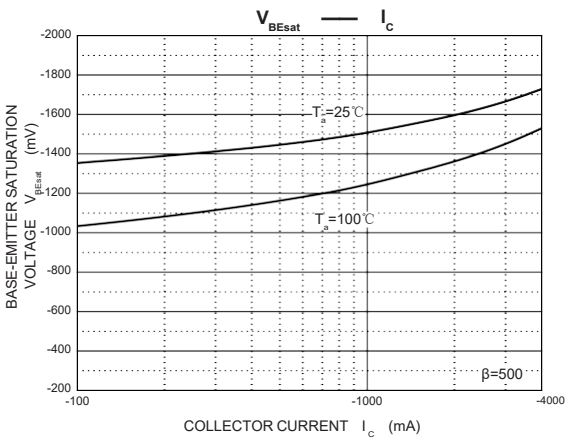
Parameter	Symbol	Test conditions	Min	Typ	Max	Unit
Collector-base breakdown voltag	$V_{(BR)CBO}$	I_C=-50μA, I_E=0	-80			V
Collector-emitter breakdown voltage	$V_{(BR)CEO}$	I_C=-1mA,I_B=0	-80			V
Emitter-base breakdown voltage	$V_{(BR)EBO}$	I_E=-5m A,I_C=0	-7			V
Collector cut-off current	I_{CBO}	V_{CB}=-80V,I_E=0			-100	μA
Collector cut-off current	I_{CEO}	V_{CE}=-80V,I_B=0			-100	μA
Emitter cut-off current	I_{EBO}	V_{EB}=-5V,I_C=0			-3	mA
DC current gain	$h_{FE(1)}$*	V_{CE}=-4V, I_C=-3A	1000		10000	
	$h_{FE(2)}$*	V_{CE}=-3V, I_C=-2A	1000		10000	
Collector-emitter saturation voltage	$V_{CE(sat)}$*	I_C=-2A,I_B=-4mA			-1.5	V
		I_C=-3A,I_B=-12mA			-1.5	V
Collector output capacitance	C_{ob}	V_{CB}=-10V,I_E=0, f=1MHz		55		pF
Transition frequency	f_T	V_{CE}=-5V,I_C=-1A,		15		MHz

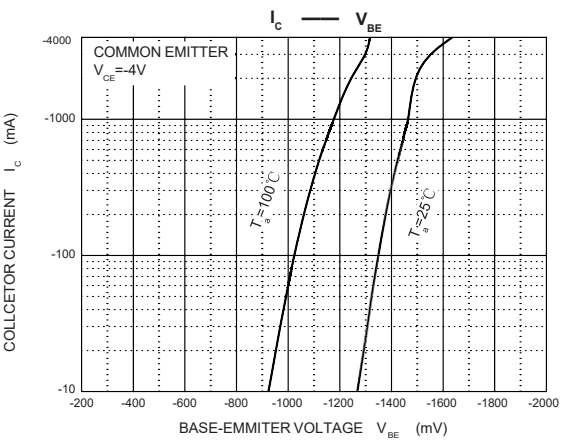
*Pulse test: pulse width ≤300μs, duty cycle≤ 2.0%.

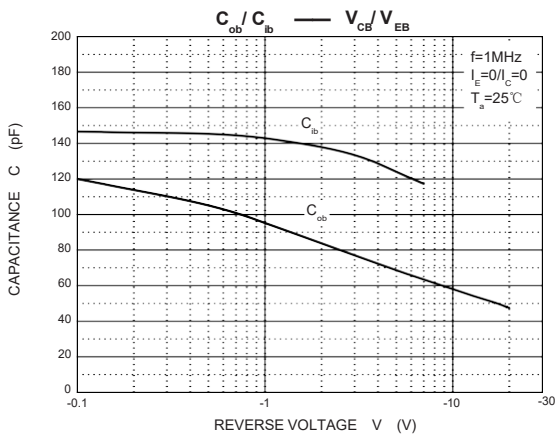

Static Characteristic
COMMON EMITTER
Ta=25℃
-1.2mA
-1.08mA
-0.96mA
-0.84mA
-0.72mA
-0.6mA
-0.48mA
-0.36mA
-0.24mA
IB=-0.12mA
COLLECTOR CURRENT IC (A)
COLLECTOR-EMITTER VOLTAGE VCE (V)

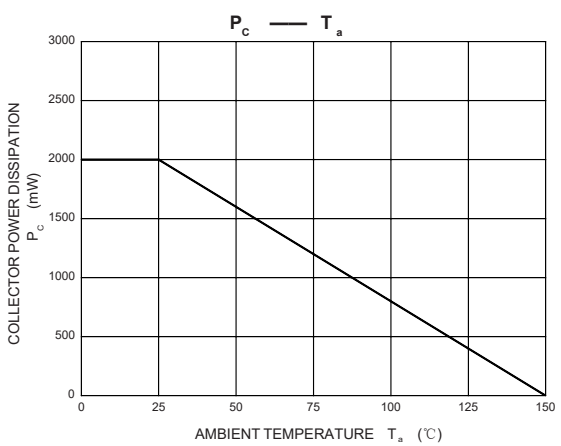

hFE — IC
DC CURRENT GAIN hFE
Ta=100℃
Ta=25℃
COMMON EMITTER
VCE=-4V
COLLECTOR CURRENT IC (mA)


VCEsat — IC
COLLECTOR-EMITTER SATURATION VOLTAGE VCEsat (mV)
Ta=25℃
Ta=100℃
β=500
COLLECTOR CURRENT IC (mA)


VBEsat — IC
BASE-EMITTER SATURATION VOLTAGE VBEsat (mV)
Ta=25℃
Ta=100℃
β=500
COLLECTOR CURRENT IC (mA)


IC — VBE
COMMON EMITTER
VCE=-4V
Ta=100℃
Ta=25℃
COLLCETOR CURRENT IC (mA)
BASE-EMMITER VOLTAGE VBE (mV)


Cob / Cib — VCB / VEB
f=1MHz
IE=0/IC=0
Ta=25℃
Cib
Cob
CAPACITANCE C (pF)
REVERSE VOLTAGE V (V)


PC — Ta
COLLECTOR POWER DISSIPATION PC (mW)
AMBIENT TEMPERATURE Ta (℃)