2SA1952 TRANSISTOR (PNP)

FEATURES

- -5A,-60V Middle Power Transistor
- Suitable for Middle Power Driver
- Complementary NPN Types:2SC5103
- Low Collector-emitter saturation voltage

APPLICATIONS

- Middle Power Driver
- LED Driver
- Power Supply

1.BASE
2.COLLECTOR
3.EMITTER

TO-252

compound device,

MAXIMUM RATINGS (T_a=25℃ unless otherwise noted)

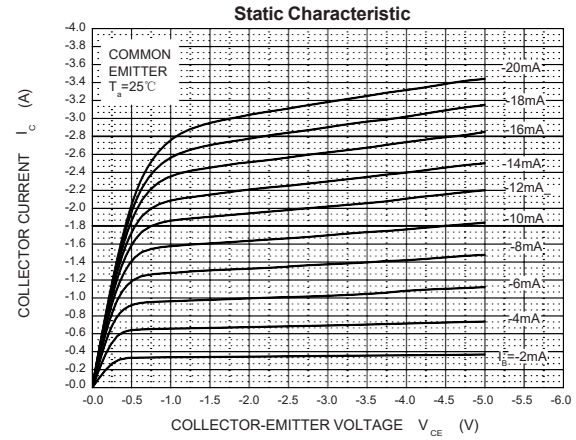
Parameter	Symbol	Limit	Unit
Collector-Base Voltage	V_{CBO}	-100	V
Collector-Emitter Voltage	V_{CEO}	-60	V
Emitter-Base Voltage	V_{EBO}	-5	V
Collector Current	I_C	-5	A
Collector Power Dissipation	P_C (1)	1	W
Thermal Resistance From Junction To Ambient	$R_{\theta JA}$	125	℃/W
Operation Junction and Storage Temperature Range	T_J,T_{stg}	-55~+150	℃

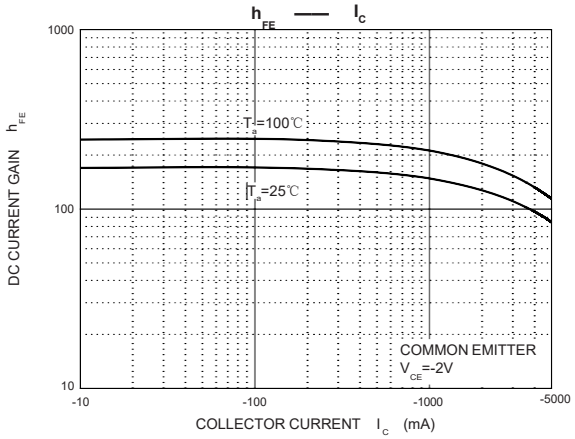
(1). Mounted on a substrate

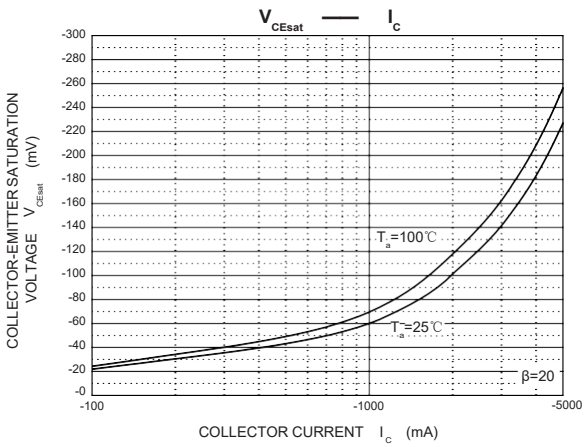
Parameter	Symbol	Test conditions	Min	Typ	Max	Unit
Collector-base breakdown voltage	$V_{(BR)CBO}$	I_C=-50μA,I_E=0	-100			V
Collector-emitter breakdown voltage	$V_{(BR)CEO}$	I_C=-1mA,I_B=0	-60			V
Emitter-base breakdown voltage	$V_{(BR)EBO}$	I_E=-50μA,I_C=0	-5			V
Collector cut-off current	I_{CBO}	V_{CB}=-100V,I_E=0			-10	μA
Emitter cut-off current	I_{EBO}	V_{EB}=-5V,I_C=0			-10	μA
DC current gain	$h_{FE(1)}$*	V_{CE}=-2V, I_C=-1A	120		270	
	$h_{FE(2)}$*	V_{CE}=-2V, I_C=-3A	40			
Collector-emitter saturation voltage	$V_{CE(sat)}$*	I_C=-3A,I_B=-0.15A			-0.3	V
		I_C=-4A,I_B=-0.2A			-0.5	V
Base-emitter saturation voltage	$V_{BE(sat)}$*	I_C=-3A,I_B=-0.15A			-1.2	V
		I_C=-4A,I_B=-0.2A			-1.5	V
Collector output capacitance	C_{ob}	V_{CB}=-10V,I_E=0, f=1MHz		130		pF
Transition frequency	f_T*	V_{CE}=-10V,I_C=-0.5A, f=30MHz		80		MHz
Turn-on time	t_{on}	V_{CC}=-30V, I_C=-3A,I_{B1}=-I_{B2}=150mA			0.3	μs
Storage time	t_S				1.5	μs
Fall time	t_f				0.3	μs

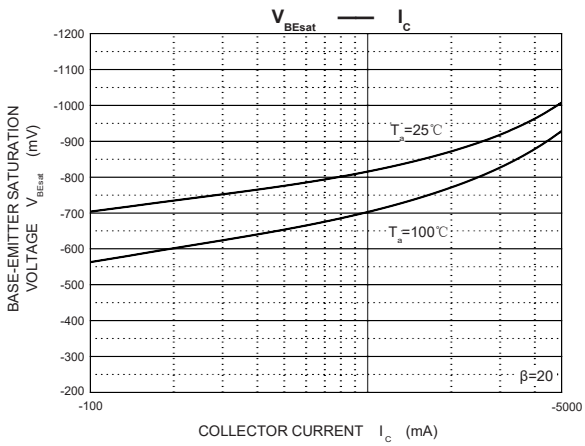
Notes:

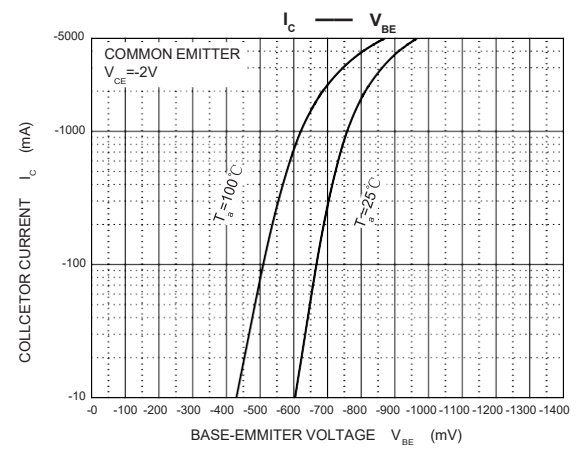
1. Pulse Test : Pulse Width≤300μs, duty cycle ≤2%.

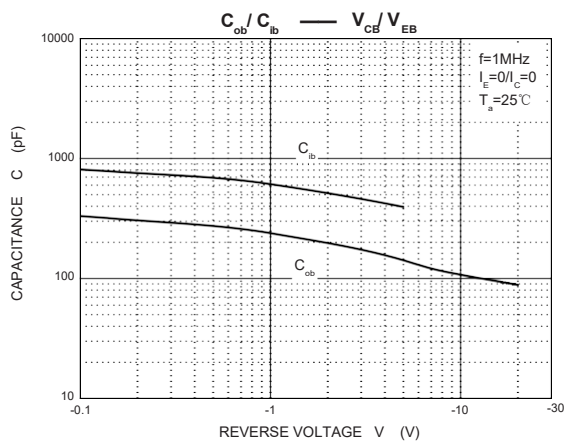

Static Characteristic
COMMON EMITTER
Ta=25℃
-20mA
-18mA
-16mA
-14mA
-12mA
-10mA
-8mA
-6mA
-4mA
IB=-2mA
COLLECTOR CURRENT IC (A)
COLLECTOR-EMITTER VOLTAGE VCE (V)

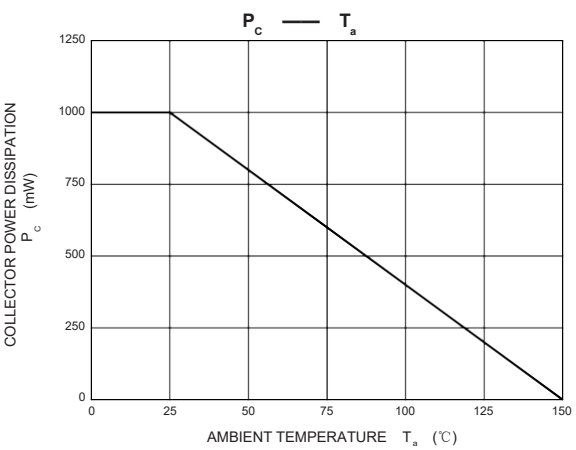

hFE — IC
Ta=100℃
Ta=25℃
COMMON EMITTER
VCE=-2V
DC CURRENT GAIN hFE
COLLECTOR CURRENT IC (mA)


VCEsat — IC
Ta=100℃
Ta=25℃
β=20
COLLECTOR-EMITTER SATURATION VOLTAGE VCEsat (mV)
COLLECTOR CURRENT IC (mA)


VBEsat — IC
Ta=25℃
Ta=100℃
β=20
BASE-EMITTER SATURATION VOLTAGE VBEsat (mV)
COLLECTOR CURRENT IC (mA)


IC — VBE
COMMON EMITTER
VCE=-2V
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 (℃)