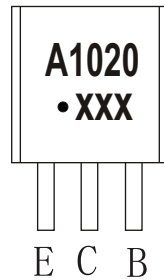


2SA1020 TRANSISTOR (PNP)

FEATURES

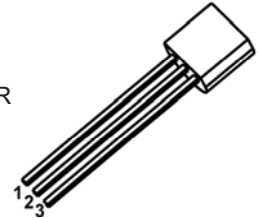
- Power Amplifier Applications

MARKING

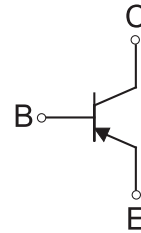


TO-92

1. EMITTER
2. COLLECTOR
3. BASE



Equivalent Circuit



ORDERING INFORMATION

Part Number	Package	Packing Method	Pack Quantity
2SA1020	TO-92	Bulk	1000pcs/Bag

MAXIMUM RATINGS (T_a=25°C unless otherwise noted)

Symbol	Parameter	Value	Unit
V _{CB0}	Collector-Base Voltage	-50	V
V _{CE0}	Collector-Emitter Voltage	-50	V
V _{EB0}	Emitter-Base Voltage	-5	V
I _c	Collector Current -Continuous	-2	A
P _D	Collector Power Dissipation	625	mW
R _{θJA}	Thermal Resistance from Junction to Ambient	200	°C /W
T _J ,T _{stg}	Operation Junction and Storage Temperature Range	-55~+150	°C

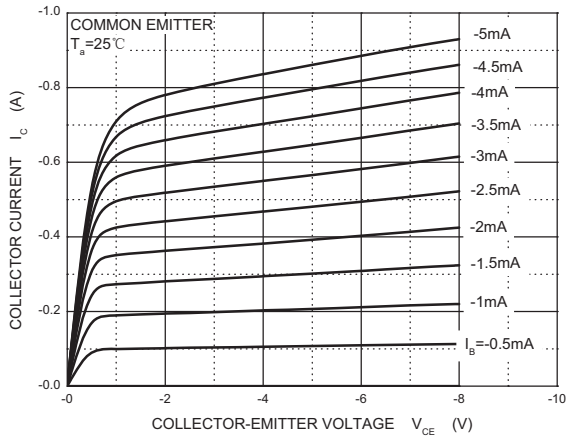
$T_a=25^\circ\text{C}$ unless otherwise specified

Parameter	Symbol	Test conditions	Min	Typ	Max	Unit
Collector-base breakdown voltage	$V_{(BR)CBO}$	$I_C = -100\mu\text{A}, I_E = 0$	-50			V
Collector-emitter breakdown voltage	$V_{(BR)CEO}$	$I_C = -10\text{mA}, I_B = 0$	-50			V
Emitter-base breakdown voltage	$V_{(BR)EBO}$	$I_E = -100\mu\text{A}, I_C = 0$	-5			V
Collector cut-off current	I_{CBO}	$V_{CB} = -50\text{V}, I_E = 0$			-1	μA
Emitter cut-off current	I_{EBO}	$V_{EB} = -5\text{V}, I_C = 0$			-1	μA
DC current gain	$h_{FE(1)}$	$V_{CE} = -2\text{V}, I_C = -0.5\text{A}$	70		240	
	$h_{FE(2)}$	$V_{CE} = -2\text{V}, I_C = -1.5\text{A}$	40			
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C = -1\text{A}, I_B = -50\text{mA}$			-0.5	V
Base-emitter saturation voltage	$V_{BE(sat)}$	$I_C = -1\text{A}, I_B = -50\text{mA}$			-1.2	V
Transition frequency	f_T	$V_{CE} = -2\text{V}, I_C = -500\text{mA}$		100		MHz
Collector output capacitance	C_{ob}	$V_{CB} = -10\text{V}, I_E = 0, f = 1\text{MHz}$		40		pF

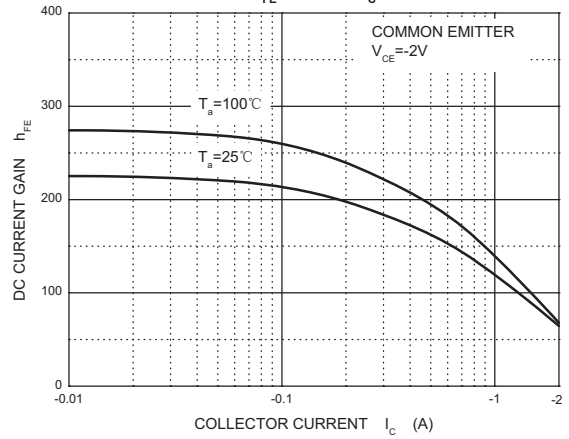
CLASSIFICATION OF $h_{FE(1)}$

Rank	O	Y
Range	70-140	120-240

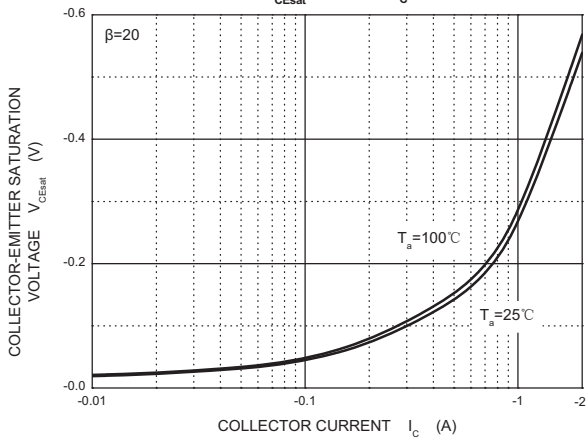
Static Characteristic



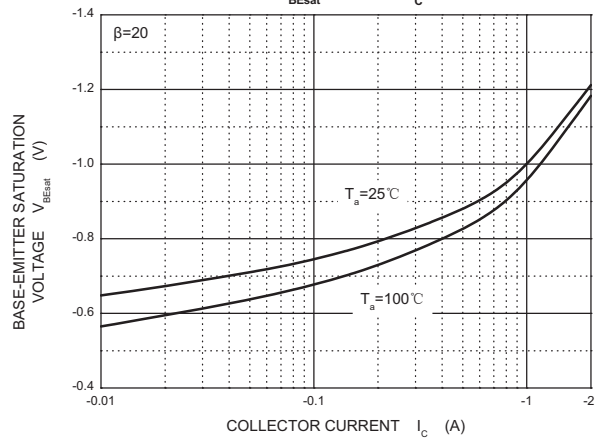
h_{FE} — I_c



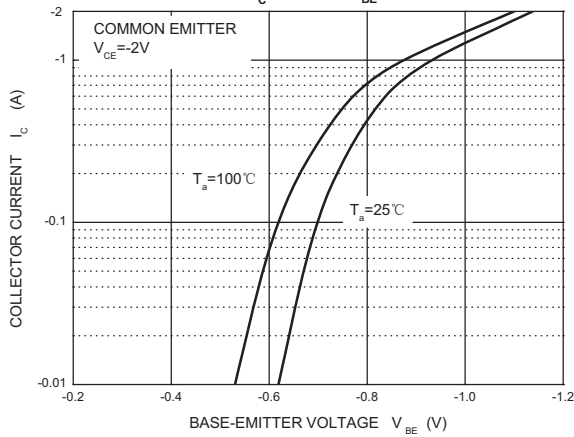
V_{CEsat} — I_c



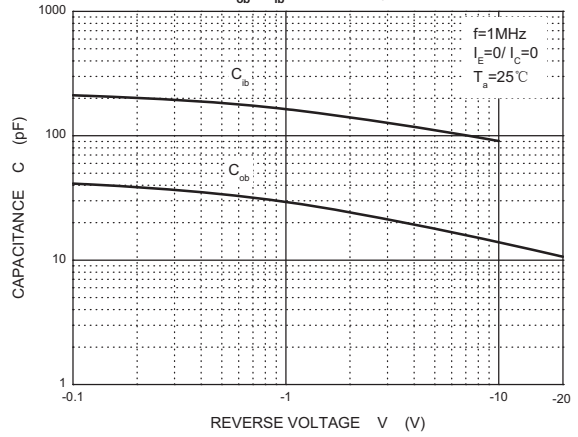
V_{BEsat} — I_c



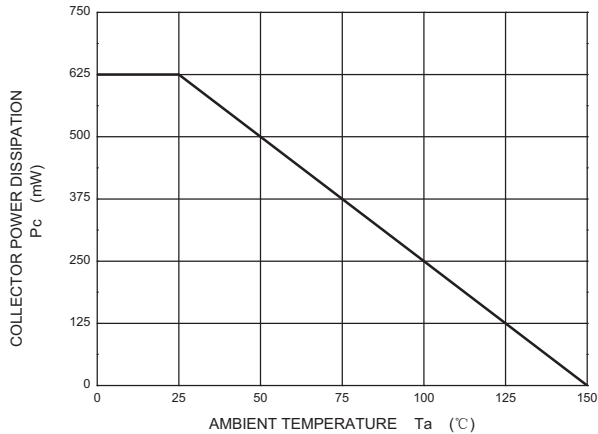
I_c — V_{BE}

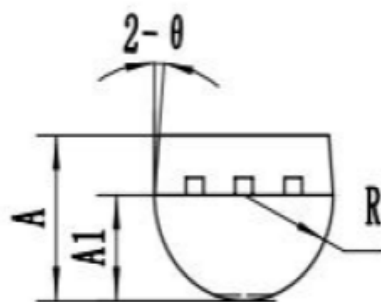
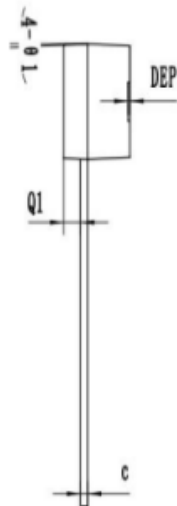
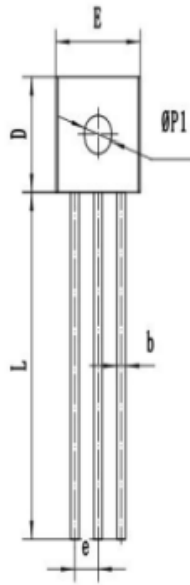


C_{ob}/C_{ib} — V_{CB}/V_{EB}



P_c — T_a





SYMBOL	MM		
	MIN	NOM	MAX
*A	3.00	3.25	3.50
A1	2.20	2.30	2.40
*b	0.40	0.45	0.50
*c	0.25	0.30	0.35
*D	4.50	4.60	4.70
*E	4.50	4.60	4.70
*e	1.22	1.27	1.32
*L	14.00	14.30	14.60
R	2.20	2.30	2.40
Q1	0.85	0.90	0.95
θ	3°	5°	7°
Ø1	1°	3°	5°
ØP1	1.40	1.50	1.60
DEP	0.05	0.10	0.20
带*为检验尺寸			