

RoHS Compliant Product

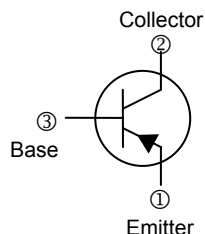
A suffix of "-C" specifies halogen & lead-free

FEATURES

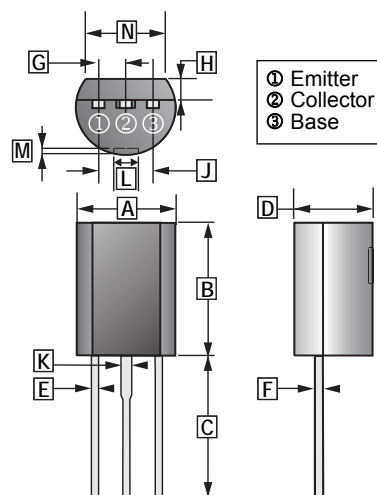
- Power amplifier applications

CLASSIFICATION OF $h_{FE(1)}$

Product-Rank	2SA1020-O	2SA1020-Y
Range	70-140	120-240



TO-92MOD



REF.	Millimeter		REF.	Millimeter	
	Min.	Max.		Min.	Max.
A	5.50	6.50	H	1.70	2.05
B	8.00	9.00	J	2.70	3.20
C	12.70	14.50	K	0.85	1.15
D	4.50	5.30	L	1.60 Max	
E	0.35	0.65	M	0.00	0.40
F	0.30	0.51	N	4.00 Min	
G	1.50 TYP.				

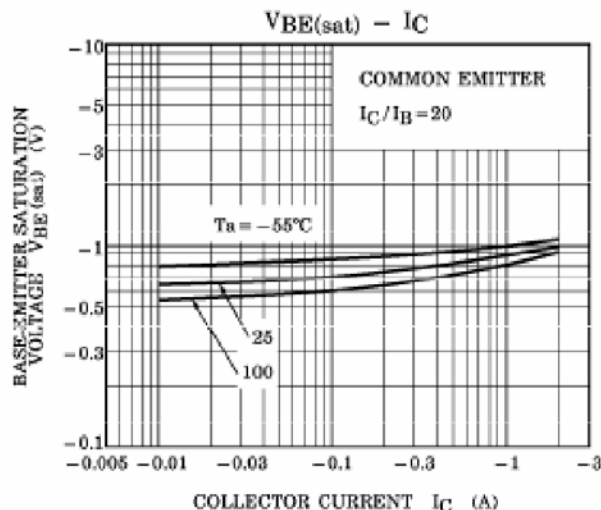
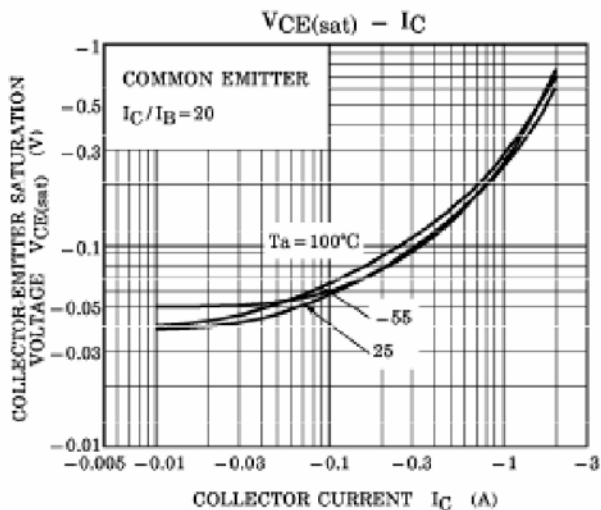
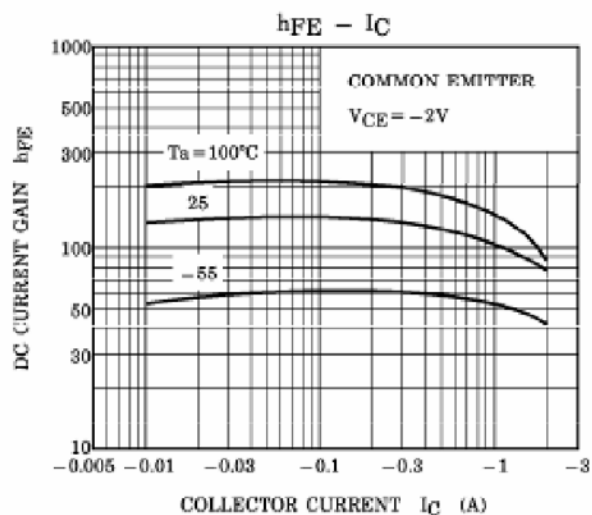
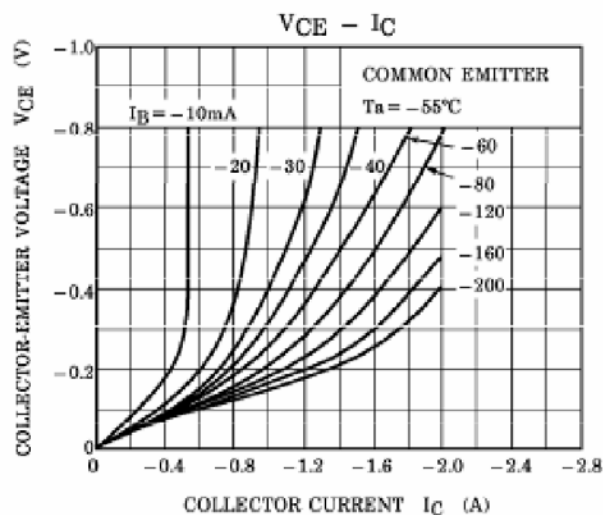
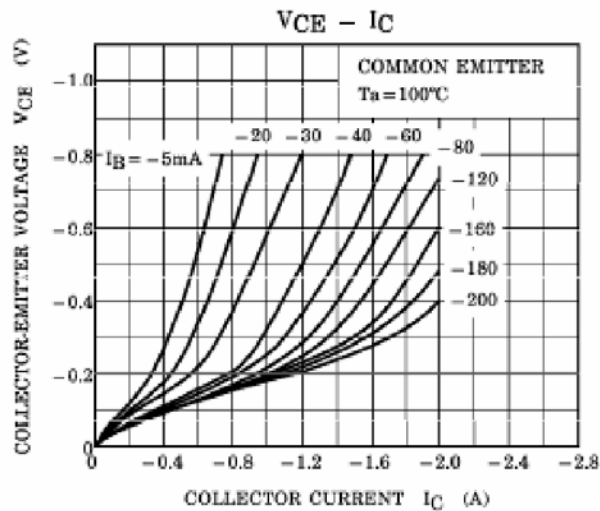
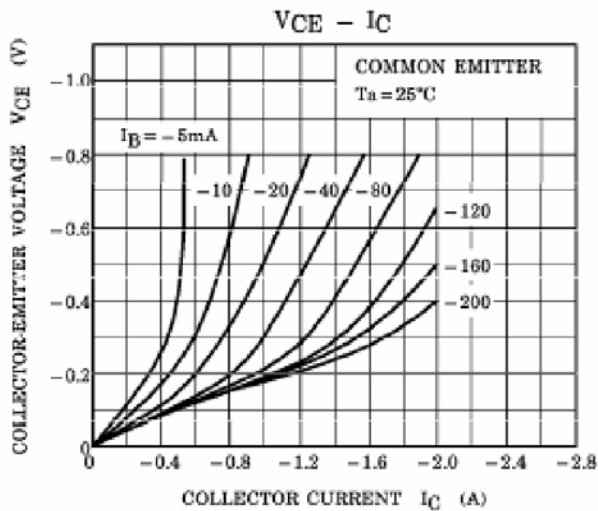
ABSOLUTE MAXIMUM RATINGS ($T_A = 25^\circ\text{C}$ unless otherwise specified)

Parameter	Symbol	Ratings	Unit
Collector to Base Voltage	V_{CBO}	-50	V
Collector to Emitter Voltage	V_{CEO}	-50	V
Emitter to Base Voltage	V_{EBO}	-5	V
Collector Current - Continuous	I_C	-2	A
Collector Power Dissipation	P_C	900	mW
Junction, Storage Temperature	T_J, T_{STG}	150, -55~150	$^\circ\text{C}$

ELECTRICAL CHARACTERISTICS ($T_A = 25^\circ\text{C}$ unless otherwise specified)

Parameter	Symbol	Min.	Typ.	Max.	Unit	Test Conditions
Collector to Base Breakdown Voltage	$V_{(BR)CBO}$	-50	-	-	V	$I_C = -100\mu\text{A}, I_E = 0\text{A}$
Collector to Emitter Breakdown Voltage	$V_{(BR)CEO}$	-50	-	-	V	$I_C = -10\text{mA}, I_B = 0\text{A}$
Emitter to Base Breakdown Voltage	$V_{(BR)EBO}$	-5	-	-	V	$I_E = -100\mu\text{A}, I_C = 0\text{A}$
Collector Cut-Off Current	I_{CBO}	-	-	-1	μA	$V_{CB} = -50\text{V}, I_E = 0\text{A}$
Emitter Cut-Off Current	I_{EBO}	-	-	-1	μA	$V_{EB} = -5\text{V}, I_C = 0\text{A}$
DC Current Gain	$h_{FE(1)}$	70	-	240		$V_{CE} = -2\text{V}, I_C = -0.5\text{A}$
	$h_{FE(2)}$	40	-	-		$V_{CE} = -2\text{V}, I_C = -1.5\text{A}$
Collector to Emitter Saturation Voltage	$V_{CE(sat)}$	-	-	-0.5	V	$I_C = -1\text{A}, I_B = -50\text{mA}$
Base to Emitter Saturation Voltage	$V_{BE(sat)}$	-	-	-1.2	V	$I_C = -1\text{A}, I_B = -50\text{mA}$
Transition Frequency	f_T	-	100	-	MHz	$V_{CE} = -2\text{V}, I_C = -500\text{mA}$
Collector Output Capacitance	C_{ob}	-	40	-	pF	$V_{CB} = -10\text{V}, I_E = 0\text{A}, f = 1\text{MHz}$
Turn-on Time	T_{on}	-	0.1	-	μs	$V_{CC} = -30\text{V}$ $I_{B1} = -I_{B2} = -0.05\text{A}$ $I_C = -1\text{A}$
Storage Time	T_s	-	1	-		
Fall Time	T_f	-	0.1	-		

CHARACTERISTIC CURVES



CHARACTERISTIC CURVES

