Elektronische Bauelemente

2SA1013

-1A, -160V

PNP Plastic Encapsulated Transistor

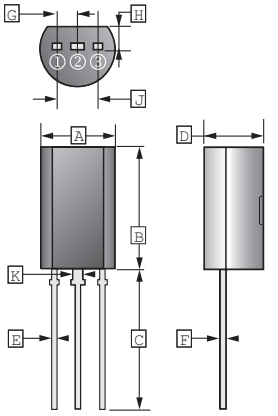
RoHS Compliant Product

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

FEATURE

- High Voltage：V_{CEO}= -160V
- Large Continuous Collector Current Capability
- Complementary to 2SC2383

TO-92L

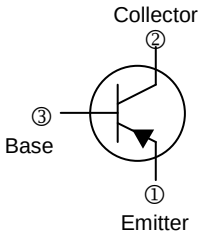


①Emitter
②Collector
③Base

REF.	Millimeter	
	Min.	Max.
A	4.70	5.10
B	7.80	8.20
C	13.80	14.20
D	3.70	4.10
E	0.35	0.55
F	0.35	0.45
G	1.27 TYP.	
H	1.28	1.58
J	2.44	2.64
K	0.60	0.80

CLASSIFICATION OF h_{FE}

Product-Rank	2SA1013-R	2SA1013-O	2SA1013-Y
Range	60~120	100~200	160~320



ABSOLUTE MAXIMUM RATINGS (T_A = 25°C unless otherwise specified)

Parameter	Symbol	Ratings	Unit
Collector to Base Voltage	V_{CBO}	-160	V
Collector to Emitter Voltage	V_{CEO}	-160	V
Emitter to Base Voltage	V_{EBO}	-6	V
Collector Current - Continuous	I_C	-1	A
Collector Power Dissipation	P_C	0.9	W
Junction, Storage Temperature	T_J, T_{STG}	150, -55~150	℃

ELECTRICAL CHARACTERISTICS (T_A = 25°C unless otherwise specified)

Parameter	Symbol	Min.	Typ.	Max.	Unit	Test Conditions
Collector-Base Breakdown Voltage	$V_{(BR)CBO}$	-160	-	-	V	I_C = -100μA, I_E = 0
Collector-Emitter Breakdown Voltage	$V_{(BR)CEO}$	-160	-	-	V	I_C = -1mA, I_B = 0
Emitter-Base Breakdown Voltage	$V_{(BR)EBO}$	-6	-	-	V	I_E = -10μA, I_C = 0
Collector Cut-off Current	I_{CBO}	-	-	-1	μA	V_{CB} = -150V, I_E = 0
Emitter Cut-off Current	I_{EBO}	-	-	-1	μA	V_{EB} = -6V, I_C = 0
DC Current Gain	h_{FE}	60	-	320		V_{CE} = -5V, I_C = -200mA
Collector to Emitter Saturation Voltage	$V_{CE(sat)}$	-	-	-1.5	V	I_C = -500mA, I_B = -50mA
Base-Emitter Voltage	V_{BE}	-	-	-0.75	V	V_{CE} = -5V, I_C = -5mA
Transition Frequency	f_T	15	-	-	MHz	V_{CE} = -5V, I_C = -200mA
Collector Output Capacitance	C_{Ob}	-	-	35	pF	V_{CB} = -10V, I_E = 0, f = 1 MHz

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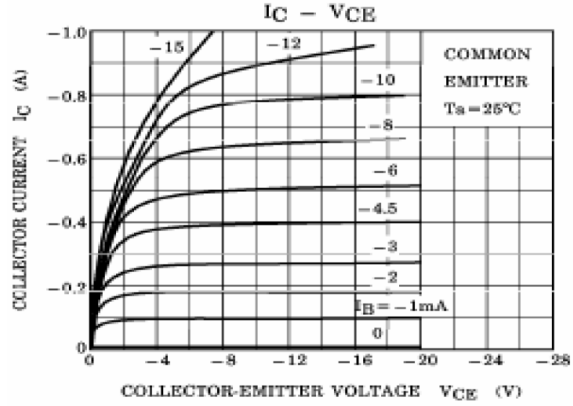
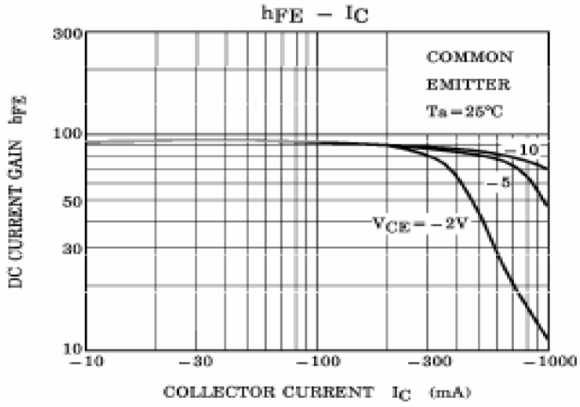
CHARACTERISTIC CURVES

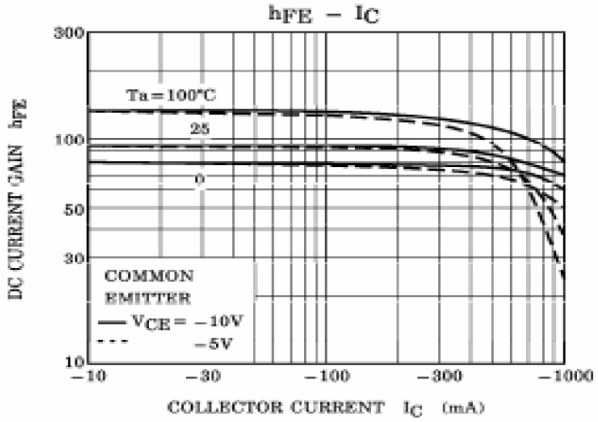
$I_C - V_{CE}$



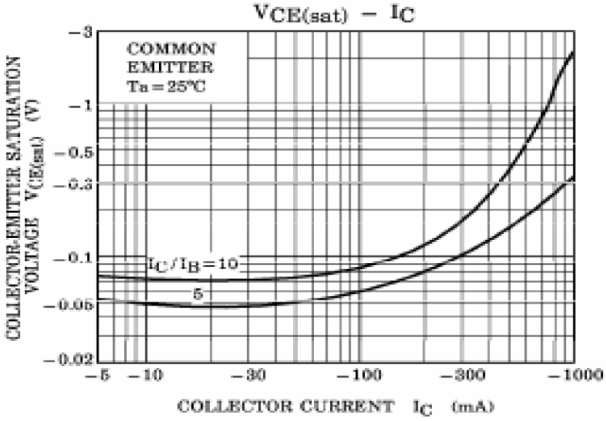
$h_{FE} - I_C$



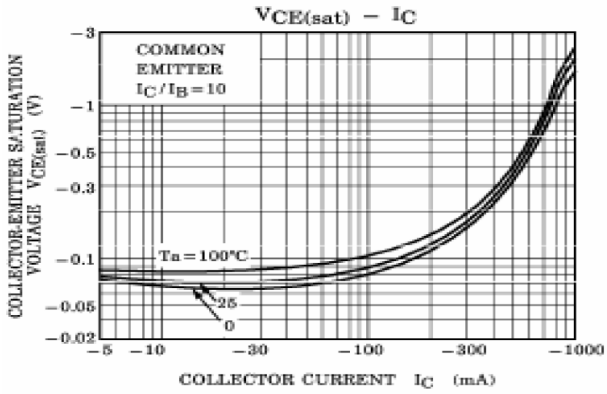
$h_{FE} - I_C$



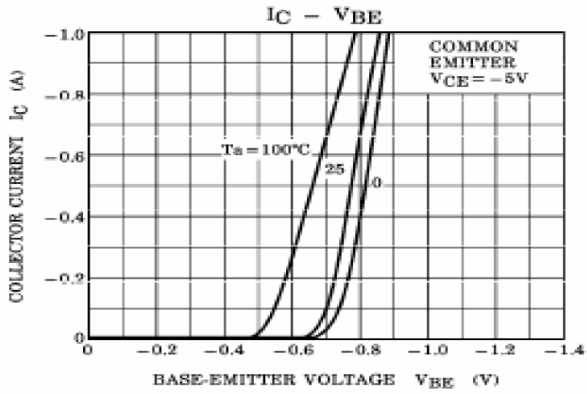
$V_{CE(sat)} - I_C$



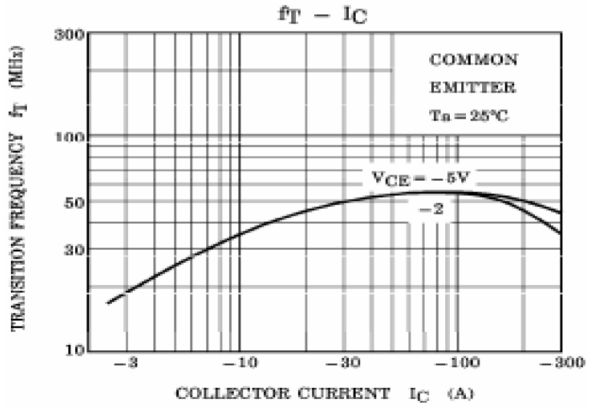
$V_{CE(sat)} - I_C$



$I_C - V_{BE}$



$f_T - I_C$



$C_{ob} - V_{CB}$