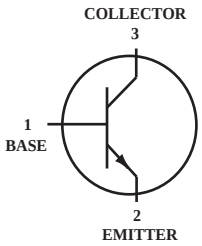
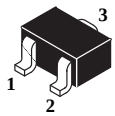
WEITRON

2SC4116

General Purpose Transistor
NPN Silicon

Lead(Pb)-Free





SOT-323(SC-70)

FEATURES

* High voltage and high current
* Excellent h_{FE} linearity
* High h_{FE}
* Low noise
* Complementary to 2SA1586

MAXIMUM RATINGS (T_A=25℃ unless otherwise noted)

Parameter	Symbol	Value	Units
Collector-Base Voltage	V_{CBO}	60	V
Collector-Emitter Voltage	V_{CEO}	50	V
Emitter-Base Voltage	V_{EBO}	5	V
Collector Current -Continuous	I_C	150	mA
Collector Power Dissipation	P_C	100	mW
Junction Temperature	T_J	150	℃
Junction and Storage Temperature	T_{stg}	-55 to +150	℃

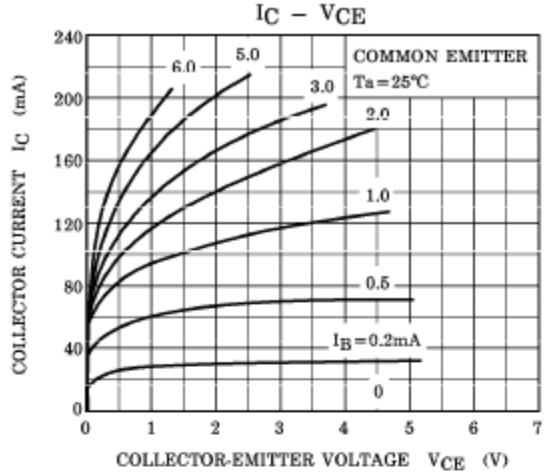
ELECTRICAL CHARACTERISTICS (Tamb=25℃ unless otherwise specified)

Parameter	Symbol	Test conditions	MIN	TYP	MAX	UNIT
Collector-base breakdown voltage	$V_{(BR)CBO}$	I_C=100μA,I_E=0	60	-	-	V
Collector-emitter breakdown voltage	$V_{(BR)CEO}$	I_C=1mA,I_B=0	50	-	-	V
Emitter-base breakdown voltage	$V_{(BR)EBO}$	I_E=100μA,I_C=0	5	-	-	V
Collector cut-off current	I_{CBO}	V_{CB}=60V,I_E=0	-	-	0.1	μA
Emitter cut-off current	I_{EBO}	V_{EB}=5V,I_C=0	-	-	0.1	μA
DC current gain	h_{FE}	V_{CE}=6V,I_C=2mA	70	-	700	
Collector-emitter saturation voltage	$V_{CE(sat)}$	I_C=100mA,I_B=10mA	-	-	0.25	V
Transition frequency	f_T	V_{CE}=10V,I_C=1mA,	80	-	-	MHz
Collector output capacitance	C_{ob}	V_{CB}=10V,I_E=0,f=1MHz	-	-	3.5	pF
Noise figure	NF	V_{CE}=6V,I_c=0.1mA, f=1KH_Z,Rg=10KΩ	-	-	10	dB

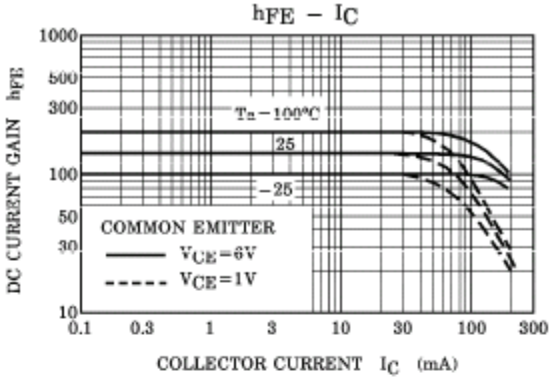
CLASSIFICATION OF h_{FE}

Rank	O	Y	GR	BL
Range	70-140	120-240	200-400	350-700
Marking	LO	LY	LG	LL

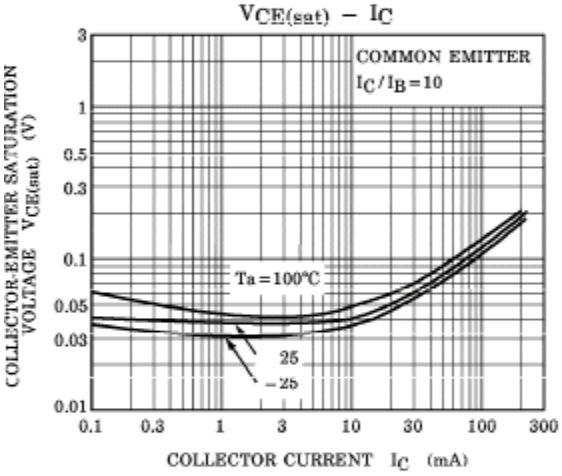
I_C – V_{CE}



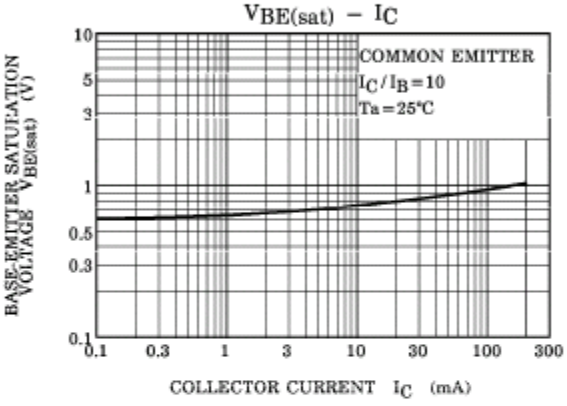
h_{FE} – I_C



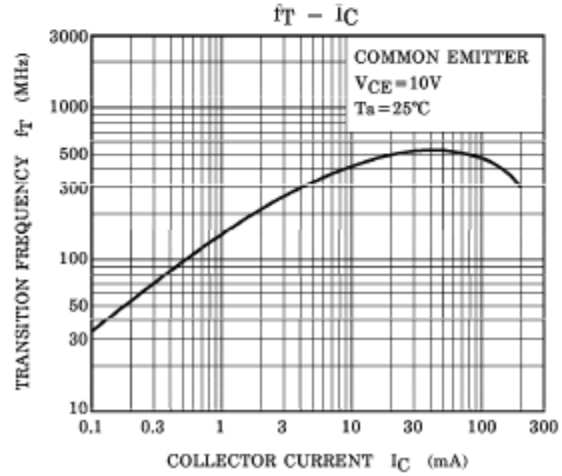
$V_{CE(sat)}$ – I_C



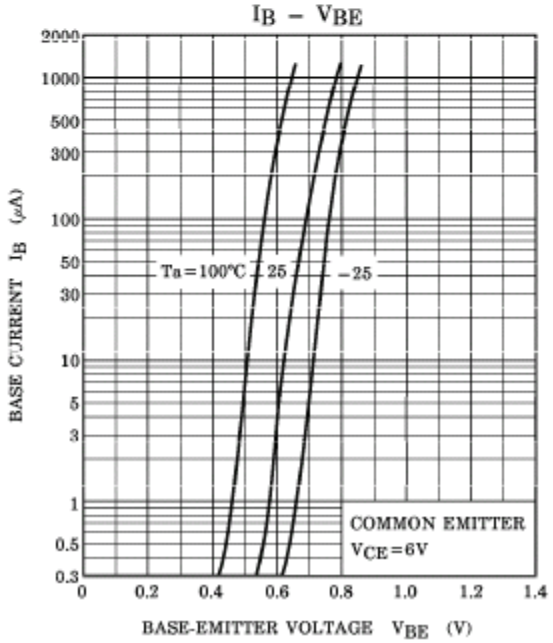
$V_{BE(sat)}$ – I_C

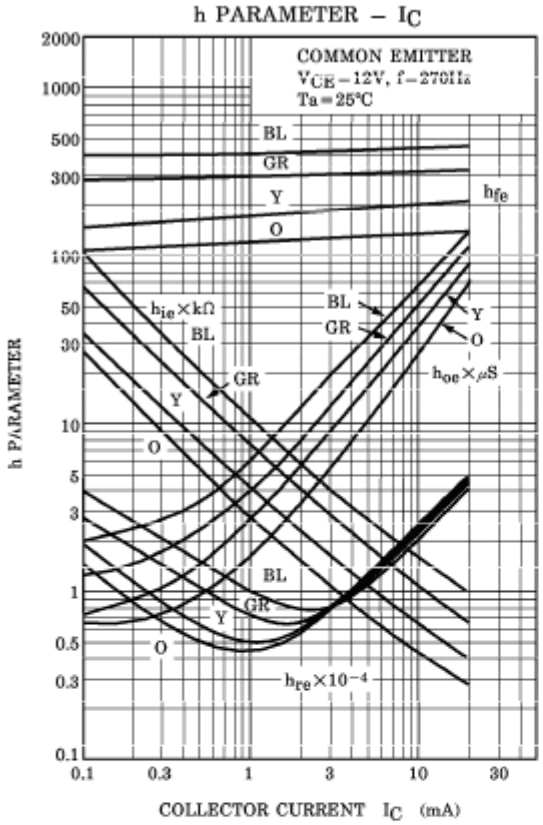


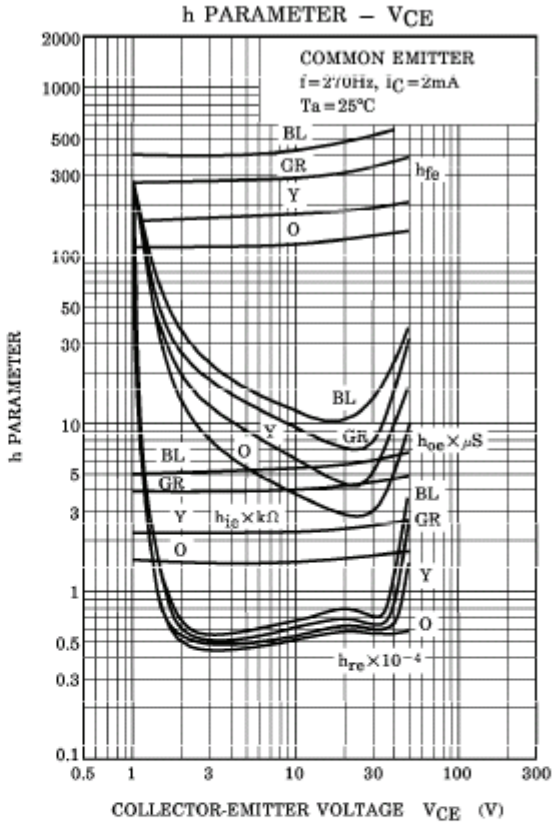
f_T – I_C

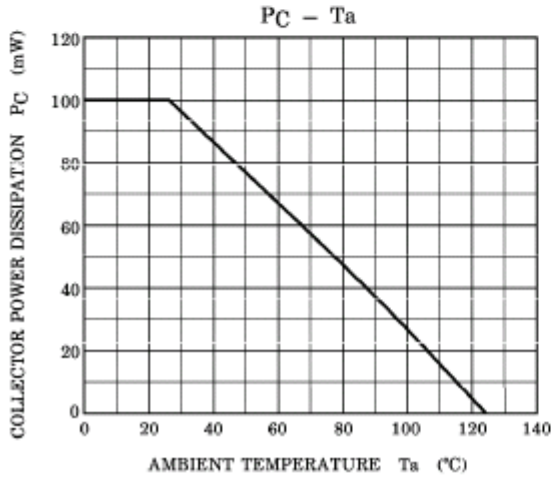


I_B – V_{BE}




h PARAMETER – I_C
COMMON EMITTER
V_{CE}=12V, f=270Hz
Ta=25°C
BL
GR
Y
O
h_{fe}
h_{ie}×kΩ
h_{oe}×μS
h_{re}×10⁻⁴
h PARAMETER
COLLECTOR CURRENT I_C (mA)


h PARAMETER – V_{CE}
COMMON EMITTER
f=270Hz, I_C=2mA
Ta=25°C
BL
GR
Y
O
h_{fe}
h_{oe}×μS
h_{ie}×kΩ
h_{re}×10⁻⁴
h PARAMETER
COLLECTOR-EMITTER VOLTAGE V_{CE} (V)


P_C – Ta
COLLECTOR POWER DISSIPATION P_C (mW)
AMBIENT TEMPERATURE Ta (°C)