TRANSISTOR (NPN)

SOT-23

1. BASE
2. EMITTER
3. COLLECTOR

FEATURES

- High Power Gain
- Recommended for FM IF,OSC Stage and AM CONV. IF Stage.

MAXIMUM RATINGS (T_A=25℃ unless otherwise noted)

Symbol	Parameter	Value	Units
V_{CBO}	Collector-Base Voltage	35	V
V_{CEO}	Collector-Emitter Voltage	30	V
V_{EBO}	Emitter-Base Voltage	4	V
I_C	Collector Current -Continuous	50	mA
P_C	Collector Power Dissipation	350	mW
T_j	Junction Temperature	150	℃
T_{stg}	Storage Temperature	-55-150	℃

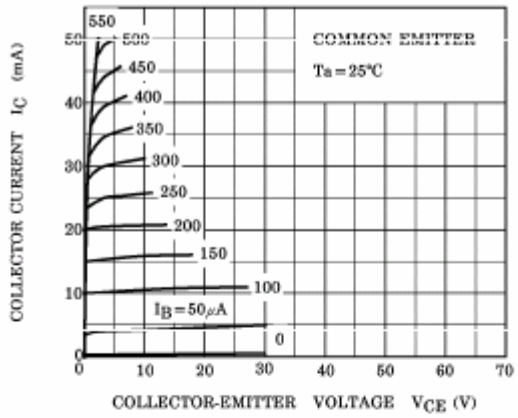
ELECTRICAL CHARACTERISTICS (Tamb=25℃ unless otherwise specified)

Parameter	Symbol	Test conditions	MIN	TYP	MAX	UNIT
Collector-base breakdown voltage	$V_{(BR)CBO}$	I_C=10μA, I_E=0	35			V
Collector-emitter breakdown voltage	$V_{(BR)CEO}$	I_C=1mA, I_B=0	30			V
Emitter-base breakdown voltage	$V_{(BR)EBO}$	I_E=10μA, I_C=0	4			V
Collector cut-off current	I_{CBO}	V_{CB}=35V, I_E=0			0.1	μA
Emitter cut-off current	I_{EBO}	V_{EB}=4V, I_C=0			0.1	μA
DC current gain	$h_{FE(1)}$	V_{CE}=12V, I_C=2mA	40		240	
Collector-emitter saturation voltage	$V_{CE(sat)}$	I_C=10mA, I_B=1mA			0.4	V
Base-emitter saturation voltage	$V_{BE(sat)}$	I_C=10mA, I_B=1mA			1	V
Transition frequency	f_T	V_{CE}=10V, I_C=1mA	100		400	MHz
Power Gain	Gpe	V_{CE}=6V, I_C=1mA, f=10.7MHZ	27		33	dB

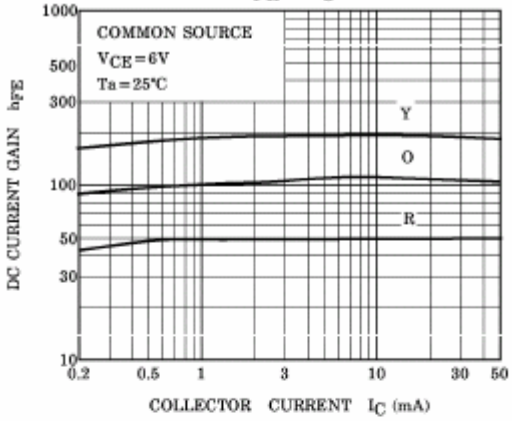
CLASSIFICATION OF $h_{FE(1)}$

Rank	**R**	**O**	**Y**
Range	40-80	70-140	120-240
Marking	**RR1**	**RO1**	**RY1**

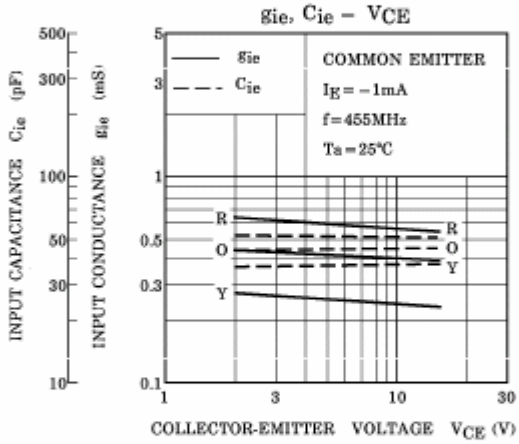
$I_C - V_{CE}$



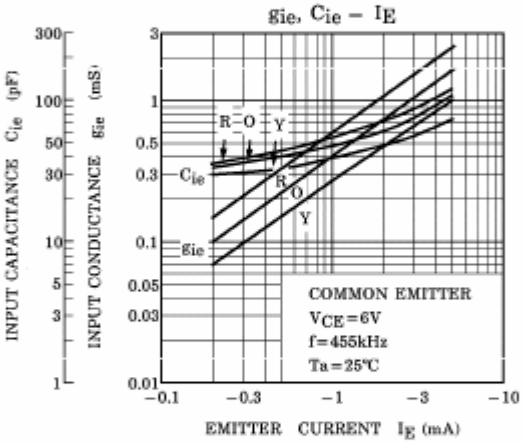
$h_{FE} - I_C$



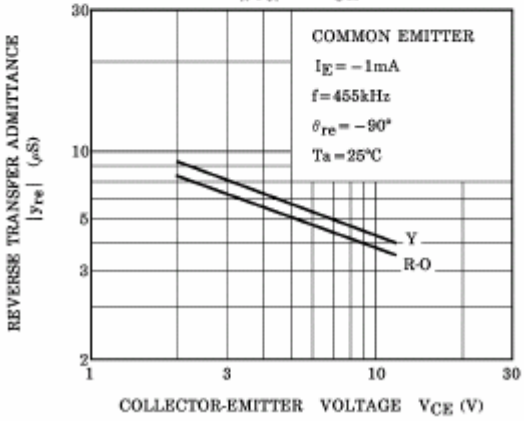
$g_{ie}, C_{ie} - V_{CE}$



$g_{ie}, C_{ie} - I_E$



$|y_{re}| - V_{CE}$



$|y_{re}| - I_E$