

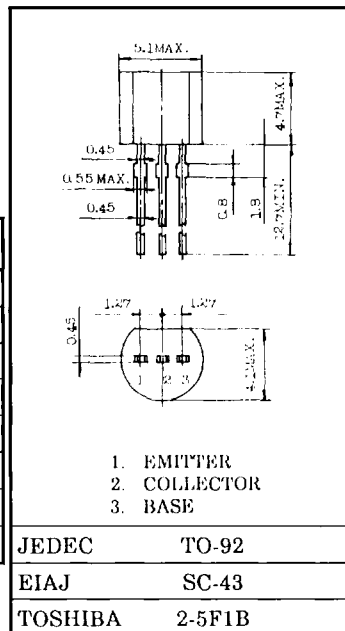
HIGH FREQUENCY AMPLIFIER APPLICATIONS.
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 AM FREQUENCY CONVERTER APPLICATIONS.

Unit in mm

- Low Noise Figure : $NF=3.5\text{dB (Max.) (}f=1\text{MHz)}$

MAXIMUM RATINGS ($T_a = 25^\circ\text{C}$)

CHARACTERISTIC	SYMBOL	RATING	UNIT
Collector-Base Voltage	V_{CBO}	35	V
Collector-Emitter Voltage	V_{CEO}	30	V
Emitter-Base Voltage	V_{EBO}	4	V
Collector Current	I_C	100	mA
Base Current	I_B	20	mA
Collector Power Dissipation	P_C	400	mW
Junction Temperature	T_j	125	$^\circ\text{C}$
Storage Temperature Range	T_{stg}	-55~125	$^\circ\text{C}$



ELECTRICAL CHARACTERISTICS ($T_a = 25^\circ\text{C}$)

Weight : 0.21g

CHARACTERISTIC	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Collector Cut-off Current	I_{CBO}	$V_{CB}=20\text{V, } I_E=0$	—	—	0.1	μA
Emitter Cut-off Current	I_{EBO}	$V_{EB}=2\text{V, } I_C=0$	—	—	1.0	μA
DC Current Gain	h_{FE} (Note)	$V_{CE}=12\text{V, } I_C=2\text{mA}$	40	—	240	—
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C=10\text{mA, } I_B=1\text{mA}$	—	—	0.4	V
Base-Emitter Saturation Voltage	$V_{BE(sat)}$	$I_C=10\text{mA, } I_B=1\text{mA}$	—	—	1.0	V
Transition Frequency	f_T	$V_{CE}=10\text{V, } I_C=2\text{mA}$	80	120	—	MHz
Reverse Transfer Capacitance	C_{re}	$V_{CB}=10\text{V, } I_E=0, f=1\text{MHz}$	—	2.2	3.0	pF
Collector-Base Time Constant	$C_{c,rb}$	$V_{CE}=10\text{V, } I_E=-1\text{mA, } f=30\text{MHz}$	—	30	50	ps
Noise Figure	NF	$V_{CE}=10\text{V, } I_E=-1\text{mA, } f=1\text{MHz, } R_g=50\Omega$	—	2.0	3.5	dB

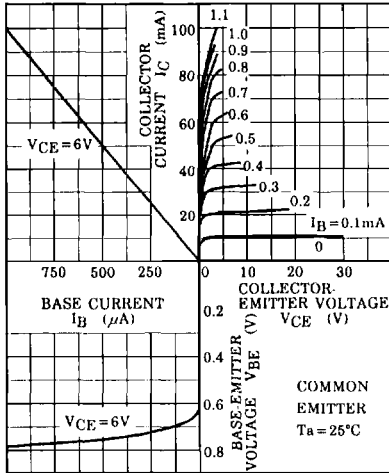
Note : h_{FE} classification R : 40~80, O : 70~140, Y : 120~240

2SC941TM

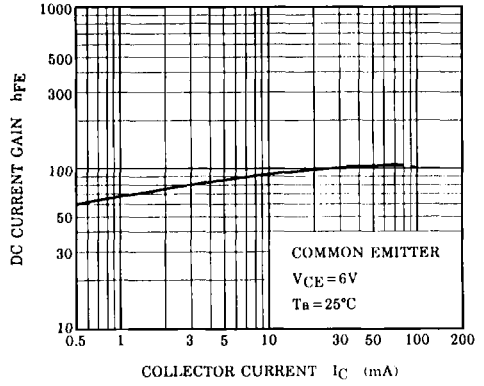
y PARAMETERS (Typ.) (COMMON EMITTER $V_{CE} = 6V$, $I_E = -1mA$, $f = 1MHz$)

CHARACTERISTIC	SYMBOL	2SC941-R	2SC941-O	2SC941-Y	UNIT
Input Conductance	g_{ie}	0.5	0.35	0.22	mS
Input Capacitance	C_{ie}	50	48	46	pF
Output Conductance	g_{oe}	4	5	6.5	μS
Output Capacitance	C_{oe}	3.7	3.4	3.2	pF
Forward Transfer Admittance	$ y_{fe} $	36	36	36	mS
Phase Angle of Forward Transfer Admittance	θ_{fe}	-1.6	-1.6	-1.6	°
Reverse Transfer Admittance	$ y_{re} $	14	14	14	μS
Phase Angle of Reverse Transfer Admittance	θ_{re}	-90	-90	-90	°

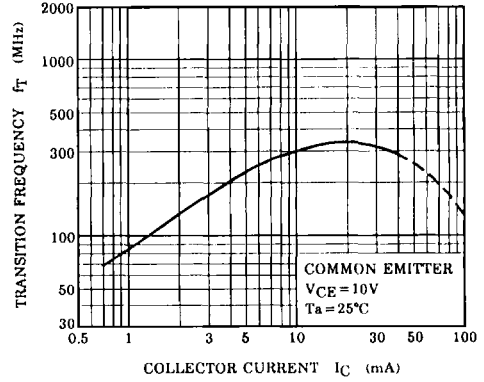
STATIC CHARACTERISTICS



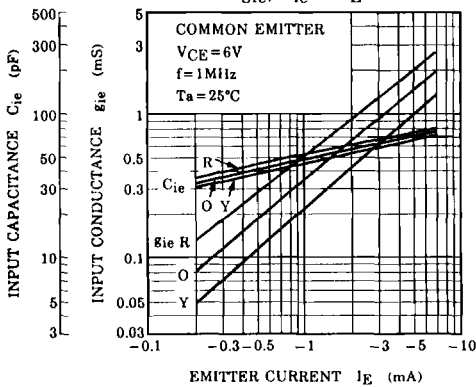
$h_{FE} - I_C$



$f_T - I_C$



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



$|Y_{re}| - I_E$

