

FM IF, OSC AND AM CONV, IF AMPLIFIER APPLICATIONS.

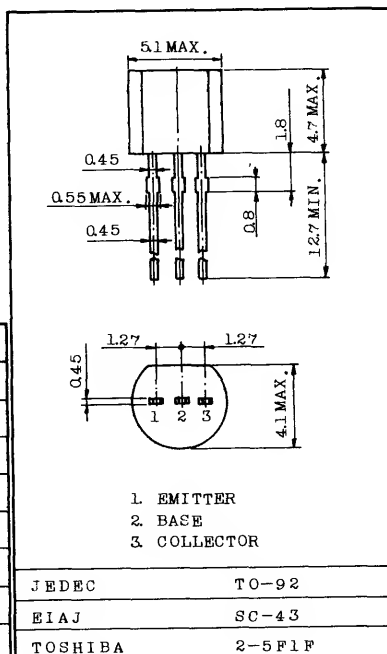
Unit in mm

FEATURES:

- Excellent Noise Figure : NF=2.0dB(Typ.)

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

CHARACTERISTIC	SYMBOL	RATING	UNIT
Collector-Base Voltage	V_{CB0}	50	V
Collector-Emitter Voltage	V_{CE0}	30	V
Emitter-Base Voltage	V_{EB0}	5	V
Collector Current	I_C	50	mA
Base Current	I_B	5	mA
Collector Power Dissipation	P_C	400	mW
Junction Temperature	T_j	150	$^{\circ}\text{C}$
Storage Temperature Range	T_{stg}	-55 ~ 150	$^{\circ}\text{C}$



Weight : 0.21g

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

CHARACTERISTIC	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Collector Cut-off Current	I_{CBO}	$V_{CB}=50\text{V}$, $I_E=0$	-	-	0.1	μA
Emitter Cut-off Current	I_{EBO}	$V_{EB}=4\text{V}$, $I_C=0$	-	-	0.1	μA
DC Current Gain	h_{FE} (Note)	$V_{CE}=5\text{V}$, $I_C=1\text{mA}$	39	-	198	
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C=10\text{mA}$, $I_B=1\text{mA}$	-	-	0.3	V
Base-Emitter Voltage	V_{BE}	$I_C=5\text{mA}$, $I_B=1\text{mA}$	0.65	0.70	0.75	V
Transition Frequency	f_T	$V_{CE}=5\text{V}$, $I_C=1\text{mA}$	100	-	-	MHz
Collector Output Capacitance	C_{ob}	$V_{CB}=10\text{V}$, $I_E=0$, $f=1\text{MHz}$	-	1.5	-	pF
Noise Figure	NF	$V_{CC}=5\text{V}$, $I_E=-1\text{mA}$, $R_g=500\Omega$, $f=1\text{kHz}$	-	2.0	4.0	dB

Note : h_{FE} Classification E : 39 ~ 60, F : 54 ~ 80, G : 72 ~ 108, H : 97 ~ 146
I : 132 ~ 198

PARAMETERS (Typ.)

(1) COMMON EMITTER ($f=455\text{kHz}$, $V_{CE}=6\text{V}$, $I_E=-1\text{mA}$, $T_a=25^\circ\text{C}$)

CHARACTERISTIC	SYMBOL	TEC9011-E,F	TEC9011-G,H	TEC9011-I	UNIT
Input Conductance	g_{ie}	0.58	0.41	0.26	m
Input Capacitance	C_{ie}	53	46	38	pF
Output Conductance	g_{oe}	1.9	2.7	4.8	μ
Output Capacitance	C_{oe}	2.6	2.8	3.6	pF
Forward Transfer Admittance	y_{fe}	38	38	38	m
Forward Transfer Admittance Phase Angle	θ_{fe}	-0.79	-0.83	-0.92	$^\circ\text{C}$
Reverse Transfer Admittance	y_{re}	5.7	5.7	6.2	μ
Reverse Transfer Admittance Phase Angle	θ_{re}	-90	-90	-90	$^\circ\text{C}$

(2) COMMON EMITTER ($f=10.7\text{MHz}$, $V_{CE}=6\text{V}$, $I_E=-1\text{mA}$, $T_a=25^\circ\text{C}$)

CHARACTERISTIC	SYMBOL	TEC9011-E,F	TEC9011-G,H	TEC9011-I	UNIT
Input Conductance	g_{ie}	1.04	0.85	0.65	m
Input Capacitance	C_{ie}	49	43	36	pF
Output Conductance	g_{oe}	10	15	28	μ
Output Capacitance	C_{oe}	2.7	2.9	3.6	pF
Forward Transfer Admittance	y_{fe}	37	37	37	m
Forward Transfer Admittance Phase Angle	θ_{fe}	-9.6	-10.4	-11.5	$^\circ\text{C}$
Reverse Transfer Admittance	y_{re}	120	120	140	μ
Reverse Transfer Admittance Phase Angle	θ_{re}	-90	-90	-90	$^\circ\text{C}$

STATIC CHARACTERISTICS

