

SILICON NPN TRANSISTOR EPITAXIAL PLANAR TYPE (PCT PROCESS)

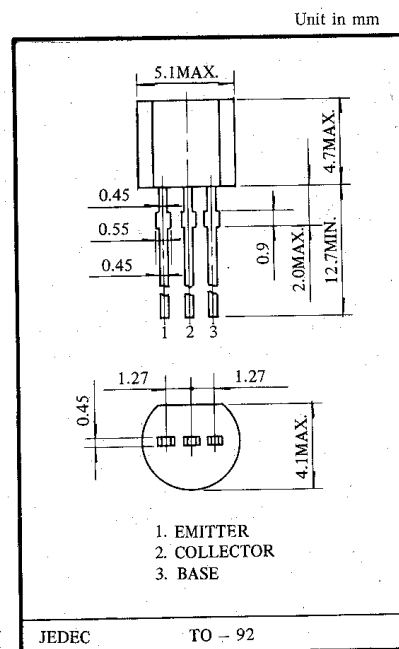
KTC 1815

APPLICATIONS

- Low Frequency Amplifiers
- Low Noise Amplifiers

FEATURES

- Low Noise, $NF=1dB$ (Typ), $10dB$ (Max)
- Excellent h_{FE} Linearity, $h_{FE}(0.1mA)/h_{FE}(2mA)=0.95$ (Typ.)
- Complementary to the KTA 1015 (Type O, Y, GR)
- High h_{FE} (70~700).
- Excellent Safe Operation Area.



■ MAXIMUM RATINGS ($T_a=25^\circ C$)

CHARACTERISTIC	SYMBOL	RATING	UNIT
Collector - Base Voltage	V_{CBO}	60	V
Collector - Emitter Voltage	V_{CEO}	50	V
Emitter - Base Voltage	V_{EBO}	5	V
Collector Current	I_C	150	mA

CHARACTERISTIC	SYMBOL	RATING	UNIT
Emitter Current	I_E	-150	mA
Collector Power Dissipation	P_C	400	mW
Junction Temperature	T_j	125	$^\circ C$
Storage Temperature Range	T_{stg}	-55~125	$^\circ C$

■ ELECTRICAL CHARACTERISTICS ($T_a=25^\circ C$)

CHARACTERISTIC	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
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(1)	$h_{FE(1)}$	$V_{CE}=6V, I_C=2mA$	70	-	700	-
DC Current Gain(2)	$h_{FE(2)}$	$V_{CE}=6V, I_C=150mA$	25	-	-	-
Collector - Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C=100mA, I_B=10mA$	-	0.1	0.25	V
Base - Emitter Saturation Voltage	$V_{BE(sat)}$	$I_C=100mA, I_B=10mA$	-	-	0.1	V
Transition Frequency	f_T	$V_{CE}=10V, I_E=-1mA$	80	-	-	MHz
Output Capacitance	C_{ob}	$V_{CB}=10V, I_E=0, f=1MHz$	-	2.0	3.0	pF
Base Spreading Resistance	$r_{bb'}$	$V_{CB}=10V, I_E=-1mA, f=30MHz$	-	50	-	Ω
Noise Figure	NF	$V_{CE}=6V, I_C=0.1mA, R_g=10k\Omega, f=1kHz$	-	1.0	10	dB

■ NOTE: According to h_{FE} (1), Classified as follows

O	70~140	Y	120~240	GR	200~400	BL	350~700
---	--------	---	---------	----	---------	----	---------