

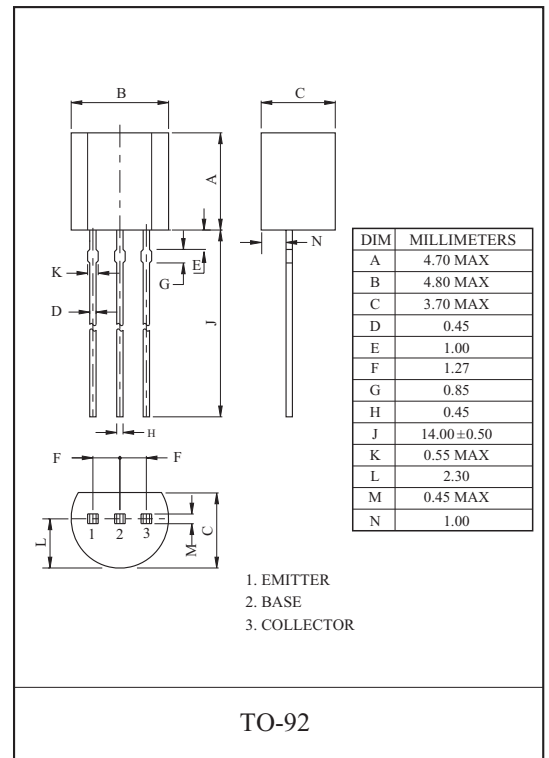
GENERAL PURPOSE APPLICATION.
HIGH VOLTAGE APPLICATION.

FEATURES

- High Collector Breakdown Voltage
: $V_{CBO}=180V$, $V_{CEO}=160V$
- Low Leakage Current.
: $I_{CBO}=50nA(\text{Max.})$, $V_{CB}=120V$
- Low Saturation Voltage
: $V_{CE(\text{sat})}=0.2V(\text{Max.})$, $I_C=50mA$, $I_B=5mA$
- Low Noise : $NF=8dB$ (Max.)

MAXIMUM RATING (Ta=25 °C)

CHARACTERISTIC	SYMBOL	RATING	UNIT
Collector-Base Voltage	V_{CBO}	180	V
Collector-Emitter Voltage	V_{CEO}	160	V
Emitter-Base Voltage	V_{EBO}	6	V
Collector Current	I_C	600	mA
Base Current	I_B	100	mA
Collector Power Dissipation	P_C	625	mW
Junction Temperature	T_j	150	°C
Storage Temperature Range	T_{stg}	-55 ~ 150	°C



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ELECTRICAL CHARACTERISTICS (Ta=25 °C)

CHARACTERISTIC	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT	
Collector Cut-off Current	I_{CBO}	$V_{CB}=120V, I_E=0$	-	-	50	nA	
		$V_{CB}=120V, I_E=0, T_a=100\text{ }^\circ\text{C}$	-	-	50	μA	
Emitter Cut-off Current	I_{EBO}	$V_{EB}=4V, I_C=0$	-	-	50	nA	
Collector-Base Breakdown Voltage	$V_{(BR)CBO}$	$I_C=0.1\text{mA}, I_E=0$	180	-	-	V	
Collector-Emitter Breakdown Voltage *	$V_{(BR)CEO}$	$I_C=1\text{mA}, I_B=0$	160	-	-	V	
Emitter-Base Breakdown Voltage	$V_{(BR)EBO}$	$I_E=10\text{ }\mu\text{A}, I_C=0$	6	-	-	V	
DC Current Gain *	h_{FE}	$h_{FE}(1)$	$V_{CE}=5V, I_C=1\text{mA}$	80	-	-	
		$h_{FE}(2)$	$V_{CE}=5V, I_C=10\text{mA}$	80	-	250	
		$h_{FE}(3)$	$V_{CE}=5V, I_C=50\text{mA}$	30	-	-	
Collector-Emitter Saturation Voltage *	$V_{CE(sat)}$	1	$I_C=10\text{mA}, I_B=1\text{mA}$	-	-	0.15	V
		2	$I_C=50\text{mA}, I_B=5\text{mA}$	-	-	0.2	
Base-Emitter Saturation Voltage *	$V_{BE(sat)}$	1	$I_C=10\text{mA}, I_B=1\text{mA}$	-	-	1.0	V
		2	$I_C=50\text{mA}, I_B=5\text{mA}$	-	-	1.0	
Transition Frequency	f_T	$V_{CE}=10V, I_C=10\text{mA}, f=100\text{MHz}$	100	-	300	MHz	
Collector Output Capacitance	C_{ob}	$V_{CB}=10V, I_E=0, f=1\text{MHz}$	-	-	6	pF	
Input Capacitance	C_{ib}	$V_{BE}=0.5V, I_C=0, f=1\text{MHz}$	-	-	20	pF	
Small-Signal Current Gain	h_{fe}	$V_{CE}=10V, I_C=1\text{mA}, f=1\text{kHz}$	50	-	200		
Noise Figure	NF	$V_{CE}=5V, I_C=250\text{ }\mu\text{A}$ $R_g=1\text{k }\Omega, f=10\text{Hz} \sim 15.7\text{kHz}$	-	-	8	dB	

* Pulse Test : Pulse Width $\leq 300\text{ }\mu\text{s}$, Duty Cycle $\leq 2\%$.