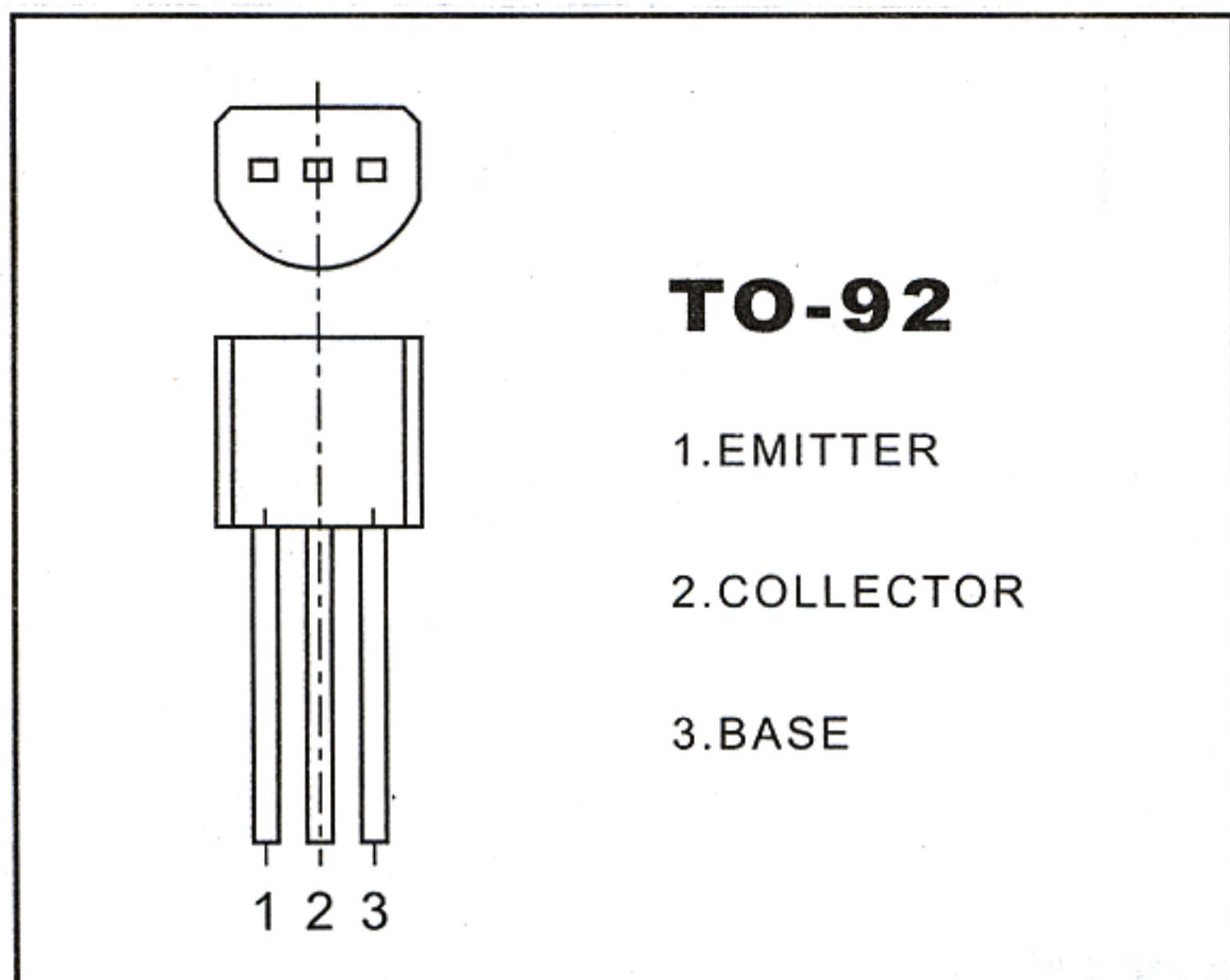


## 3DD13001 TRANSISTOR(NPN)



### FEATURES

#### Power dissipation

$P_{CM}$ : 0.75W ( $T_{amb}=25^{\circ}C$ )

#### Collector current

$I_{CM}$ : 0.2 A

#### Collector-base voltage

$V_{(BR)CBO}$ : 600 V

#### Operating and storage junction temperature range

$T_J, T_{stg}$ :  $-55^{\circ}C$  to  $+150^{\circ}C$

### ELECTRICAL CHARACTERISTICS

( $T_{amb}=25^{\circ}C$  unless otherwise specified)

Parameter	Symbol	Test conditions	MIN	MAX	UNIT
Collector-base breakdown voltage	$V_{(BR)CBO}$	$I_C = 100 \mu A, I_E = 0$	600		V
Collector-emitter breakdown voltage	$V_{(BR)CEO}$	$I_C = 1 mA, I_B = 0$	400		V
Emitter-base breakdown voltage	$V_{(BR)EBO}$	$I_E = 100 \mu A, I_C = 0$	7		V
Collector cut-off current	$I_{CBO}$	$V_{CB} = 600 V, I_E = 0$		100	$\mu A$
Collector cut-off current	$I_{CEO}$	$V_{CE} = 400 V, I_B = 0$		200	$\mu A$
Emitter cut-off current	$I_{EBO}$	$V_{EB} = 7 V, I_C = 0$		100	$\mu A$
DC current gain	$h_{FE(1)}$	$V_{CE} = 20 V, I_C = 20 mA$	10	70	
	$h_{FE(2)}$	$V_{CE} = 10 V, I_C = 0.25 mA$	5		
Collector-emitter saturation voltage	$V_{CEsat}$	$I_C = 50 mA, I_B = 10 mA$		0.5	V
Base-emitter saturation voltage	$V_{BEsat}$	$I_C = 50 mA, I_B = 10 mA$		1.2	V
Base-emitter voltage	$V_{BE}$	$I_E = 100 mA$		1.1	V
Transition frequency	$f_T$	$V_{CE} = 20 V, I_C = 20 mA$ $f = 1 MHz$	8		MHz
Fall time	$t_f$	$I_C = 50 mA, I_{B1} = -I_{B2} = 5 mA,$		0.3	$\mu S$
Storage time	$t_s$	$V_{CC} = 45V$		1.5	$\mu S$

### CLASSIFICATION OF $h_{FE(1)}$

Rank												
Range	10-15	15-20	20-25	25-30	30-35	35-40	40-45	45-50	50-55	55-60	60-65	65-70

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