

A42 TRANSISTOR (NPN)

FEATURES

Power dissipation

$$P_{CM}: 0.625 \text{ W (Tamb=25°C)}$$

Collector current

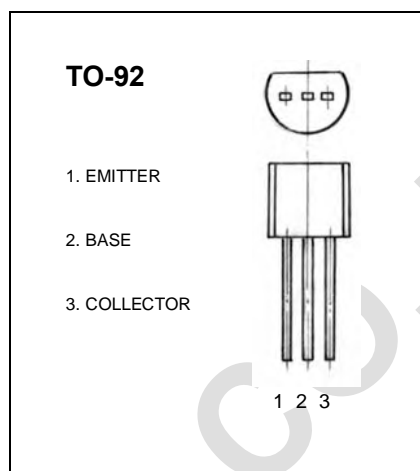
$$I_{CM}: 0.5 \text{ A}$$

Collector-base voltage

$$V_{(BR)CBO}: 300 \text{ V}$$

Operating and storage junction temperature range

$$T_J, T_{stg}: -55°C \text{ to } +150°C$$



ELECTRICAL CHARACTERISTICS(Tamb=25°C unless otherwise specified)

Parameter	Symbol	Test conditions	MIN	TYP	MAX	UNIT
Collector-base breakdown voltage	$V_{(BR)CBO}$	$I_C=100\mu A, I_E=0$	300			V
Collector-emitter breakdown voltage	$V_{(BR)CEO}$	$I_C=1\text{ mA}, I_B=0$	300			V
Emitter-base breakdown voltage	$V_{(BR)EBO}$	$I_E=100\mu A, I_C=0$	5			V
Collector cut-off current	I_{CBO}	$V_{CB}=200\text{ V}, I_E=0$			0.25	μA
Emitter cut-off current	I_{EBO}	$V_{EB}=5\text{ V}, I_C=0$			0.1	μA
DC current gain	$h_{FE(1)}$	$V_{CE}=10\text{ V}, I_C=1\text{ mA}$	60			
	$h_{FE(2)}$	$V_{CE}=10\text{ V}, I_C=10\text{ mA}$	80		250	
	$H_{FE(3)}$	$V_{CE}=10\text{ V}, I_C=30\text{ mA}$	75			
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C=20\text{ mA}, I_B=2\text{ mA}$			0.2	V
Base-emitter saturation voltage	$V_{BE(sat)}$	$I_C=20\text{ mA}, I_B=2\text{ mA}$			0.9	V
Transition frequency	f_T	$V_{CE}=20\text{ V}, I_C=10\text{ mA}$ $f=30\text{ MHz}$	50			MHz

CLASSIFICATION OF $h_{FE(2)}$

Rank	A	B ₁	B ₂	C
Range	80-100	100-150	150-200	200-250