



TO-92 Plastic-Encapsulate Transistors

C945 TRANSISTOR (NPN)

FEATURES

Power dissipation

$$P_{CM}: 0.4 \text{ W (Tamb=25}^\circ\text{C)}$$

Collector current

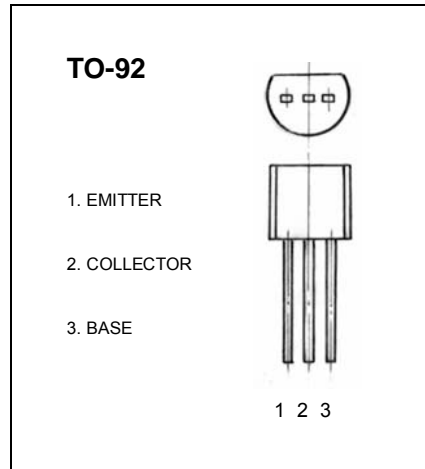
$$I_{CM}: 0.15 \text{ A}$$

Collector-base voltage

$$V_{(BR)CBO}: 60 \text{ V}$$

Operating and storage junction temperature range

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



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

Parameter	Symbol	Test conditions	MIN	TYP	MAX	UNIT
Collector-base breakdown voltage	$V_{(BR)CBO}$	$I_C=1\text{mA}, I_E=0$	60			V
Collector-emitter breakdown voltage	$V_{(BR)CEO}$	$I_C=100\mu\text{A}, I_B=0$	50			V
Emitter-base breakdown voltage	$V_{(BR)EBO}$	$I_E=100\mu\text{A}, I_C=0$	5			V
Collector cut-off current	I_{CBO}	$V_{CB}=60\text{V}, I_E=0$			0.1	μA
Collector cut-off current	I_{CEO}	$V_{CE}=45\text{V}$			0.1	μA
Emitter cut-off current	I_{EBO}	$V_{EB}=5\text{V}, I_C=0$			0.1	μA
DC current gain	$h_{FE(1)}$	$V_{CE}=6\text{V}, I_C=1\text{mA}$	70		700	
	$h_{FE(2)}$	$V_{CE}=6\text{V}, I_C=0.1\text{mA}$	40			
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C=100\text{mA}, I_B=10\text{mA}$			0.3	V
Base-emitter saturation voltage	$V_{BE(sat)}$	$I_C=100\text{mA}, I_B=10\text{mA}$			1	V
Transition frequency	f_T	$V_{CE}=6\text{V}, I_C=10\text{mA}, f=30\text{ MHz}$	200			MHz
Collector output capacitance	C_{ob}	$V_{CB}=10\text{V}, I_E=0, f=1\text{MHz}$			3.0	pF
Noise figure	NF	$V_{CE}=6\text{V}, I_C=0.1\text{mA}$ $R_g=10\text{k}\Omega, f=1\text{kHz}$		4	10	dB

CLASSIFICATION OF $h_{FE(1)}$

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