



TO-92 Plastic-Encapsulate Transistors

A1023 TRANSISTOR (NPN)

FEATURES

Power dissipation

$$P_{CM}: 1 \text{ W (Tamb=25}^{\circ}\text{C)}$$

Collector current

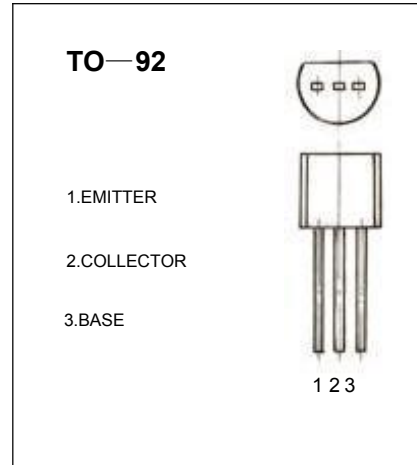
$$I_{CM}: 0.8 \text{ A}$$

Collector-base voltage

$$V_{(BR)CBO}: 120 \text{ V}$$

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	$V_{(BR)CBO}$	$I_C=10\mu A, I_E=0$	120			V
Collector-emitter breakdown voltage	$V_{(BR)CEO}$	$I_C=10mA, I_B=0$	120			V
Emitter-base breakdown voltage	$V_{(BR)EBO}$	$I_E=1mA, I_C=0$	5			V
Collector cut-off current	I_{CBO}	$V_{CB}=120V, I_E=0$			0.1	μA
Emitter cut-off current	I_{EBO}	$V_{EB}=5V, I_C=0$			0.1	μA
DC current gain(note)	H_{FE}	$V_{CE}=5V, I_C=100mA$	80		240	
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C=500mA, I_B=50mA$			1	V
Base-emitter voltage	V_{BE}	$I_C=500mA, V_{CE}=5V$			1	V
Transition frequency	f_r	$V_{CE}=5V, I_C=100mA$		120		MHz

CLASSIFICATION OF

$H_{FE(1)}$

Rank	1	2	3
Range	80-120	120-180	180-240