

## TO-251 Plastic-Encapsulated Transistors

### 2SC4003 TRANSISTOR (NPN)

#### FEATURES

Power dissipation

$$P_{CM}: 1 \text{ W (Tamb=25°C)}$$

Collector current

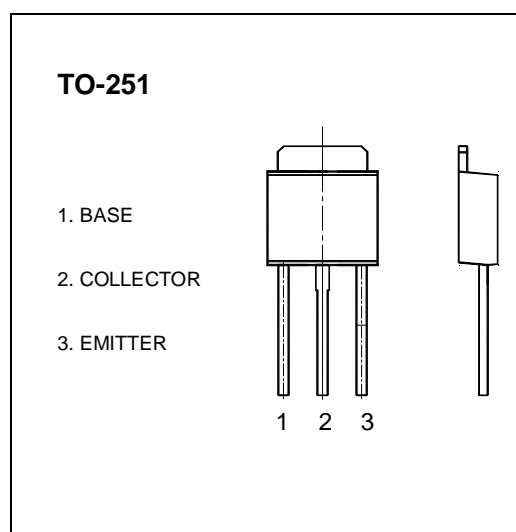
$$I_{CM}: 200 \text{ mA}$$

Collector-base voltage

$$V_{(BR)CBO}: 400 \text{ V}$$

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	$V_{(BR)CBO}$	$I_C=10\mu A, I_E=0$	400			V
Collector-emitter breakdown voltage	$V_{(BR)CEO}$	$I_C=1\text{ mA}, I_B=0$	400			V
Emitter-base breakdown voltage	$V_{(BR)EBO}$	$I_E=10\mu A, I_C=0$	5			V
Collector cut-off current	$I_{CBO}$	$V_{CB}=300\text{ V}, I_E=0$			0.1	$\mu A$
Emitter cut-off current	$I_{EBO}$	$V_{EB}=4\text{ V}, I_C=0$			0.1	$\mu A$
DC current gain	$h_{FE(1)}$	$V_{CE}=10\text{ V}, I_C=50\text{ mA}$	60		200	
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C=50\text{ mA}, I_B=5\text{ mA}$			0.6	V
Base-emitter saturation voltage	$V_{BE(sat)}$	$I_C=50\text{ mA}, I_B=5\text{ mA}$			1	V
Transition frequency	$f_T$	$V_{CE}=30\text{ V}, I_C=10\text{ mA}$		70		MHz

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

Rank	D	E
Range	60-120	100-200