



## SOT-23 Plastic-Encapsulate Transistors

### 2SC3052 TRANSISTOR (NPN)

#### FEATURES

Power dissipation

$$P_{CM}: 0.15 \text{ W (Tamb=25°C)}$$

Collector current

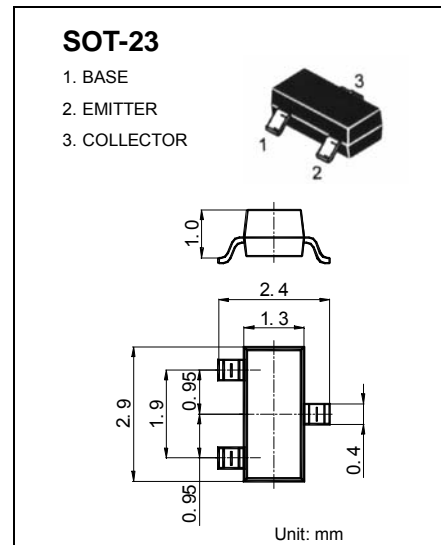
$$I_{CM}: 0.2 \text{ A}$$

Collector-base voltage

$$V_{(BR)CBO}: 50 \text{ V}$$

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	MAX	UNIT
Collector-base breakdown voltage	$V_{(BR)CBO}$	$I_C = 100 \mu A, I_E = 0$	50		V
Collector-emitter breakdown voltage	$V_{(BR)CEO}$	$I_C = 100 \mu A, I_B = 0$	50		V
Emitter-base breakdown voltage	$V_{(BR)EBO}$	$I_E = 100 \mu A, I_C = 0$	6		V
Collector cut-off current	$I_{CBO}$	$V_{CB} = 50 \text{ V}, I_E = 0$		0.1	$\mu A$
Emitter cut-off current	$I_{EBO}$	$V_{EB} = 6 \text{ V}, I_C = 0$		0.1	$\mu A$
DC current gain	$h_{FE(1)}$	$V_{CE} = 6 \text{ V}, I_C = 1 \text{ mA}$	150	800	
	$h_{FE(2)}$	$V_{CE} = 6 \text{ V}, I_C = 0.1 \text{ mA}$	50		
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	$f_T$	$V_{CE} = 6 \text{ V}, I_C = 10 \text{ mA}$	180		MHz
Collector output capacitance	$C_{ob}$	$V_{CE} = 6 \text{ V}, I_E = 0, f = 1 \text{ MHz}$		4	pF
Noise figure	NF	$V_{CE} = 6 \text{ V}, I_E = -0.1 \text{ mA}, f = 1 \text{ KHz}, R_G = 2 \text{ K}\Omega$		15	dB

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

Rank	E	F	G
Range	150~300	250~500	400~800
Marking	LE	LF	LG