

### 2SC380TM TRANSISTOR (NPN)

#### FEATURE

Power dissipation

$$P_{CM}: 0.3 \text{ W (Tamb=25°C)}$$

Collector current

$$I_{CM}: 0.05 \text{ A}$$

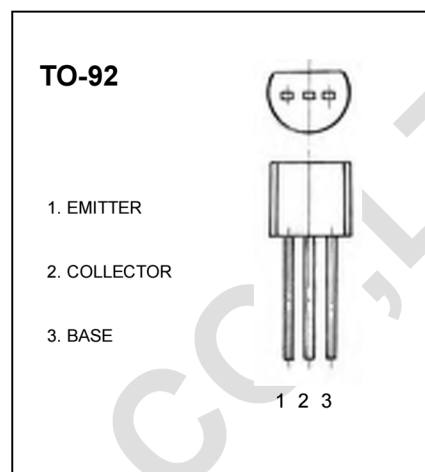
Collector-base voltage

$$V_{(BR)CBO}: 35 \text{ V}$$

Operating and storage junction temperature range

$$T_{stg}: -55°C \text{ to } +150°C$$

$$T_J: 150°C$$



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

Parameter	Symbol	Test conditions	MIN	TYP	MAX	UNIT
Collector-base breakdown voltage	$V_{(BR)CBO}$	$I_C = 100\mu A, I_E = 0$	35			V
Collector-emitter breakdown voltage	$V_{(BR)CEO}$	$I_C = 1mA, I_B = 0$	30			V
Emitter-base breakdown voltage	$V_{(BR)EBO}$	$I_E = 100\mu A, I_C = 0$	4			V
Collector cut-off current	$I_{CBO}$	$V_{CB} = 35V, I_E = 0$			0.1	$\mu A$
Emitter cut-off current	$I_{EBO}$	$V_{EB} = 4V, I_C = 0$			0.1	$\mu A$
DC current gain	$h_{FE}$	$V_{CE} = 12V, I_C = 2mA$	40		240	
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C = 10mA, I_B = 1mA$			0.4	V
Base-emitter voltage	$V_{BE}$	$I_C = 10mA, I_B = 1mA$			1.0	V
Transition frequency	$f_T$	$V_{CE} = 5V, I_C = 10mA$	100			MHz
Collector Output Capacitance	$C_{ob}$	$V_{CB} = 10V, I_E = 0, f = 1MHz$	1.4	2.0	3.2	pF
Collector-Base Time Constant	$C_c r_{bb}'$	$V_{CE} = 10V, I_E = -1mA, f = 30MHz$	10		50	ps
Power Gain	$G_{pe}$	$V_{CC} = 6V, I_E = -1mA, F = 10.7MHz$	27	29	33	dB

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

Rank	R	O	Y
Range	40-80	70-140	120-240