SILICON TRANSISTOR

2SC2802

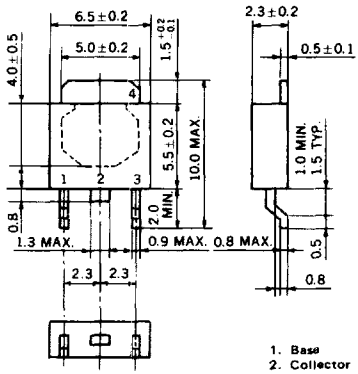
NPN SILICON TRIPLE DIFFUSED TRANSISTOR

MP-3

DESCRIPTION

2SC2802 is designed for Color TV Chroma Output, especially in Hybrid Integrated Circuits.

PACKAGE DIMENSIONS
in millimeters



1. Base
2. Collector
3. Emitter
4. Collector

FEATURES

- High Voltage V_{CEO} = 300 V
- High Electrostatic Discharge Resistant V_{ESDR} = TYP. 1 000 V
  (E-B reverse bias, C = 2 300 pF)

ABSOLUTE MAXIMUM RATINGS

Maximum Voltages and Current (T_a = 25 °C)			
Collector to Base Voltage	V_{CBO}	300	V
Collector to Emitter Voltage	V_{CEO}	300	V
Emitter to Base Voltage	V_{EBO}	5	V
Collector Current (DC)	I_C	200	mA
Maximum Power Dissipation			
Total Power Dissipation at 25 °C Ambient Temperature*	P_T	2.0	W
Maximum Temperatures			
Junction Temperature	T_j	150	°C
Storage Temperature Range	T_{stg}	−55 to +150	°C

*When mounted on ceramic substrate of 7.5 cm² x 0.7 mm

ELECTRICAL CHARACTERISTICS (T_a = 25 °C)

CHARACTERISTIC	SYMBOL	MIN.	TYP.	MAX.	UNIT	TEST CONDITIONS
Collector Cutoff Current	I_{CBO}			100	nA	V_{CB} = 200 V, I_E = 0
Emitter Cutoff Current	I_{EBO}			100	nA	V_{EB} = 4.0 V, I_C = 0
DC Current Gain	h_{FE}**	40		250		V_{CE} = 10 V, I_C = 10 mA
Collector Saturation Voltage	$V_{CE(sat)}$**			1.5	V	I_C = 50 mA, I_B = 5.0 mA
Gain Bandwidth Product	f_T	50	80		MHz	V_{CE} = 30 V, I_E = −10 mA
Output Capacitance	C_{ob}			3.0	pF	V_{CB} = 30 V, I_E = 0, f = 1.0 MHz

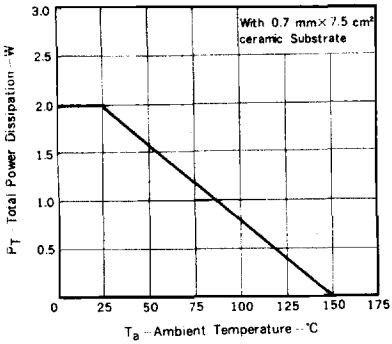
**Pulsed: PW ≤ 350 μs, Duty Cycle ≤ 2%

h_{FE} Classification

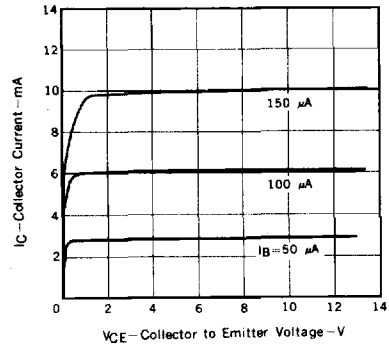
MARKING	N	M	L	K
h_{FE}	40 to 80	60 to 120	100 to 200	160 to 250

TYPICAL CHARACTERISTICS (T_a = 25 °C)

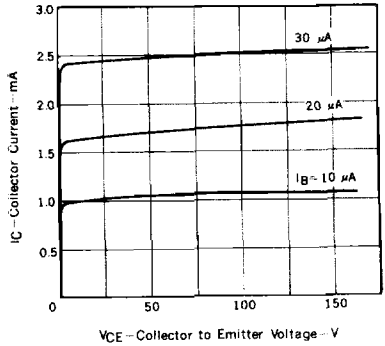
TOTAL POWER DISSIPATION vs. AMBIENT TEMPERATURE



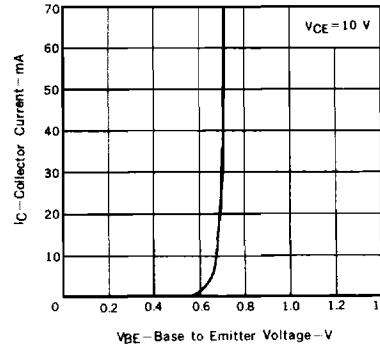
COLLECTOR CURRENT vs. COLLECTOR TO EMITTER VOLTAGE



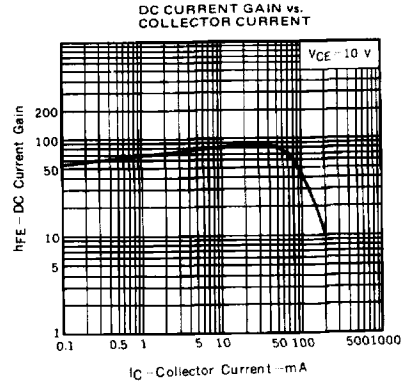
COLLECTOR CURRENT vs. COLLECTOR TO EMITTER VOLTAGE



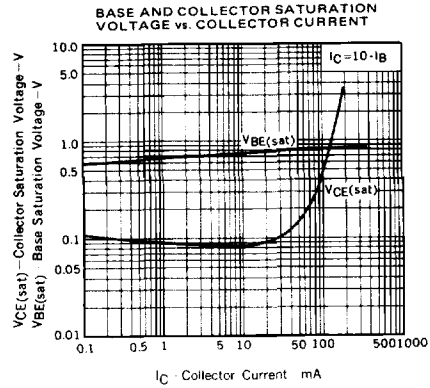
COLLECTOR CURRENT vs. BASE TO EMITTER VOLTAGE



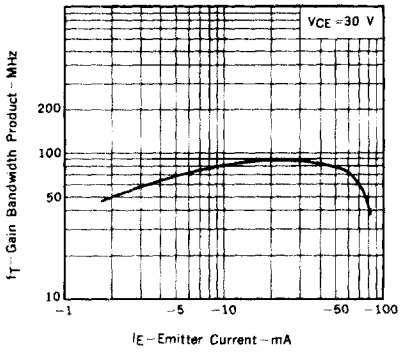
DC CURRENT GAIN vs. COLLECTOR CURRENT



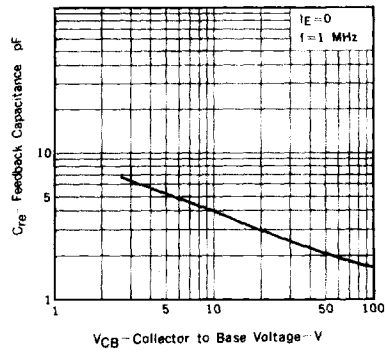
BASE AND COLLECTOR SATURATION VOLTAGE vs. COLLECTOR CURRENT



GAIN BANDWIDTH PRODUCT vs.
EMITTER CURRENT



FEEDBACK CAPACITANCE vs.
COLLECTOR TO BASE VOLTAGE



ELECTROSTATIC DISCHARGE
RESISTANT TEST CIRCUIT