

# NEC

## NPN SILICON TRANSISTOR 2SC2688

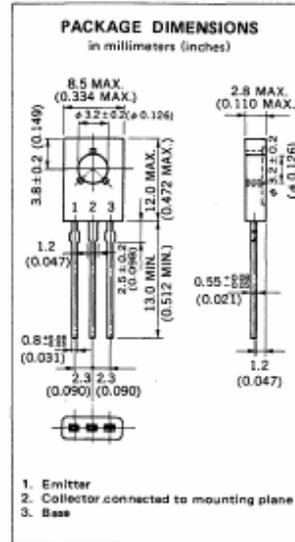
**DESCRIPTION** The 2SC2688 is designed for use in Color TV chroma output circuits.

**FEATURES**

- High Electrostatic-Discharge-Resistance. (E-B reverse bias,  $C = 2300 \text{ pF}$  ESDR : TYP. 1000 V)
- Low  $C_{re}$ , High  $f_T$   
 $C_{re} \leq 3.0 \text{ pF}$  ( $V_{CB} = 30 \text{ V}$ )  
 $f_T \geq 50 \text{ MHz}$  ( $V_{CE} = 30 \text{ V}$ ,  $I_E = -10 \text{ mA}$ )

### ABSOLUTE MAXIMUM RATINGS

Maximum Temperatures	
Storage Temperature	-55 to +150 °C
Junction Temperature	150 °C Maximum
Maximum Power Dissipation	
Total Power Dissipation ( $T_a = 25 \text{ °C}$ )	1.25 W
Total Power Dissipation ( $T_c = 25 \text{ °C}$ )	10 W
Maximum Voltages and Current ( $T_a = 25 \text{ °C}$ )	
$V_{CBO}$ Collector to Base Voltage	300 V
$V_{CEO}$ Collector to Emitter Voltage	300 V
$V_{EBO}$ Emitter to Base Voltage	5.0 V
$I_C$ Collector Current	200 mA



### ELECTRICAL CHARACTERISTICS ( $T_a = 25 \text{ °C}$ )

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

\*Pulsed PW  $\leq 350 \mu\text{s}$ , Duty Cycle  $\leq 2\%$

### Classification of $h_{FE}$

Rank	N	M	L	K
Range	40 to 80	60 to 120	100 to 200	160 to 250

Test Conditions :  $V_{CE} = 10 \text{ V}$ ,  $I_C = 10 \text{ mA}$