



# WAN LI ELECTRONICS (WUXI) CO.,LTD

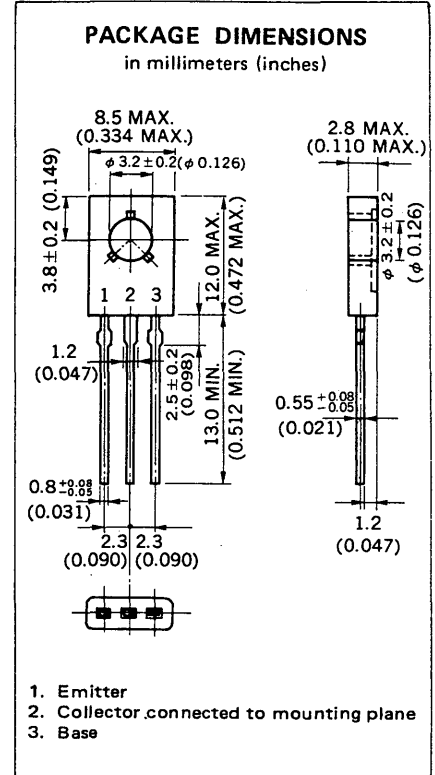
## TO-220 Plastic-Encapsulate Transistors

**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. 1 000 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 Dissipations	
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	$I_C = 50 \text{ mA}$ , $I_B = 5.0 \text{ mA}$

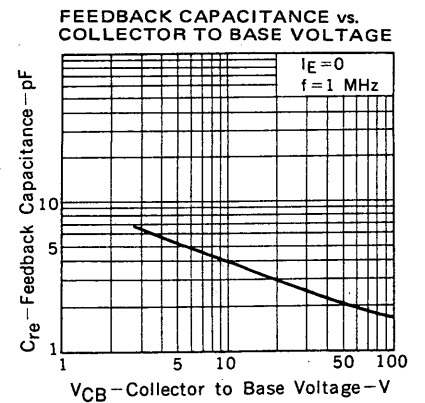
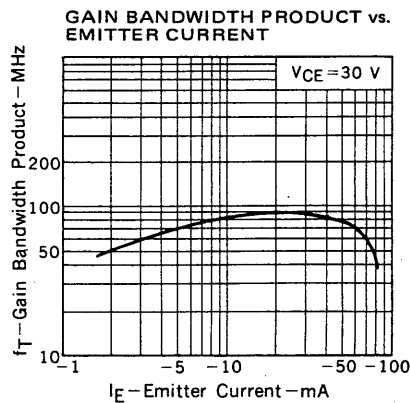
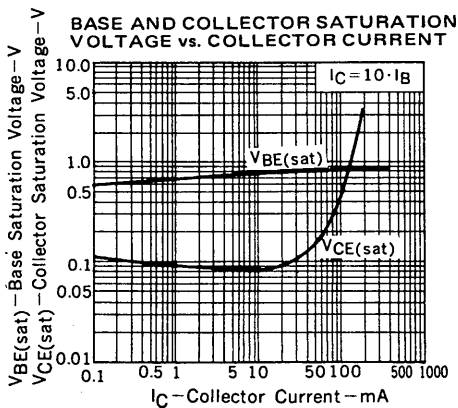
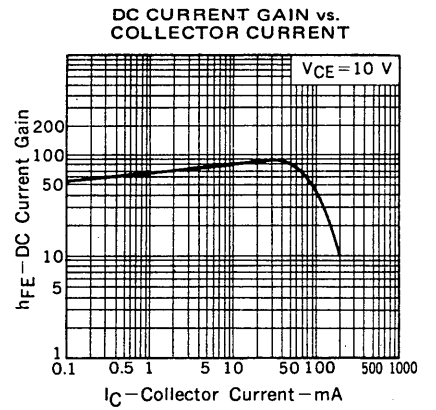
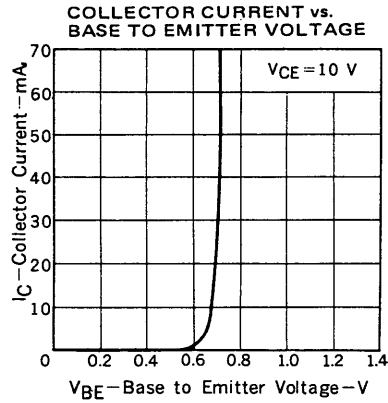
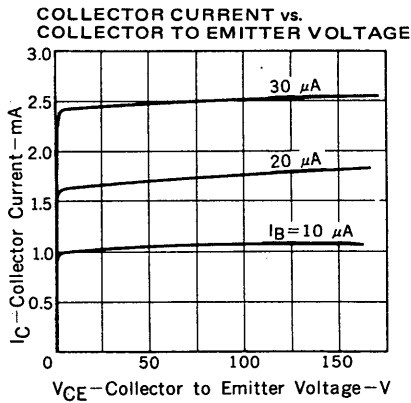
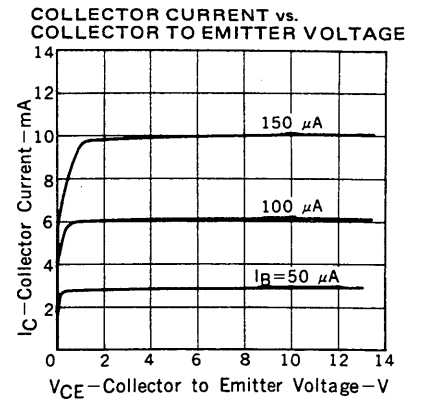
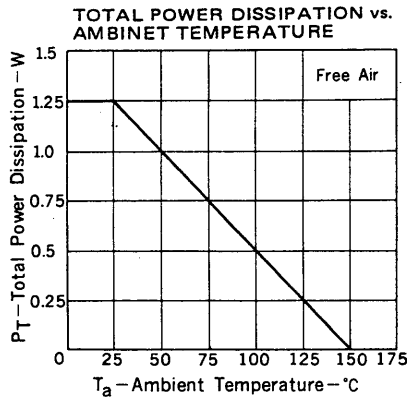
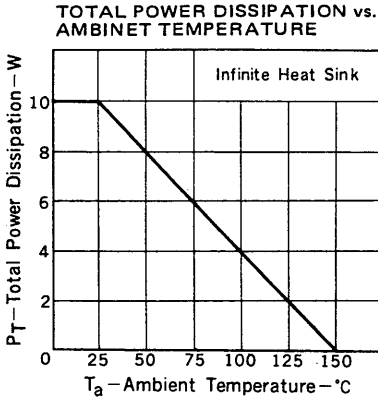
\*Pulsed PW  $\leq 350 \mu\text{s}$ , Duty Cycle  $\leq 2 \%$

**Classification of  $h_{FE}$**

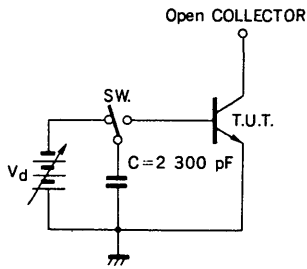
Rank	N	M	L	K
Range	40 to 80	60 to 120	100 to 200	160 to 250

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

**TYPICAL CHARACTERISTICS ( $T_a = 25^\circ\text{C}$ )**



## BURNOUT TEST CIRCUIT BY DISCHARGE OF CAPACITOR



### TEST CONDITION

- 1) E-B reverse bias
- 2)  $C = 2300 \text{ pF}$
- 3) Apply one shot pulse to T.U.T. (Transistor Under the Test) by SW.

### JUDGEMENT

REJECT;  $BV_{EBO}$  waveform defect  
As a result if T.U.T. is not rejected, apply higher voltage to capacitor and test again.