



2SC2688

NPN SILICON TRANSISTOR

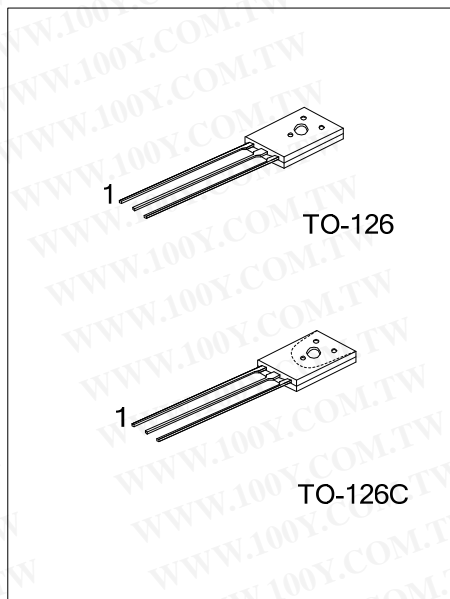
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DESCRIPTION

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

FEATURES

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



ORDERING INFORMATION

Ordering Number		Package	Pin Assignment			Packing
Lead Free	Halogen Free		1	2	3	
2SC2688L-x-T60-K	2SC2688G-x-T60-K	TO-126	E	C	B	Bulk
2SC2688L-x-T6C-K	2SC2688G-x-T6C-K	TO-126C	E	C	B	Bulk

<p>2SC2688L-x-T60-K</p>	<p>(1) K: Bulk (2) T60: TO-126, T6C: TO-126C (3) x: refer to Classification of h_{FE} (4) G: Halogen Free, L: Lead Free</p>
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2SC2688

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■ ABSOLUTE MAXIMUM RATING

PARAMETER	SYMBOL	RATINGS	UNIT
Collector to Base Voltage	V_{CBO}	300	V
Collector to Emitter Voltage	V_{CEO}	300	V
Emitter to Base Voltage	V_{EBO}	5.0	V
Collector Current	I_C	200	mA
Total Power Dissipation	P_D	$T_a=25^\circ\text{C}$	1.25
		$T_C=25^\circ\text{C}$	10
Junction Temperature	T_J	150	$^\circ\text{C}$
Storage Temperature	T_{STG}	-55 ~ +150	$^\circ\text{C}$

Note Absolute maximum ratings are those values beyond which the device could be permanently damaged. Absolute maximum ratings are stress ratings only and functional device operation is not implied.

■ ELECTRICAL CHARACTERISTICS ($T_a=25^\circ\text{C}$)

PARAMETER	SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
Collector Saturation Voltage	$V_{CE(SAT)}$	$I_C=20\text{mA}, I_B=5.0\text{mA}$			1.5	V
Collector Cutoff Current	I_{CBO}	$V_{CB}=200\text{V}, I_E=0$			100	nA
Emitter Cutoff Current	I_{EBO}	$V_{EB}=5.0\text{V}, I_C=0$			100	nA
DC Current Gain	h_{FE}	$V_{CE}=10\text{V}, I_C=10\text{mA}$ (Note 1)	40	80	250	
Gain Bandwidth Product	f_T	$V_{CE}=30\text{V}, I_E=-10\text{mA}$	50	80		MHz
Feedback Capacitance	C_{re}	$V_{CB}=30\text{V}, I_E=0, f=1.0\text{MHz}$			3	pF

Note 1. * Pulsed PW $\leq 350\mu\text{s}$, Duty Cycle $\leq 2\%$

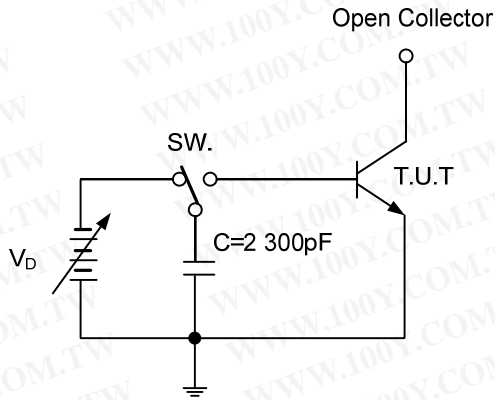
■ CLASSIFICATION OF h_{FE}

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

2SC2688

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■ BURNOUT TEST CIRCUIT BY DISCHARGE OF CAPACITOR



TEST CONDITION

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

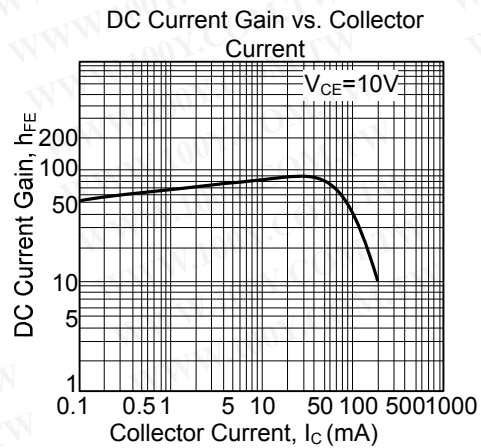
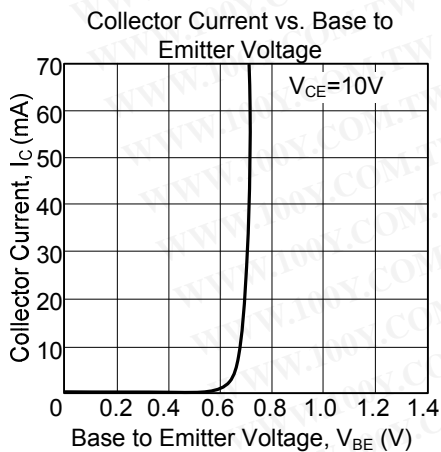
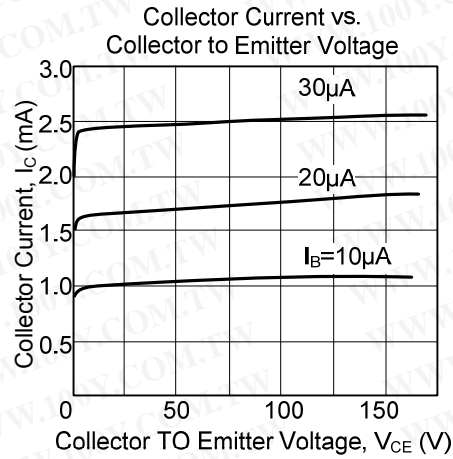
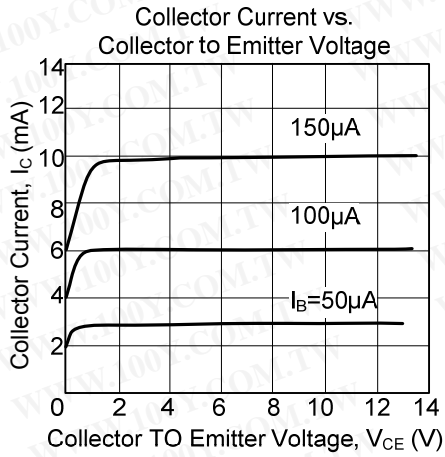
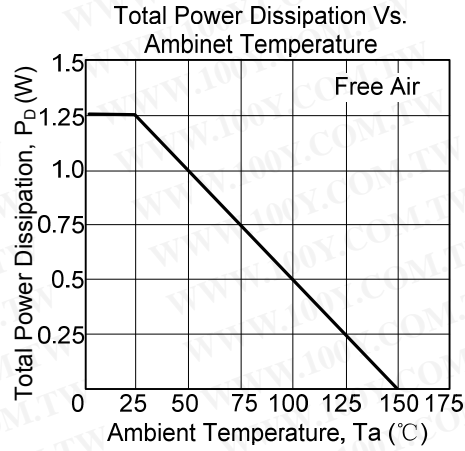
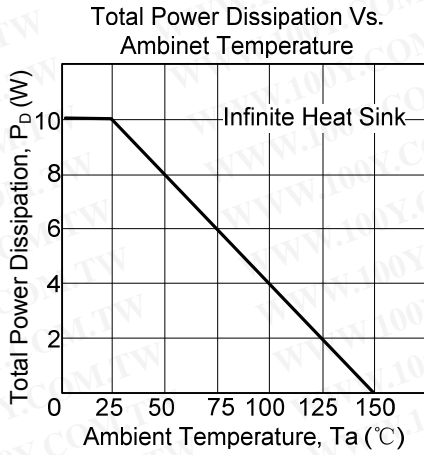
JUDGEMENT

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

2SC2688

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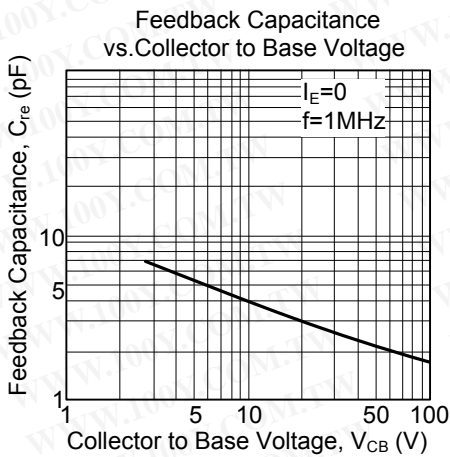
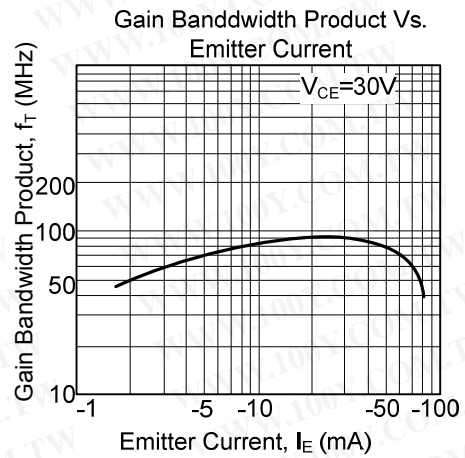
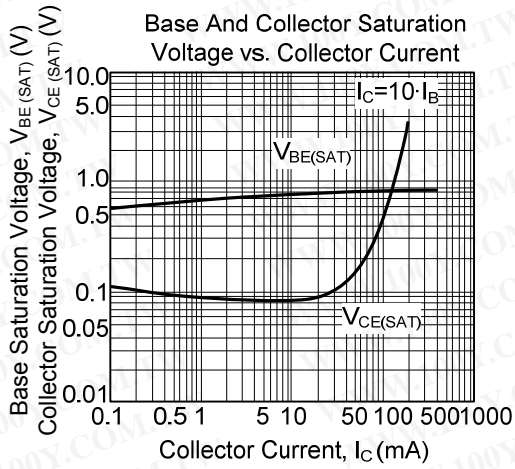
TYPICAL CHARACTERISTICS (Ta=25°C)



2SC2688

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TYPICAL CHARACTERISTICS



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