



2SC2688

NPN SILICON TRANSISTOR

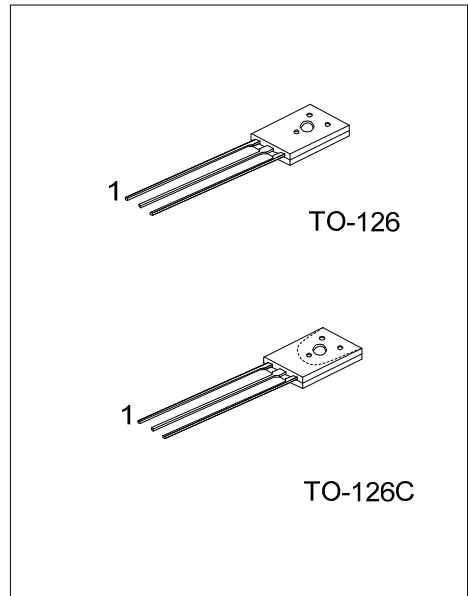
NPN SILICON TRANSISTOR

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 ($V_{CE}=30V, I_E=-10mA$)



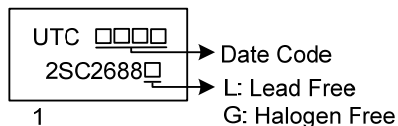
ORDERING INFORMATION

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

Note: Pin Assignment: E: Emitter C: Collector B: Base

<p>2SC2688G-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 and Lead Free, L: Lead Free</p>
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MARKING



■ ABSOLUTE MAXIMUM RATING ($T_A=25^{\circ}\text{C}$, unless otherwise specified)

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	$T_A=25^{\circ}\text{C}$	P_D	1.25	W
	$T_C=25^{\circ}\text{C}$		10	W
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 ($T_A=25^{\circ}\text{C}$, unless otherwise specified)

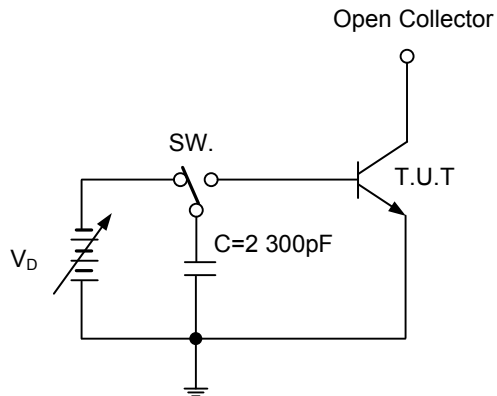
PARAMETER	SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
Collector Saturation Voltage	$V_{CE(SAT)}$	$I_C=20\text{mA}$, $I_B=5.0\text{mA}$			1.5	V
Collector Cutoff Current	I_{CBO}	$V_{CB}=200\text{V}$, $I_E=0$			100	nA
Emitter Cutoff Current	I_{EBO}	$V_{EB}=5.0\text{V}$, $I_C=0$			100	nA
DC Current Gain	h_{FE}	$V_{CE}=10\text{V}$, $I_C=10\text{mA}$ (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

■ BURNOUT TEST CIRCUIT BY DISCHARGE OF CAPACITOR



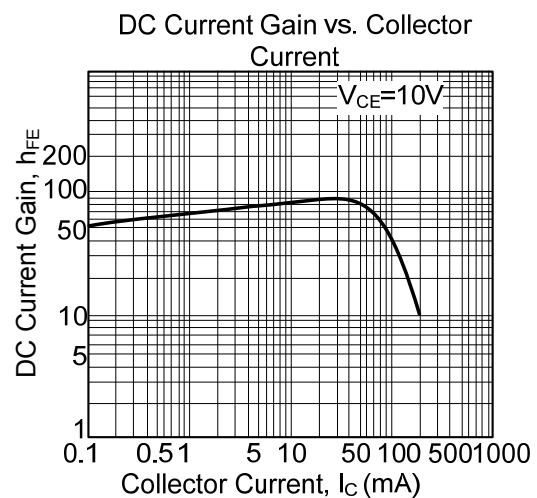
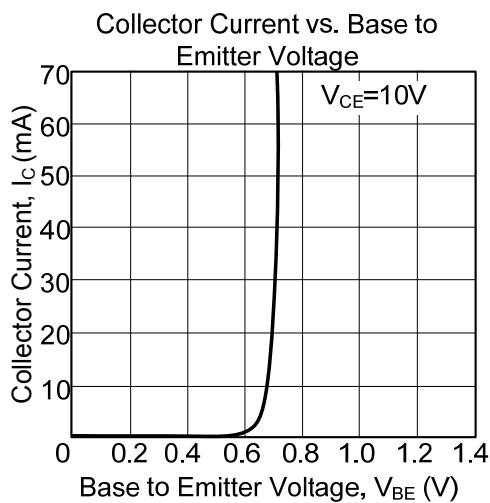
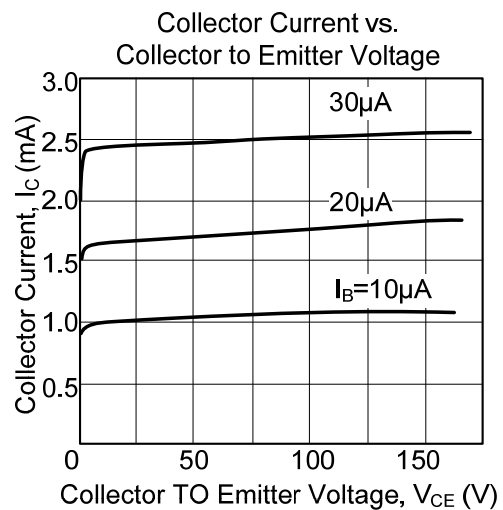
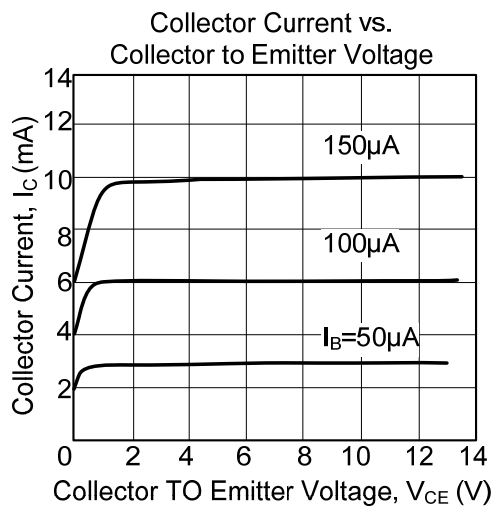
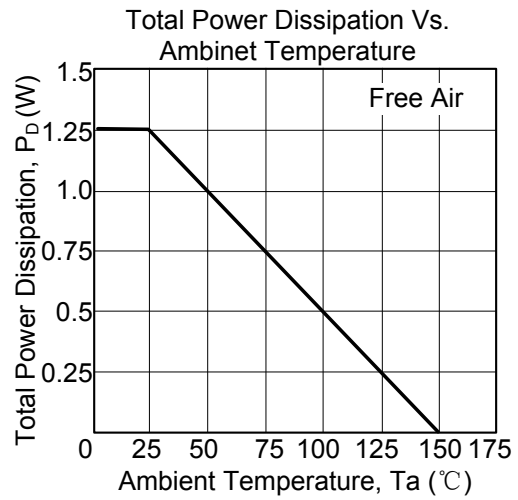
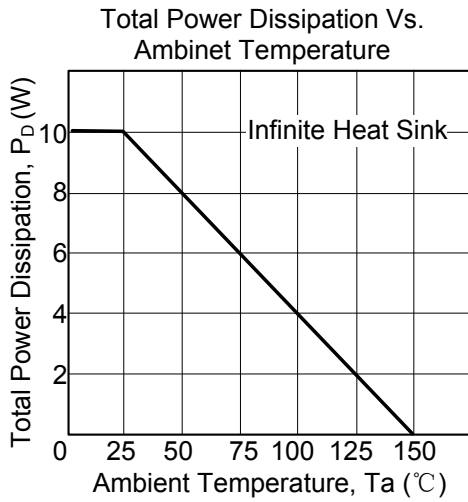
TEST CONDITION

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.

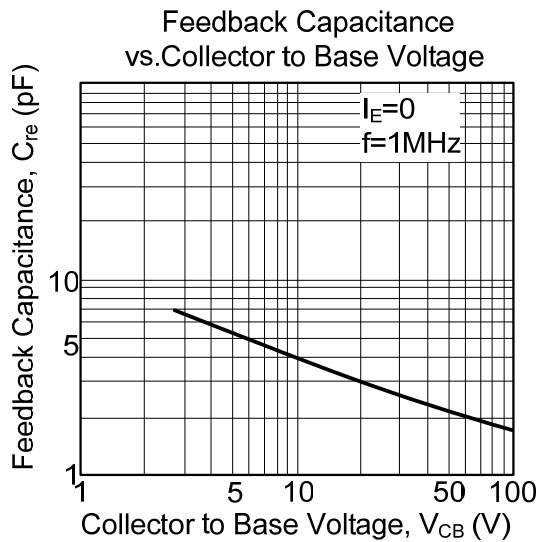
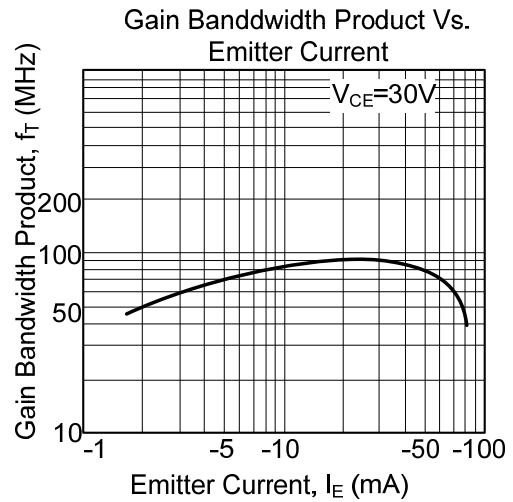
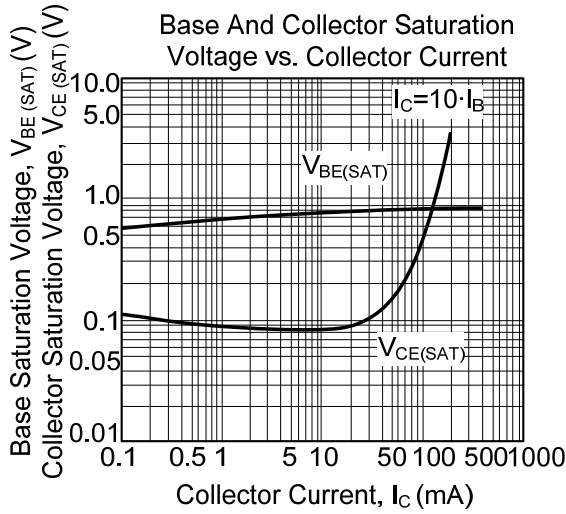
JUDGEMENT

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

TYPICAL CHARACTERISTICS



■ TYPICAL CHARACTERISTICS (Cont.)



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