



2SC2688

NPN EPITAXIAL SILICON TRANSISTOR

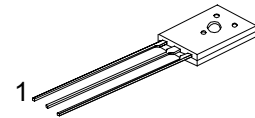
NPN SILICON TRANSISTOR

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 ($V_{CB}=30V$)
 $f_T \geq 50MHz$ ($V_{CE}=30V$, $I_E=-10mA$)



TO-126

*Pb-free plating product number: 2SC2688L

ORDERING INFORMATION

Order Number		Package	Pin Assignment			Packing
Normal	Lead Free Plating		1	2	3	
2SC2688-x-T60-A-K	2SC2688L-x-T60-A-K	TO-126	E	C	B	Bulk

2SC2688L-x-T60-A-K	(1)Packing Type (2)Pin Assignment (3)Package Type (4)Rank (5)Lead Plating	(1) K: Bulk (2) refer to Pin Assignment (3) T60: TO-126 (4) x: refer to Classification of h_{FE} (5) L: Lead Free Plating, Blank: Pb/Sn
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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	$T_a=25^{\circ}\text{C}$	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 ($T_a=25^{\circ}\text{C}$)

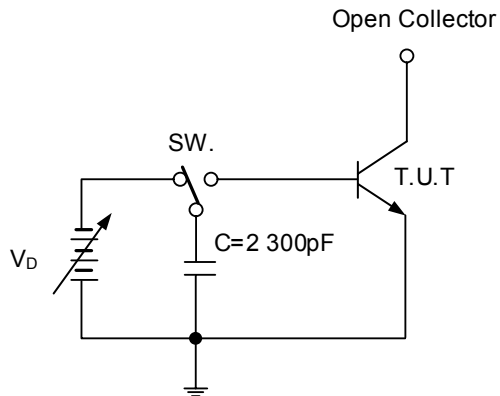
PARAMETER	SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
Collector Saturation Voltage	$V_{CE(SAT)}$	$I_C=20\text{mA}$, $I_B=5.0\text{mA}$			1.5	V
Collector Cutoff Current	I_{CBO}	$V_{CB}=200\text{V}$, $I_E=0$			100	nA
Emitter Cutoff Current	I_{EBO}	$V_{EB}=5.0\text{V}$, $I_C=0$			100	nA
DC Current Gain	h_{FE}	$V_{CE}=10\text{V}$, $I_C=10\text{mA}$	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	16 ~ 250

■ BURNOUT TEST CIRCUIT BY DISCHARGE OF CAPACITOR



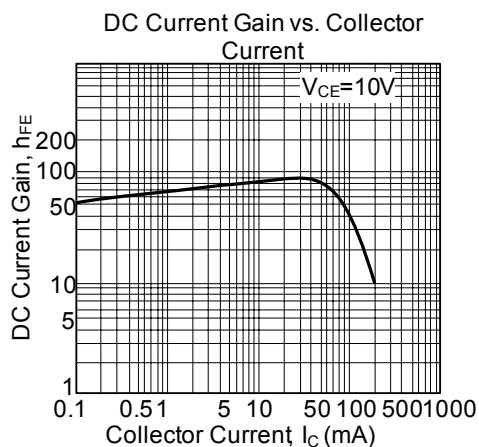
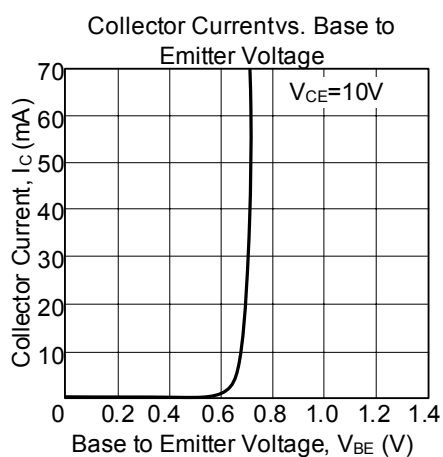
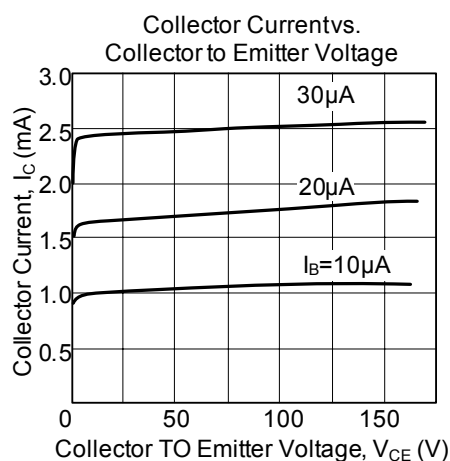
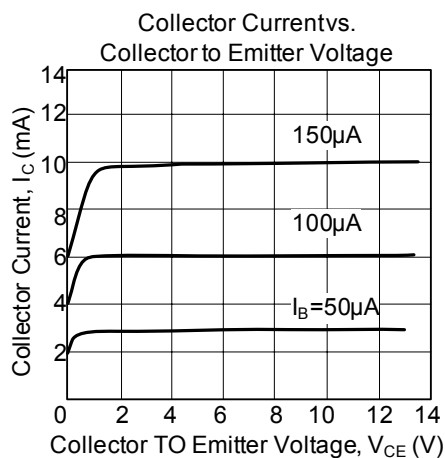
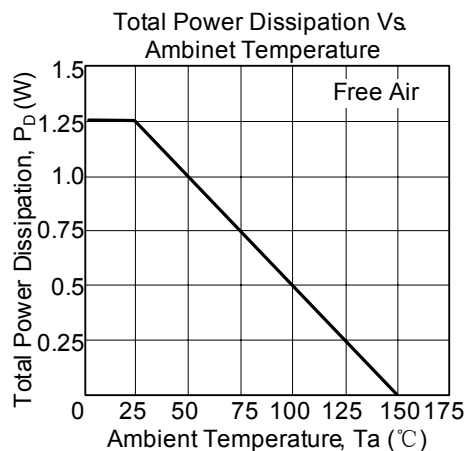
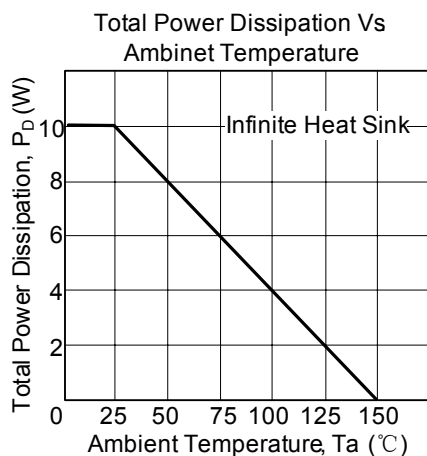
TEST CONDITION

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.

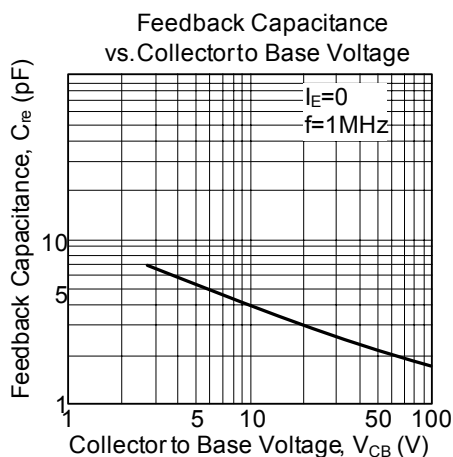
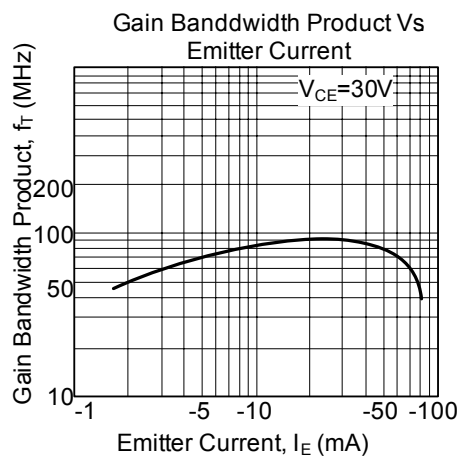
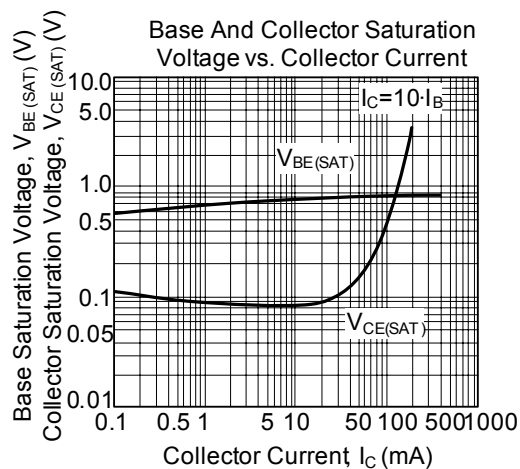
JUDGEMENT

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



■ TYPICAL CHARACTERISTICS



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