



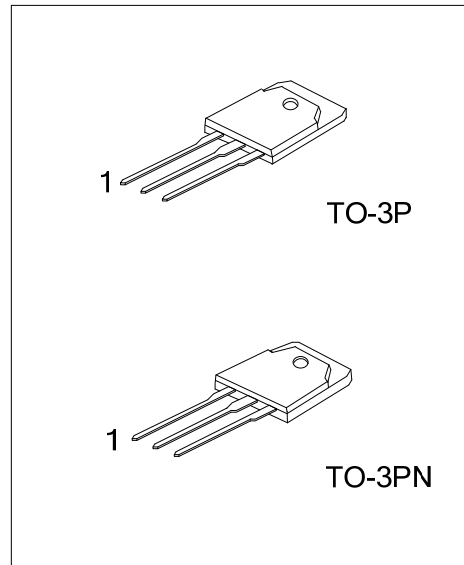
2SC3320

NPN EPITAXIAL SILICON TRANSISTOR

HIGH VOLTAGE HIGH SPEED SWITCHING

■ FEATURES

- * High voltage, high speed switching
- * High reliability



■ ORDERING INFORMATION

Ordering Number		Package	Pin Assignment			Packing
Lead Free	Halogen Free		1	2	3	
2SC3320L-x-T3P-T	2SC3320L-x-T3P-T	TO-3P	B	C	E	Tube
2SC3320L-x-T3N-T	2SC3320L-x-T3N-T	TO-3PN	B	C	E	Tube

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

<p>2SC3320L-x-T3P-T</p>	<p>(1) T: Tube (2) T3P: TO-3P, T3N: TO-3PN (3) x: reference to Classification of h_{FE} (4) L: Lead Free, G: Halogen Free</p>
-------------------------	---

■ MARKING INFORMATION

PACKAGE	MARKING
TO-3P TO-3PN	

■ ABSOLUTE MAXIMUM RATINGS ($T_C = 25^\circ\text{C}$)

PARAMETER	SYMBOL	RATINGS	UNIT
Collector Base Voltage	V_{CBO}	500	V
Collector Emitter Voltage	V_{CEO}	400	V
	$V_{CEO(SUS)}$	400	V
Emitter Base Voltage	V_{EBO}	7	V
Collector Current	I_C	15	A
Base Current	I_B	5	A
Power Dissipation	P_D	80	W
Junction Temperature	T_J	+150	$^\circ\text{C}$
Storage Temperature	T_{STG}	-40 ~ +150	$^\circ\text{C}$

Note 1. 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.

■ THERMAL DATA

PARAMETER	SYMBOL	RATINGS	UNIT
Junction to Case	θ_{JC}	1.55	$^\circ\text{C/W}$

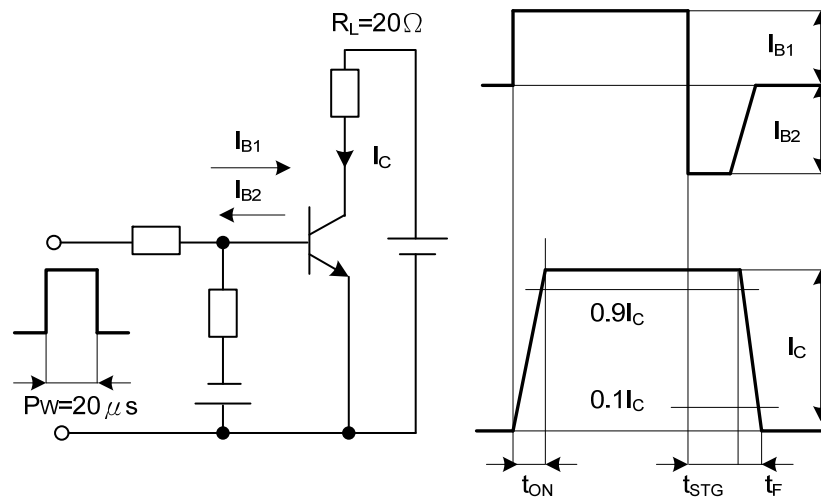
■ ELECTRICAL SPECIFICATIONS ($T_C=25^\circ\text{C}$, Unless Otherwise Specified.)

PARAMETER	SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
Collector Base Voltage	V_{CBO}	$I_{CBO}=1\text{mA}$	500			V
Collector Emitter Voltage	V_{CEO}	$I_{CEO}=10\text{mA}$	400			V
	$V_{CEO(SUS)}$	$I_C=0.2\text{A}$	400			V
Emitter Base Voltage	V_{EBO}	$I_{EBO}=1\text{mA}$	7			V
Collector Emitter Saturation Voltage	$V_{CE(SAT)}$	$I_C=6\text{A}, I_B=1.2\text{A}$			1	V
Base Emitter Saturation Voltage	$V_{BE(SAT)}$				1.5	V
Collector Cut-off Current	I_{CBO}	$V_{CBO}=500\text{V}$			1	mA
Emitter Cut-off Current	I_{EBO}	$V_{EBO}=7\text{V}$			1	mA
DC Current Gain	h_{FE}	$I_C=6\text{A}, V_{CE}=5\text{V}$	10		45	
Switching Time	t_{ON}	$I_C=7.5\text{A}, I_{B1}=1.5\text{A}, I_{B2}=-3\text{A}$ $R_L=20\Omega, P_W=20\mu\text{s}, \text{Duty} \leq 2\%$			0.5	μs
	t_{STG}				1.5	μs
	t_F				0.15	μs

■ CLASSIFICATION OF h_{FE}

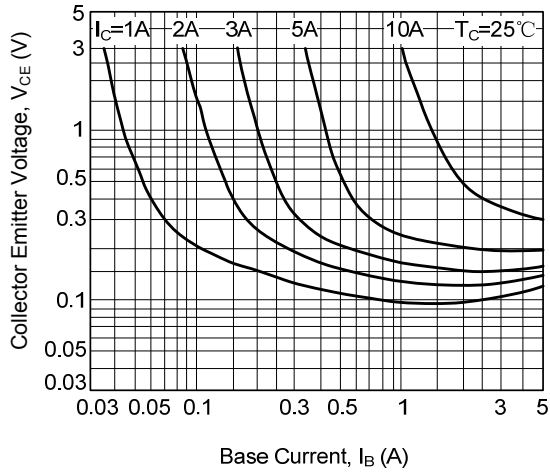
RANK	A	B	C	D	E	F
RANGE	10~15	15~20	20~25	25~30	30~35	35~45

■ SWITCHING TIME TEST CIRCUIT

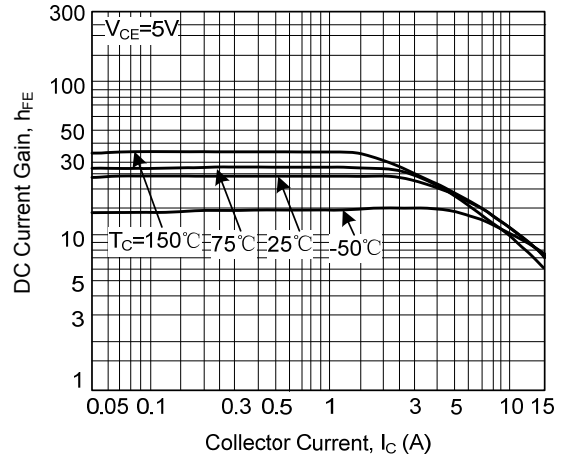


TYPICAL CHARACTERISTICS

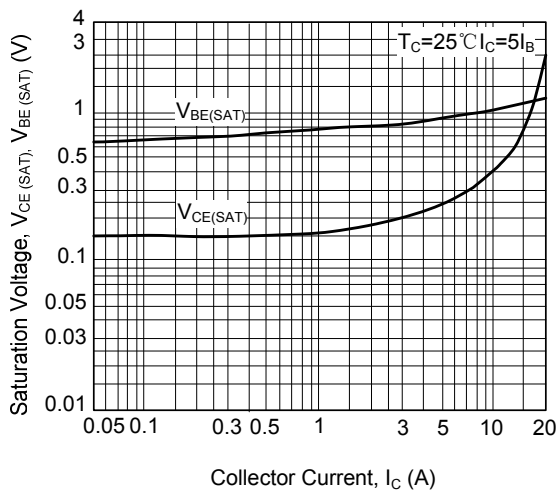
Collector Output Characteristics



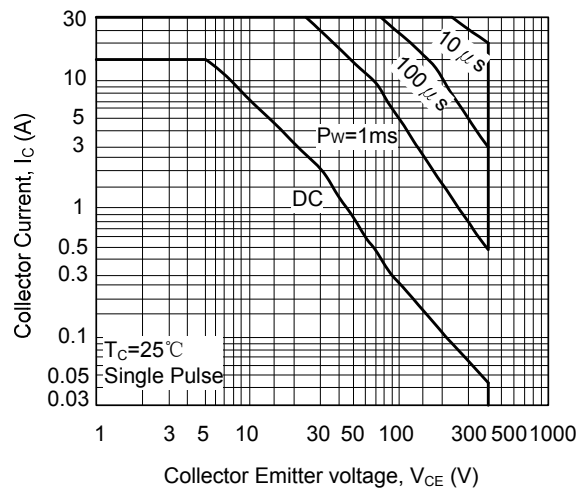
DC Current Gain



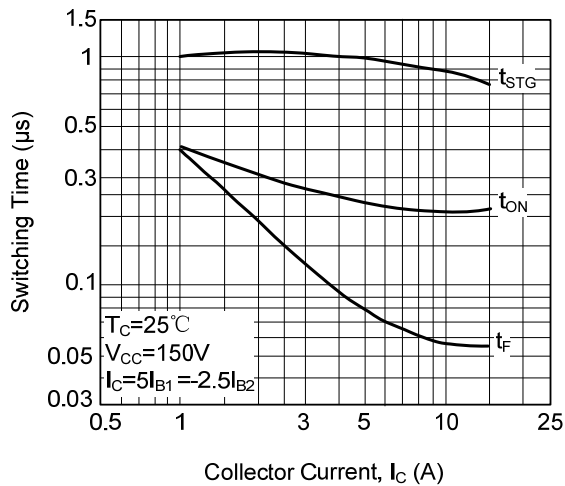
Base and Collector Saturation Voltage



Safe Operating Area



Switching Time



UTC assumes no responsibility for equipment failures that result from using products at values that exceed, even momentarily, rated values (such as maximum ratings, operating condition ranges, or other parameters) listed in products specifications of any and all UTC products described or contained herein. UTC products are not designed for use in life support appliances, devices or systems where malfunction of these products can be reasonably expected to result in personal injury. Reproduction in whole or in part is prohibited without the prior written consent of the copyright owner. The information presented in this document does not form part of any quotation or contract, is believed to be accurate and reliable and may be changed without notice.