



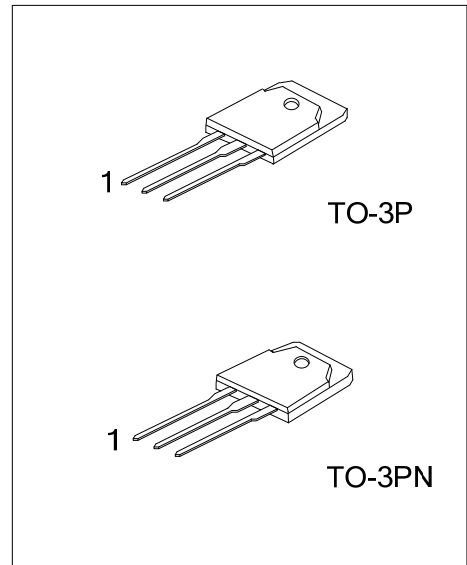
2SC3320

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

2SC3320L-x-T3P-T (1) Packing Type (2) Package Type (3) Rank (4) Lead Free	(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
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MARKING INFORMATION

PACKAGE	MARKING
TO-3P TO-3PN	UTC 2SC3320 Lot Code 1 L: Lead Free G: Halogen Free Data Code

■ 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	$^\circ\text{C/W}$

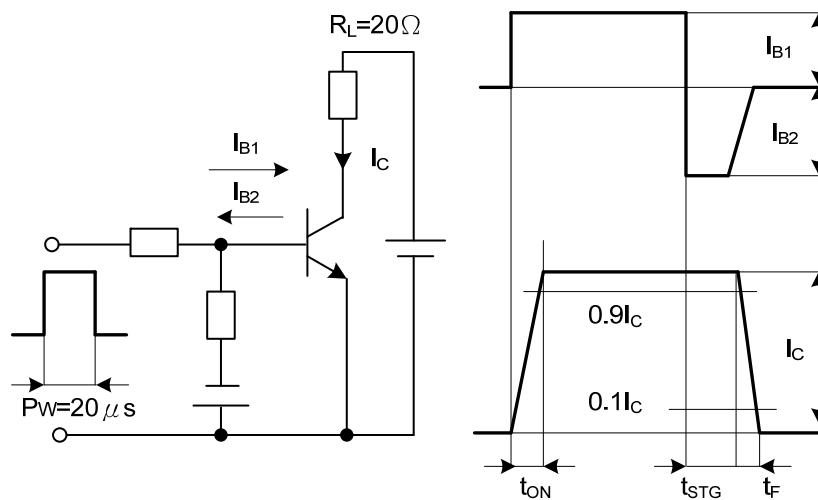
■ ELECTRICAL SPECIFICATIONS ($T_C = 25^\circ\text{C}$, Unless Otherwise Specified.)

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}

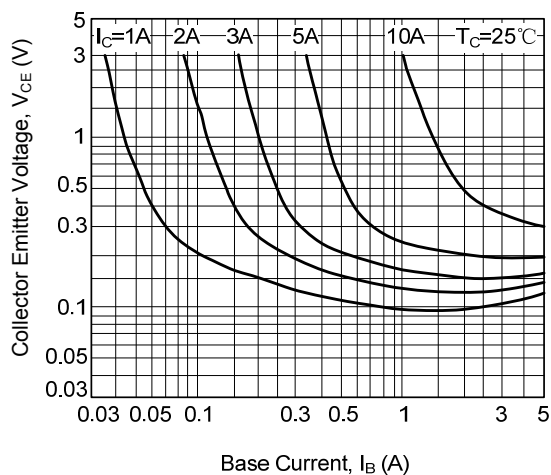
RANK	A	B	C	D	E	F
RANGE	10~15	15~20	20~25	25~30	30~35	35~45

■ SWITCHING TIME TEST CIRCUIT

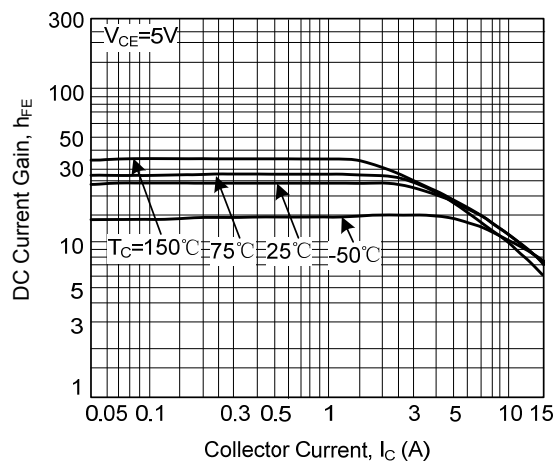


TYPICAL CHARACTERISTICS

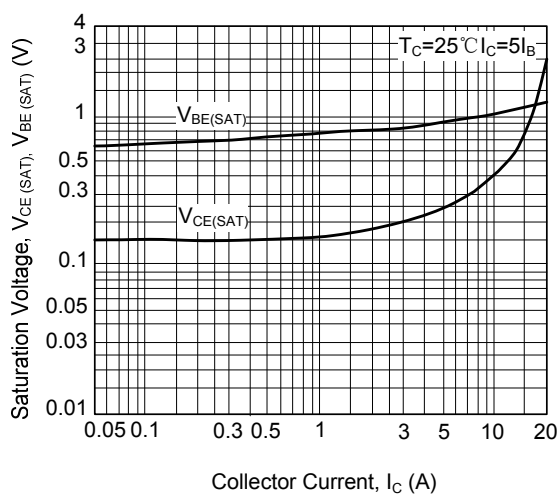
Collector Output Characteristics



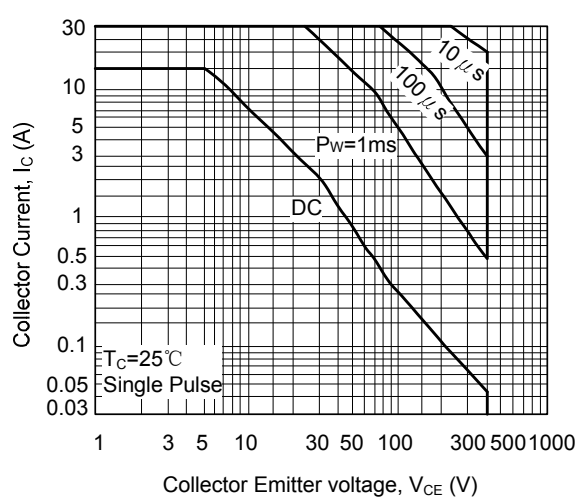
DC Current Gain



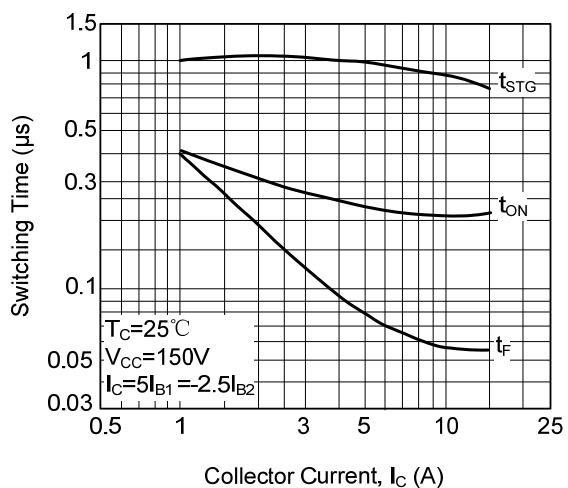
Base and Collector Saturation Voltage



Safe Operating Area



Switching Time



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