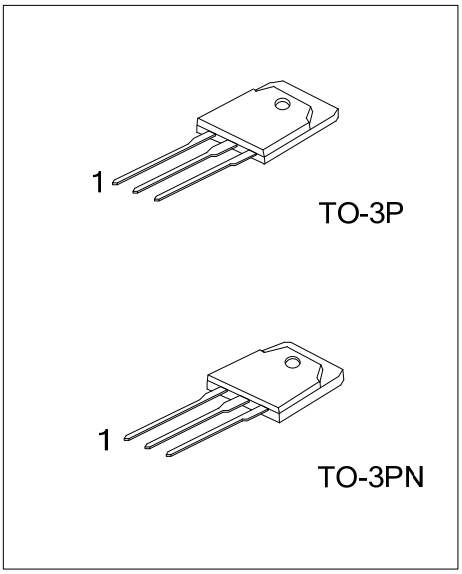
2SC3320

NPN EPITAXIAL SILICON TRANSISTOR

HIGH VOLTAGE HIGH SPEED SWITCHING



■ FEATURES

* High voltage, high speed switching
* High reliability

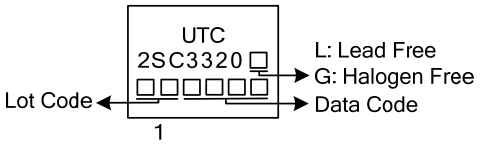
■ ORDERING INFORMATION

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

■ MARKING INFORMATION

PACKAGE	MARKING
TO-3P TO-3PN	

■ ABSOLUTE MAXIMUM RATINGS (T_C = 25°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	°C
Storage Temperature	T_{STG}	-40 ~ +150	°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	°C/W

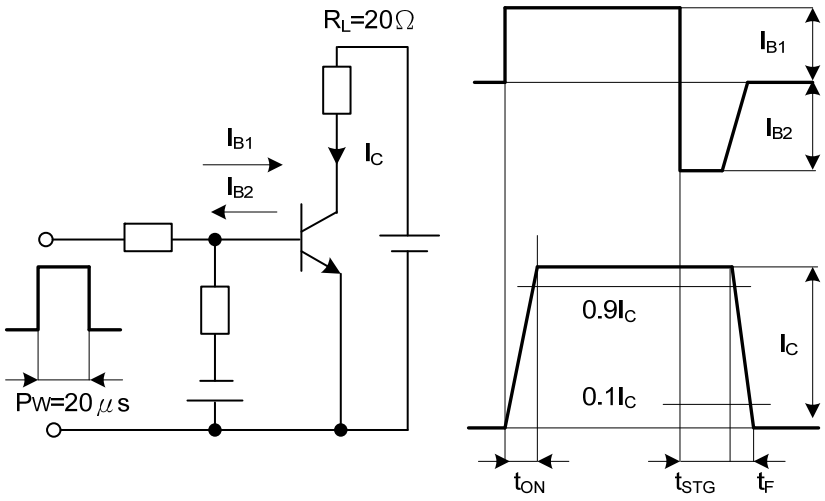
■ ELECTRICAL SPECIFICATIONS (T_C =25°C, Unless Otherwise Specified.)

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

■ CLASSIFICATION OF h_{FE}

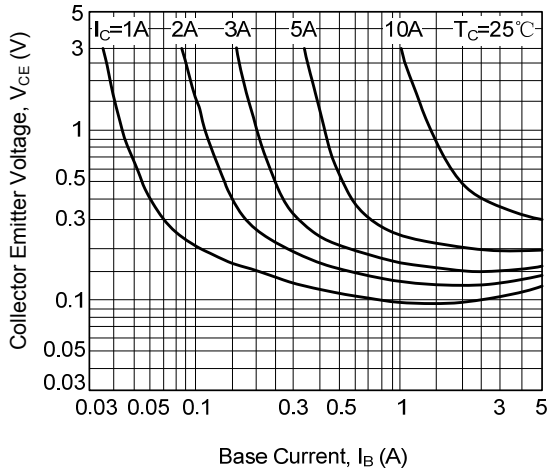
RANK	A	B	C	D	E	F
RANGE	10~15	15~20	20~25	25~30	30~35	35~45

■ SWITCHING TIME TEST CIRCUIT

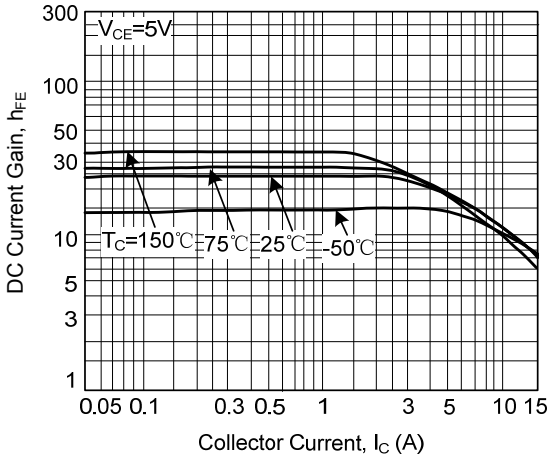


■ TYPICAL CHARACTERISTICS

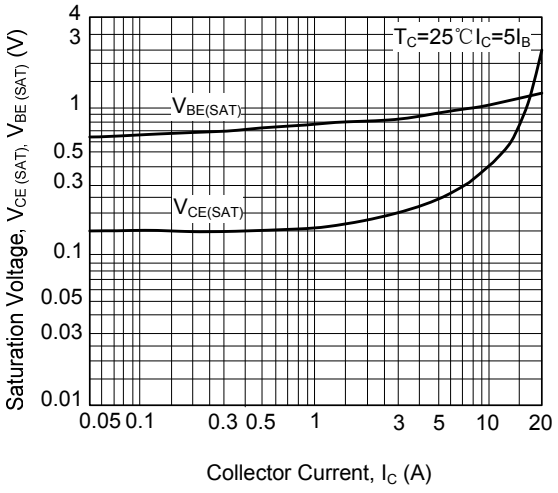
Collector Output Characteristics



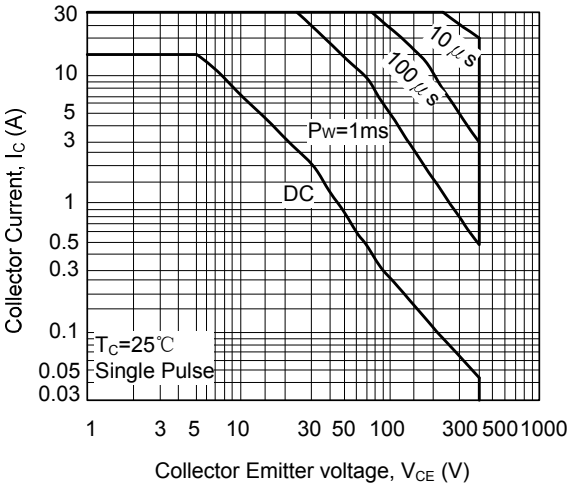
DC Current Gain



Base and Collector Saturation Voltage



Safe Operating Area



Switching Time