



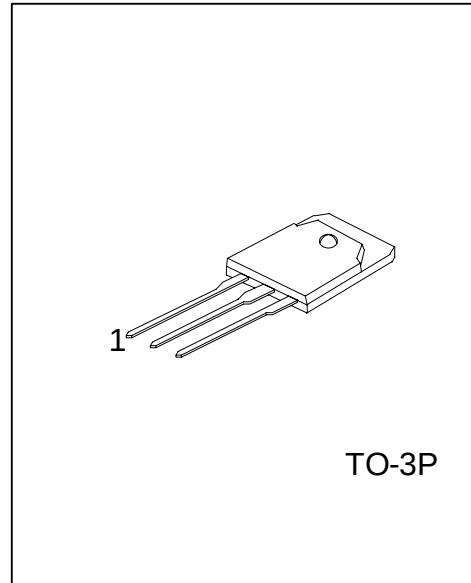
2SC3320

NPN EPITAXIAL SILICON TRANSISTOR

HIGH VOLTAGE HIGH SPEED SWITCHING

■ FEATURES

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



*Pb-free plating product number:2SC3320L

■ ORDERING INFORMATION

Order Number		Pin Assignment			Package	Packing
Normal	Lead Free Plating	1	2	3		
2SC3320-T3P-F-T	2SC3320L-T3P-F-T	B	C	E	TO-3P	Tube

2SC3320L-T3P-F-T	(1)Packing Type (2)Pin Assignment (3)Package Type (4)Lead Plating	(1) T: Tube (2) refer to Pin Assignment (3) T3P: TO-3P (4) L: Lead Free Plating, Blank: Pb/Sn
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■ 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	
Storage Temperature	T_{STG}	-40 ~ +150	

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.

2. The device is guaranteed to meet performance specification within $0^\circ\text{C} \sim +70^\circ\text{C}$ operating temperature range and assured by design from $-20^\circ\text{C} \sim +85^\circ\text{C}$.

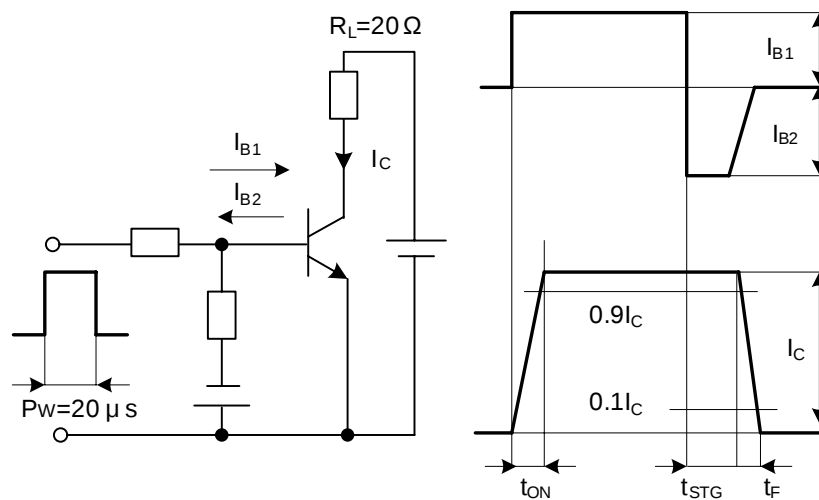
■ ELECTRICAL SPECIFICATIONS ($T_C = 25^\circ\text{C}$, Unless Otherwise Specified.)

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			
Switching Time	t_{ON}	$I_C = 7.5\text{A}$, $I_{B1} = 1.5\text{A}$, $I_{B2} = -3\text{A}$ $R_L = 20\Omega$, $P_w = 20\mu\text{s}$, Duty $\leq 2\%$			0.5	μs
	t_{STG}				1.5	μs
	t_F				0.15	μs

■ THERMAL CHARACTERISTICS

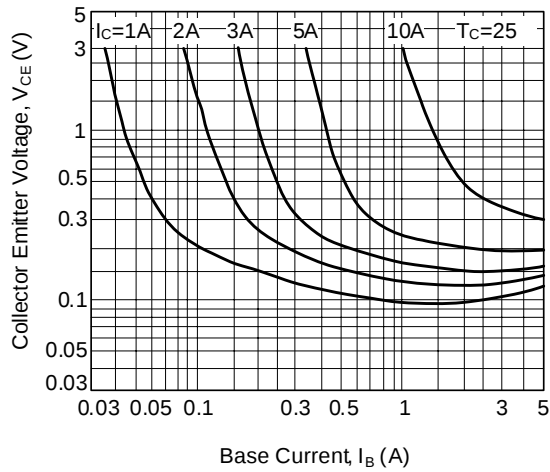
PARAMETER	SYMBOL	RATINGS	UNIT
Thermal Resistance Junction to Case	θ_{JC}	1.55	/W

■ SWITCHING TIME TEST CIRCUIT

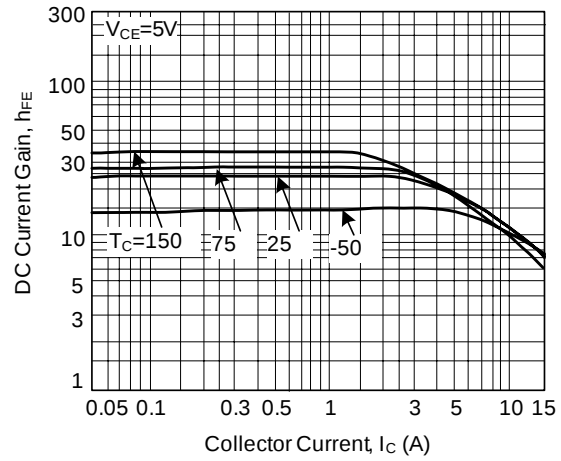


TYPICAL CHARACTERISTICS

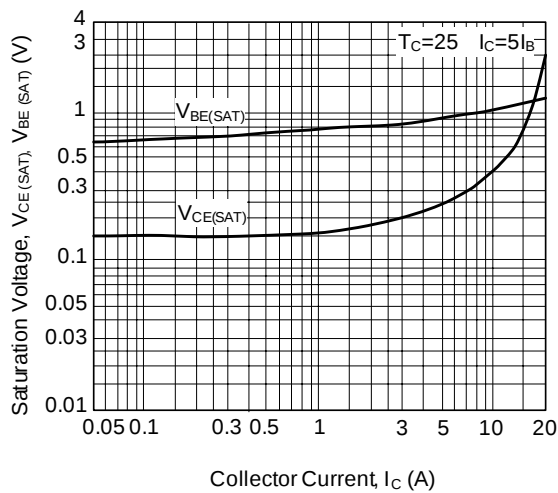
Collector Output Characteristics



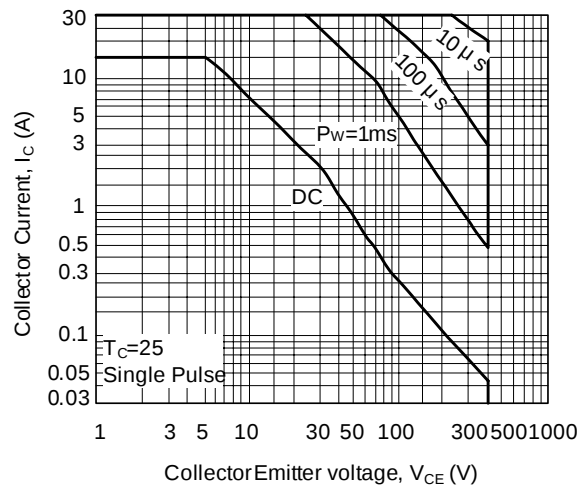
DC Current Gain



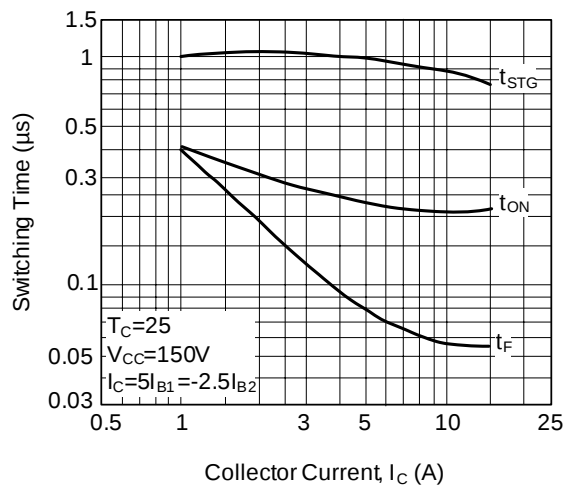
Base and Collector Saturation Voltage



Safe Operating Area



Switching Time



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