



2SC5353B

NPN SILICON TRANSISTOR

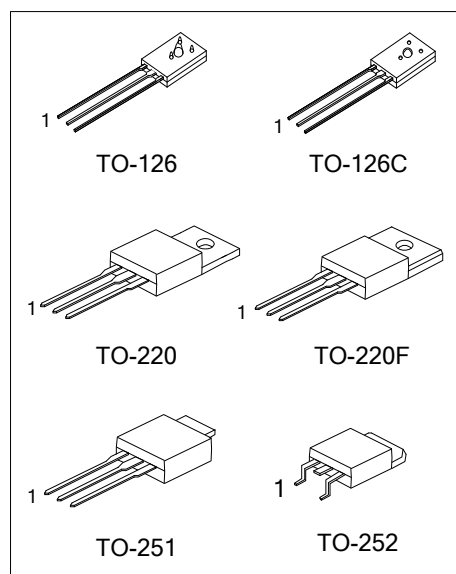
HIGH VOLTAGE NPN TRANSISTOR

DESCRIPTION

Switching Regulator and High Voltage Switching Applications
High-Speed DC-DC Converter Applications

FEATURES

- * Excellent switching times: $t_R = 0.7\mu s_{(MAX)}$, $t_F = 0.5\mu s_{(MAX)}$
- * High collectors breakdown voltage: $V_{CEO} = 750V$



ORDERING INFORMATION

Ordering Number		Package	Pin Assignment			Packing
Lead Free	Halogen Free		1	2	3	
2SC5353BL-T60-K	2SC5353BG-T60-K	TO-126	B	C	E	Bulk
2SC5353BL-T6C-K	2SC5353BG-T6C-K	TO-126C	B	C	E	Bulk
2SC5353BL-TA3-T	2SC5353BG-TA3-T	TO-220	B	C	E	Tube
2SC5353BL-TF3-T	2SC5353BG-TF3-T	TO-220F	B	C	E	Tube
2SC5353BL-TM3-T	2SC5353BG-TM3-T	TO-251	B	C	E	Tube
2SC5353BL-TN3-R	2SC5353BG-TN3-R	TO-252	B	C	E	Tape Reel

	(1)Packing Type	(1) K: Bulk, T: Tube, R: Tape Reel
	(2)Package Type	(2) T60: TO-126, T6C: TO-126C, TA3: TO-220, TF3: TO-220F, TM3: TO-251, TN3: TO-252
	(3)Lead Free	(3) G: Halogen Free, L: Lead Free

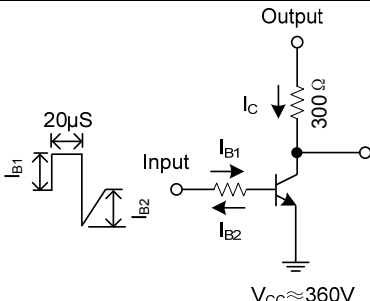
■ **ABSOLUTE MAXIMUM RATINGS** ($T_C = 25^\circ\text{C}$ unless otherwise specified)

PARAMETER		SYMBOL	RATINGS	UNIT
Collector-Base Voltage		V_{CBO}	900	V
Collector-Emitter Voltage		V_{CEO}	750	V
Emitter-Base Voltage		V_{EBO}	7	V
Collector Current	DC	I_C	3	A
	Pulse	I_{CP}	5	A
Base Current		I_B	1	A
Power Dissipation	TO-220F/TO-126/TO-126C	P_D	20	W
	TO-220		25	W
	TO-251/TO-252		22	W
Junction Temperature		T_J	+150	$^\circ\text{C}$
Storage Temperature		T_{STG}	-40 ~ +150	$^\circ\text{C}$

Note: Absolute maximum ratings are those values beyond which the device could be permanently damaged.

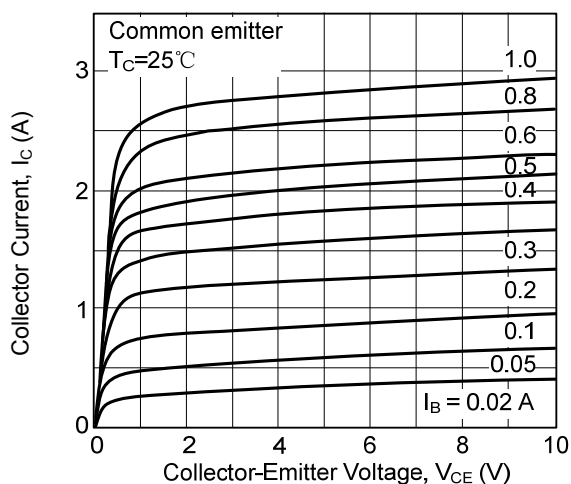
Absolute maximum ratings are stress ratings only and functional device operation is not implied.

■ **ELECTRICAL CHARACTERISTICS** ($T_C = 25^\circ\text{C}$ unless otherwise specified)

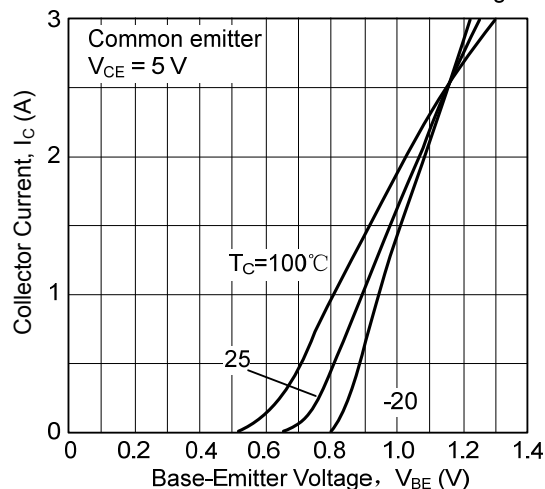
PARAMETER		SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
Collector-Base Breakdown Voltage		BV_{CBO}	$I_C = 1\text{ mA}$, $I_E = 0$	900			V
Collector-Emitter Breakdown Voltage		BV_{CEO}	$I_C = 10\text{ mA}$, $I_B = 0$	750			V
Collector Cut-off Current		I_{CBO}	$V_{CB} = 720\text{ V}$, $I_E = 0$			100	μA
Emitter Cut-off Current		I_{EBO}	$V_{EB} = 7\text{ V}$, $I_C = 0$			10	μA
DC Current Gain		h_{FE1}	$V_{CE} = 5\text{ V}$, $I_C = 1\text{ mA}$	10			
		h_{FE2}	$V_{CE} = 5\text{ V}$, $I_C = 0.15\text{ A}$	15			
Collector-Emitter Saturation Voltage		$V_{CE(SAT)}$	$I_C = 1.2\text{ A}$, $I_B = 0.24\text{ A}$			1.0	V
Base-Emitter Saturation Voltage		$V_{BE(SAT)}$	$I_C = 1.2\text{ A}$, $I_B = 0.24\text{ A}$			1.3	V
Switching Time	Rise Time	t_R	 $I_{B1} = 0.24\text{ A}$, $I_{B2} = -0.48\text{ A}$, duty cycle $\leq 1\%$			0.7	μs
	Storage Time	t_{STG}				4.0	μs
	Fall Time	t_F				0.5	μs

■ TYPICAL CHARACTERISTICS

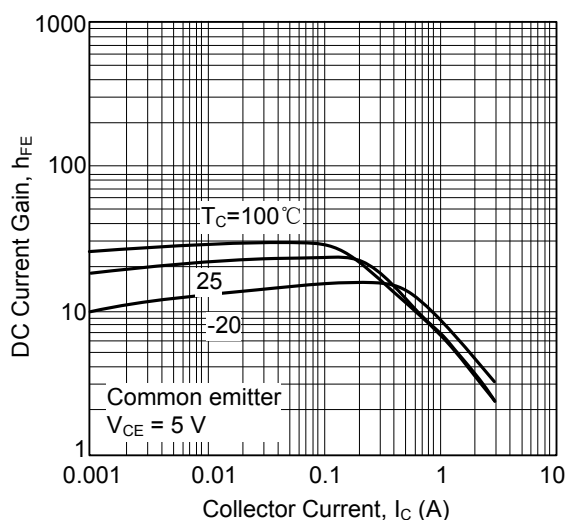
Collector Current vs. Collector-Emitter Voltage



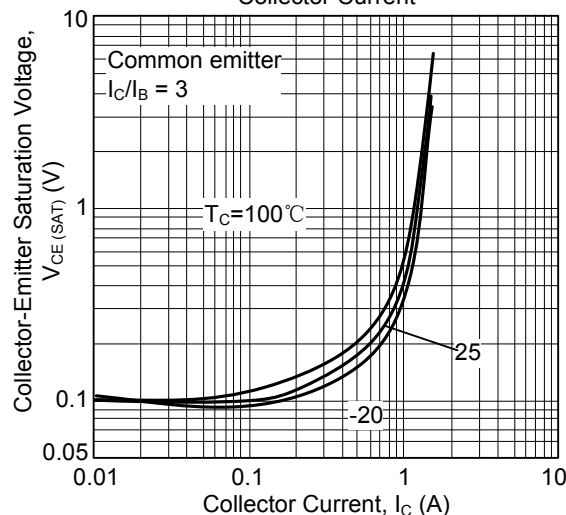
Collector Current vs. Base-Emitter Voltage



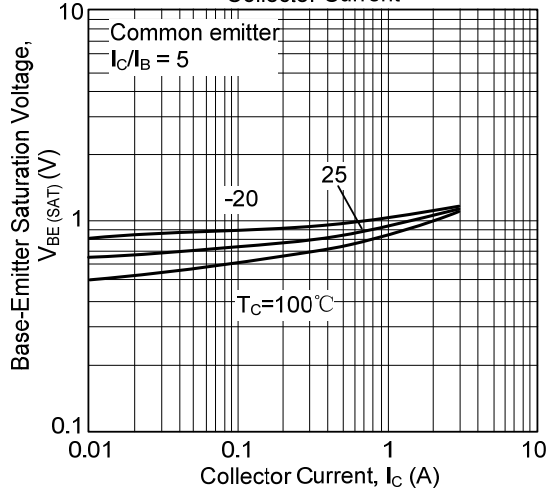
DC Current Gain vs. Collector Current



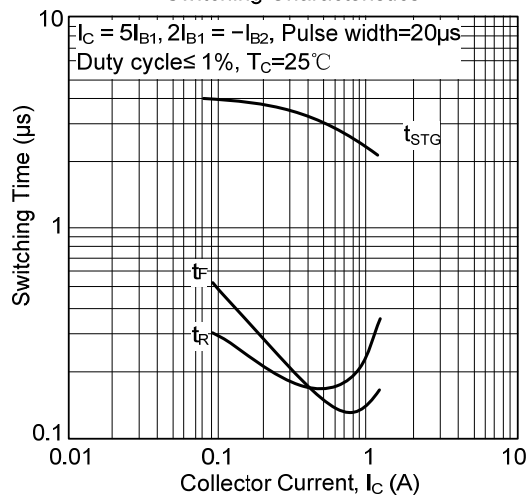
Collector-Emitter Saturation Voltage vs. Collector Current



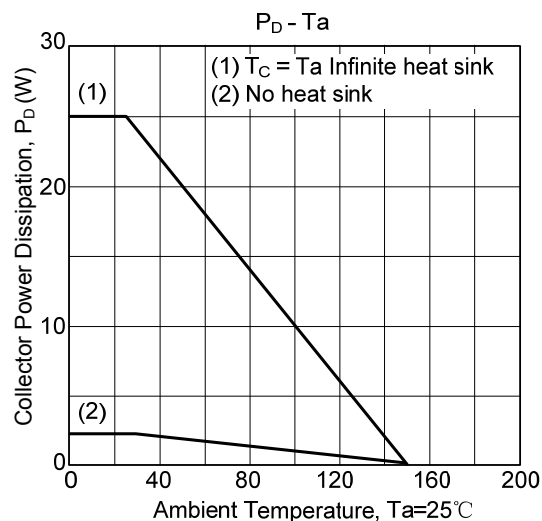
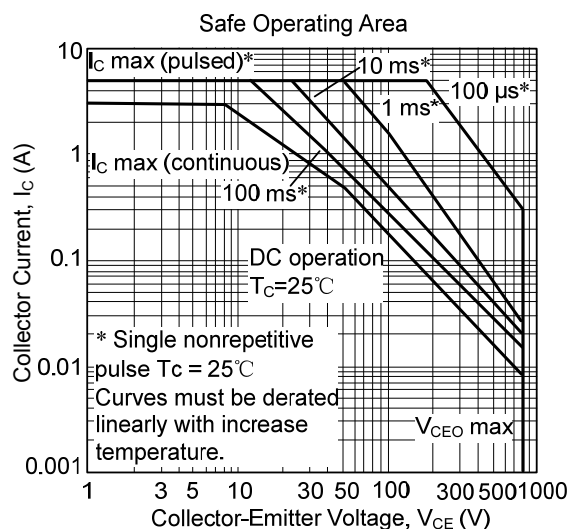
Base-Emitter Saturation Voltage vs. Collector Current



Switching Characteristics



■ TYPICAL CHARACTERISTICS(Cont.)



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