



# 2SC5353B

## NPN SILICON TRANSISTOR

### HIGH VOLTAGE NPN TRANSISTOR

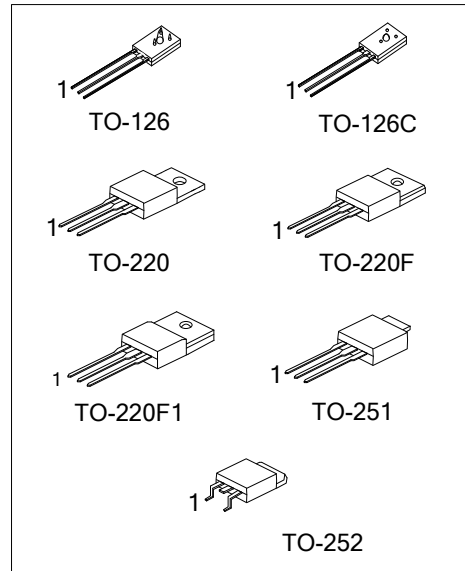
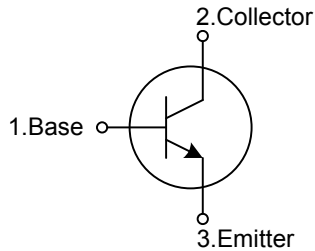
■ DESCRIPTION

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:  $V_{CEO} = 750V$

■ SYMBOL



■ 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-TF1-T	2SC5353BG-TF1-T	TO-220F1	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

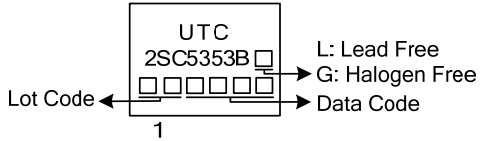
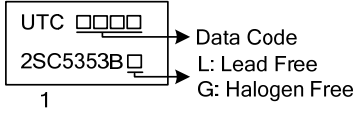
Note: Pin Assignment: E: Emitter B: Base C: Collector

<p>2SC5353BL-T60-T</p> <p>(1)Packing Type (2)Package Type (3)Green Package</p>	<p>(1) K: Bulk, T: Tube, R: Tape Reel (2) T60: TO-126, T6C: TO-126C, TA3: TO-220, TF3: TO-220F, TM3: TO-251, TN3: TO-252 TF1: TO-220F1 (3) L: Lead Free, G: Halogen Free and Lead Free</p>
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### MARKING

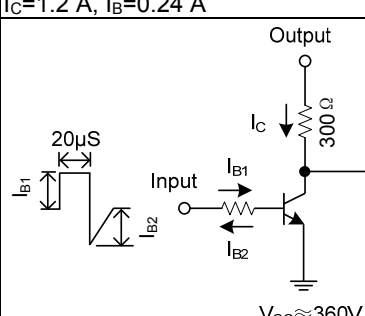
TO-220 / TO-220F TO-220F1 / TO-251 / TO-252	TO-126 / TO-126C
	

■ 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-126/TO-126C	$P_D$	20	W
	TO-220F/TO-220F1			
	TO-220		25	W
	TO-251/TO-252		22	W
Junction Temperature		$T_J$	+150	$^\circ\text{C}$
Storage Temperature		$T_{STG}$	-40 ~ +150	$^\circ\text{C}$

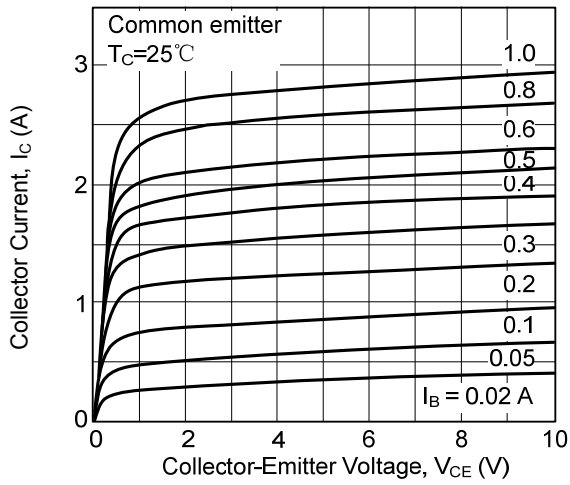
Note: Absolute maximum ratings are those values beyond which the device could be permanently damaged. Absolute maximum ratings are stress ratings only and functional device operation is not implied.

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

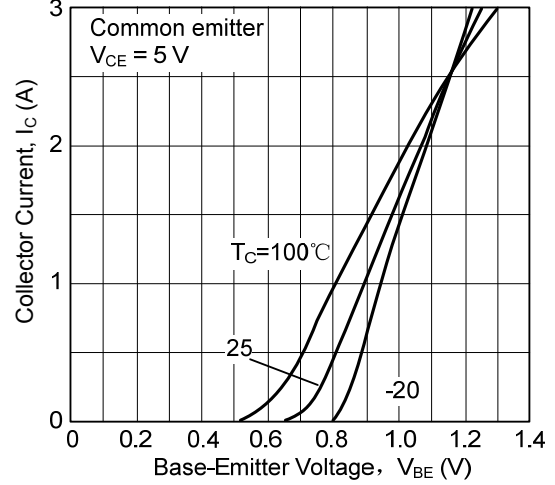
PARAMETER		SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT	
Collector-Base Breakdown Voltage		$BV_{CBO}$	$I_C=1\text{ mA}, I_E=0$	900			V	
Collector-Emitter Breakdown Voltage		$BV_{CEO}$	$I_C=10\text{ mA}, I_B=0$	750			V	
Collector Cut-off Current		$I_{CBO}$	$V_{CB}=720\text{V}, I_E=0$			100	$\mu\text{A}$	
Emitter Cut-off Current		$I_{EBO}$	$V_{EB}=7\text{V}, I_C=0$			10	$\mu\text{A}$	
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	$t_R$	 <p><math>I_{B1} = 0.24\text{ A}, I_{B2} = -0.48\text{ A},</math> duty cycle <math>\leq 1\%</math></p>			0.7	$\mu\text{S}$	
	Storage Time	$t_{STG}$					4.0	$\mu\text{S}$
	Fall Time	$t_F$					0.5	$\mu\text{S}$

## TYPICAL CHARACTERISTICS

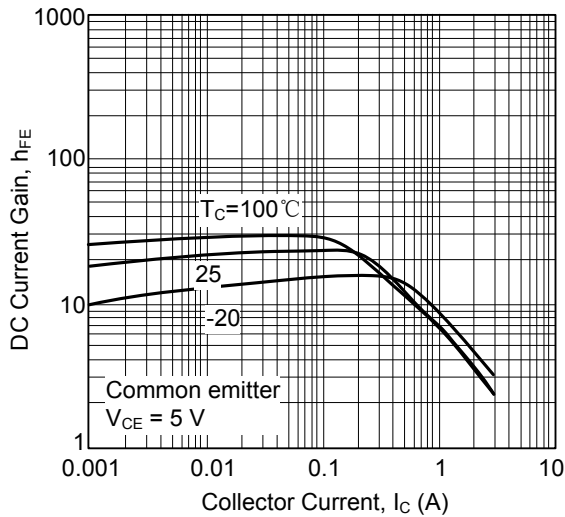
Collector Current vs. Collector-Emitter Voltage



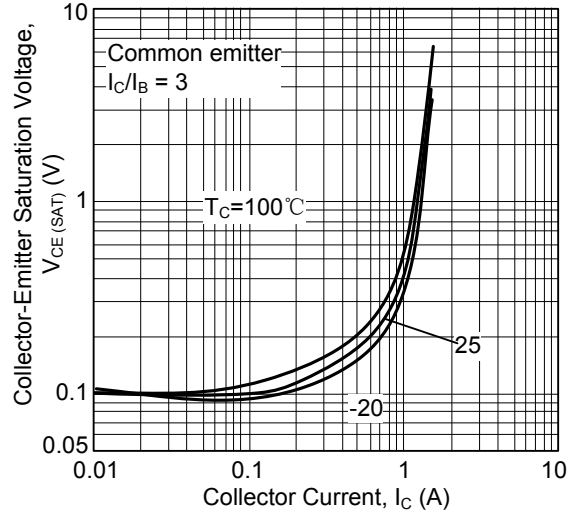
Collector Current vs. Base-Emitter Voltage



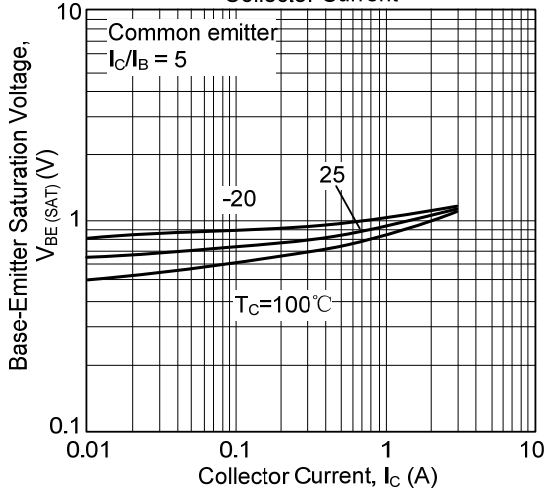
DC Current Gain vs. Collector Current



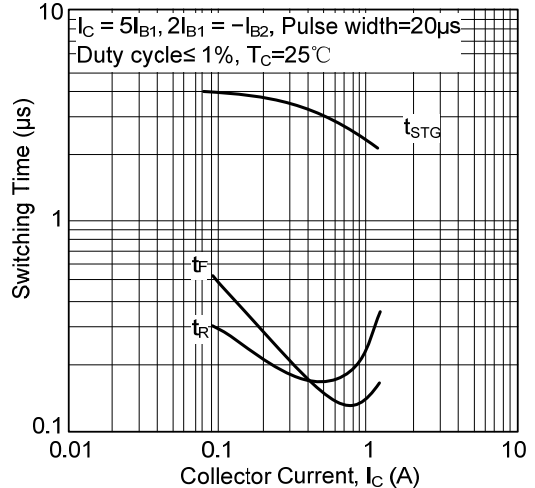
Collector-Emitter Saturation Voltage vs. Collector Current



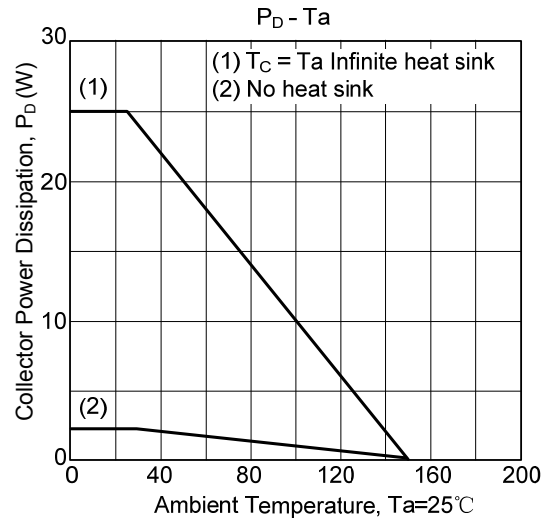
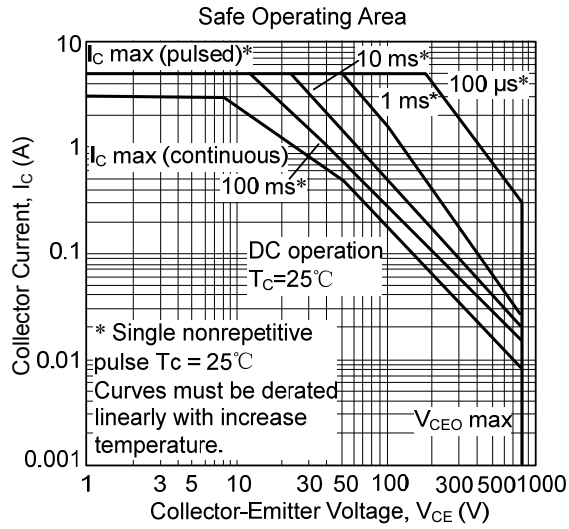
Base-Emitter Saturation Voltage vs. Collector Current



Switching Characteristics



■ TYPICAL CHARACTERISTICS(Cont.)



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