



2SC5353B

NPN SILICON TRANSISTOR

HIGH VOLTAGE NPN TRANSISTOR

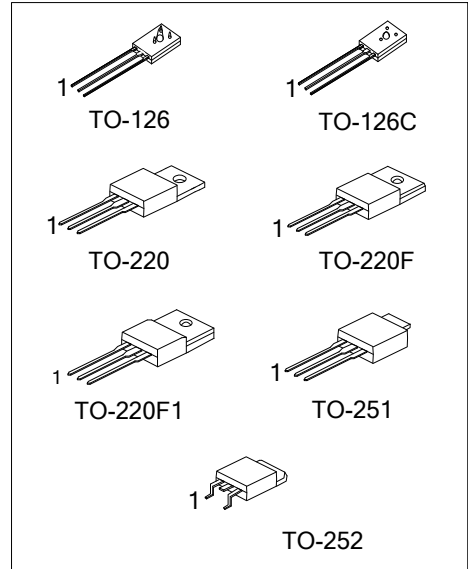
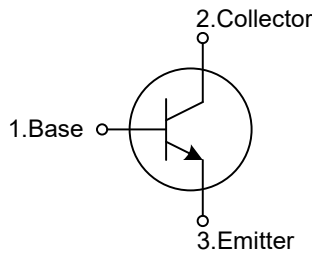
DESCRIPTION

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-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
2SC5353BL-T60-K	2SC5353BG-T60-K	TO-126	B	C	E	Bulk
2SC5353BL-T60-A-K	2SC5353BG-T60-A-K	TO-126	E	C	B	Bulk
2SC5353BL-T6C-K	2SC5353BG-T6C-K	TO-126C	B	C	E	Bulk

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

2SC5353BG-T60-A-K	(1) Packing Type (2) Pin Assignment (3) Package Type (4) Green Package	(1) K: Bulk, T: Tube, R: Tape Reel (2) refer to Pin Assignment (3) TA3: TO-220, TF3: TO-220F, TF1: TO-220F1, TM3: TO-251, TN3: TO-252, T60: TO-126, T6C: TO-126C (3) G: Halogen Free and Lead Free, L: Lead Free
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■ MARKING

TO-220 / TO-220F TO-220F1 / TO-251 / TO-252	TO-126 / TO-126C
UTC 2SC5353B Lot Code Date Code L: Lead Free G: Halogen Free	UTC 2SC5353B Pin Code Date Code L: Lead Free G: Halogen 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-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	$-40 \sim +150$	$^{\circ}\text{C}$
Operating Temperature		T_{OPR}	$-40 \sim +150$	$^{\circ}\text{C}$
Storage Temperature		T_{STG}	$-55 \sim +150$	$^{\circ}\text{C}$

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

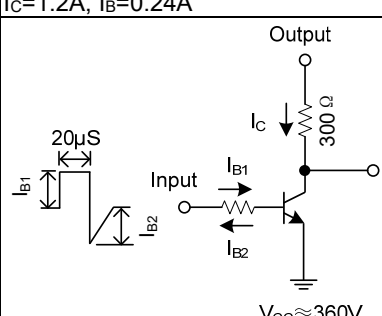
Absolute maximum ratings are stress ratings only and functional device operation is not implied.

■ **THERMAL DATA**

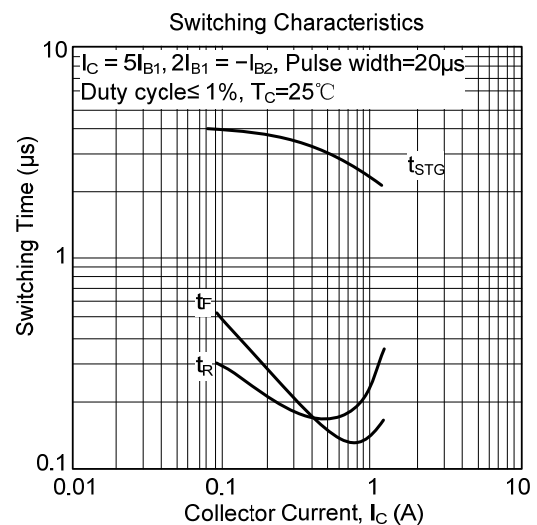
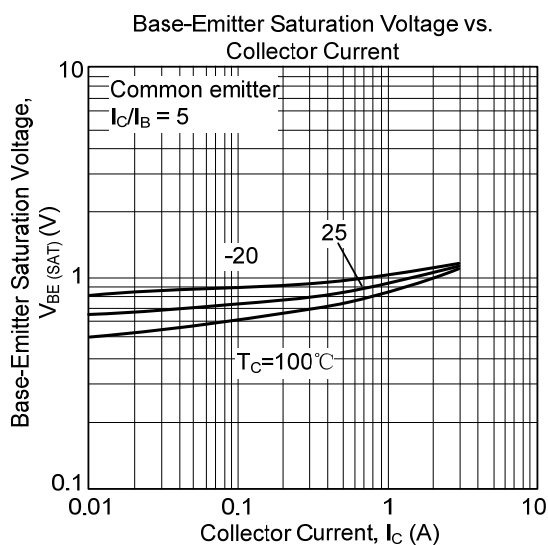
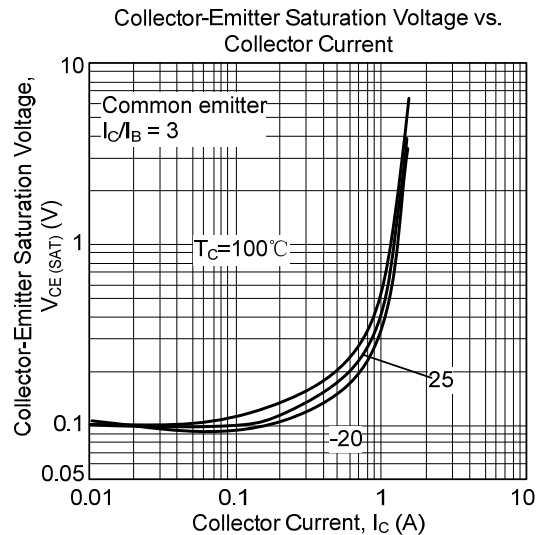
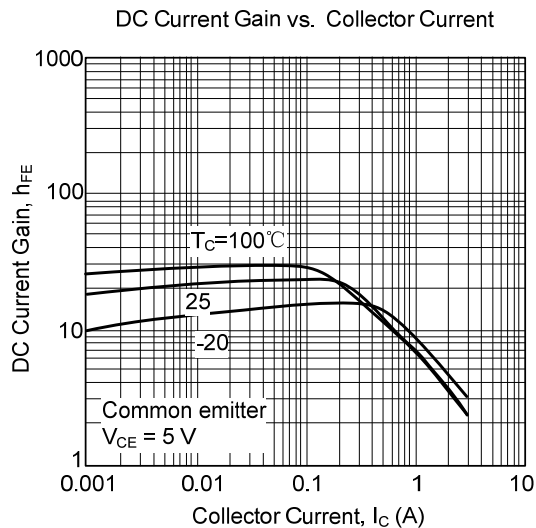
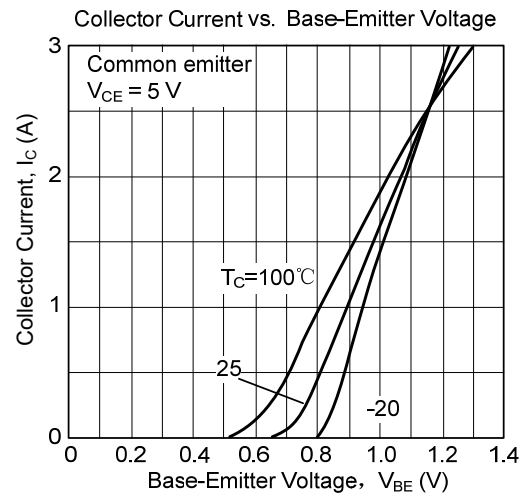
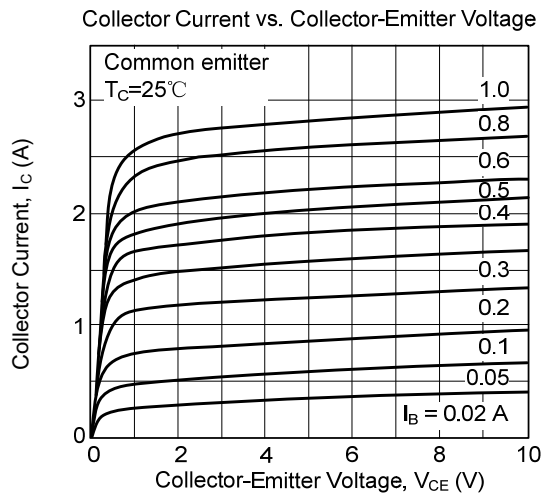
PARAMETER		SYMBOL	RATINGS	UNIT
Junction to Ambient	TO-126/TO-126C	θ_{JA}	89.3 (Note)	$^{\circ}\text{C/W}$
	TO-220F/TO-220F1		62.5	$^{\circ}\text{C/W}$
	TO-220			$^{\circ}\text{C/W}$
	TO-251/TO-252		80.1 (Note)	$^{\circ}\text{C/W}$
Junction to Case	TO-126/TO-126C	θ_{JC}	6.25 (Note)	$^{\circ}\text{C/W}$
	TO-220F/TO-220F1		6.25	$^{\circ}\text{C/W}$
	TO-220		5	$^{\circ}\text{C/W}$
	TO-251/TO-252		5.68 (Note)	$^{\circ}\text{C/W}$

Note: Device mounted on FR-4 substrate P_C board, 2oz copper, with 1inch square copper plate.

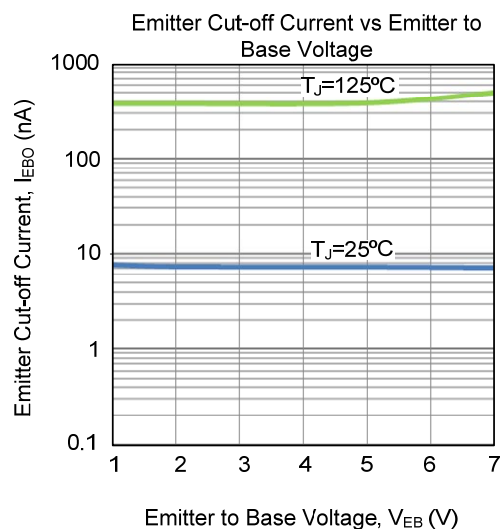
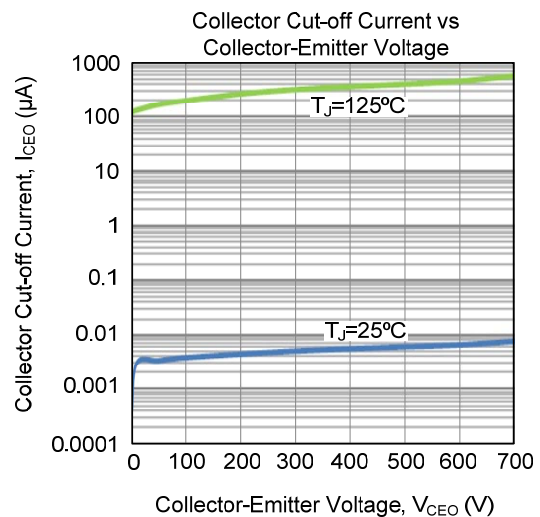
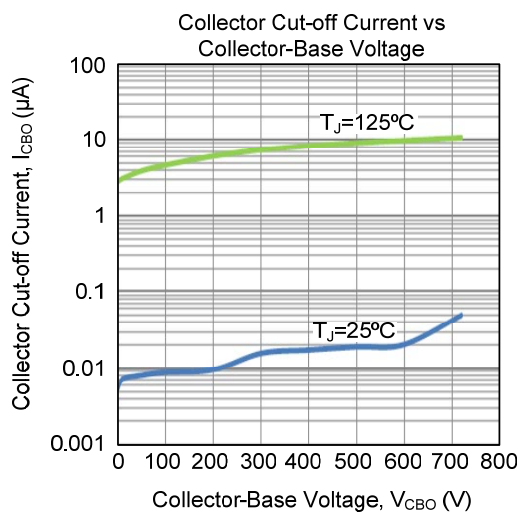
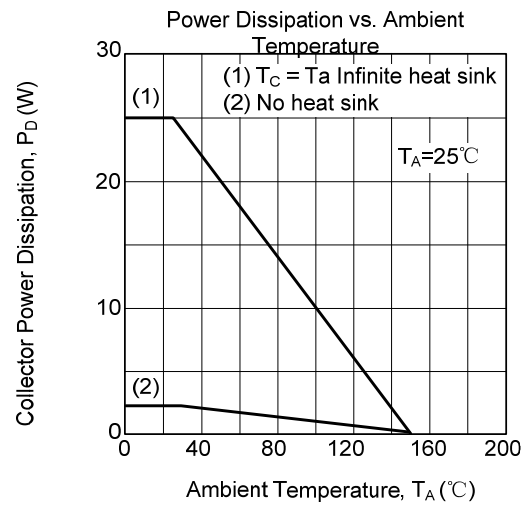
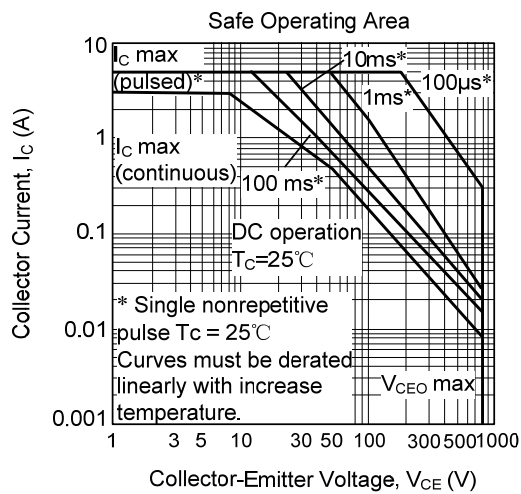
■ **ELECTRICAL CHARACTERISTICS** ($T_C=25^{\circ}\text{C}$ unless otherwise specified)

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
Emitter to Base Breakdown Voltage		BV_{EBO}	$I_E=100\mu\text{A}, I_C=0$	7			V
Collector Cut-off Current		I_{CBO}	$V_{CB}=720\text{V}, I_E=0$			100	μA
Collector Cutoff Current		I_{CEO}	$V_{CE}=750\text{V}, I_B=0$			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



■ TYPICAL CHARACTERISTICS (Cont.)



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