



2SC5353B

NPN SILICON TRANSISTOR

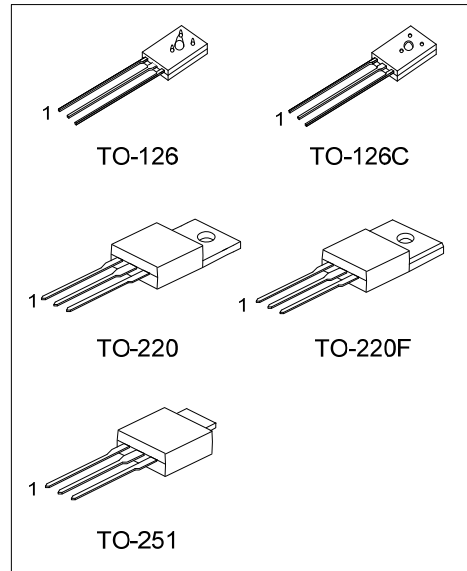
HIGH VOLTAGE NPN TRANSISTOR

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

<p>2SC5353BL-TA3-T</p> <p>(1) Packing Type (2) Package Type (3) Lead Plating</p>	<p>(1) K: Bulk, T: Tube (2) T60: TO-126, T6C: TO-126C, TA3: TO-220, TF3: TO-220F, TM3: TO-251 (3) G: Halogen Free, L: Lead Free Plating</p>
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■ ABSOLUTE MAXIMUM RATINGS ($T_C = 25^\circ\text{C}$)

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

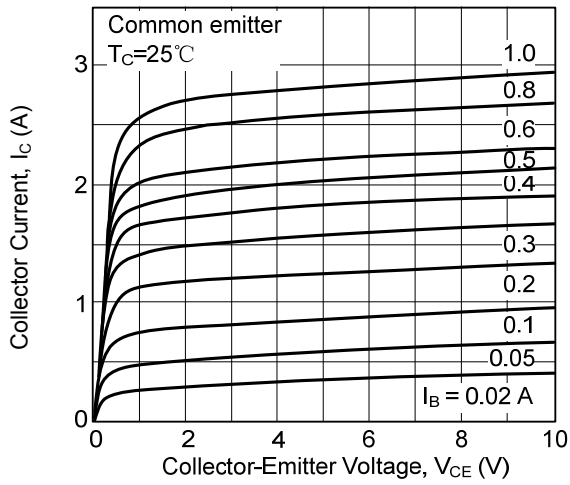
Note Absolute maximum ratings are those values beyond which the device could be permanently damaged. Absolute maximum ratings are stress ratings only and functional device operation is not implied.

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

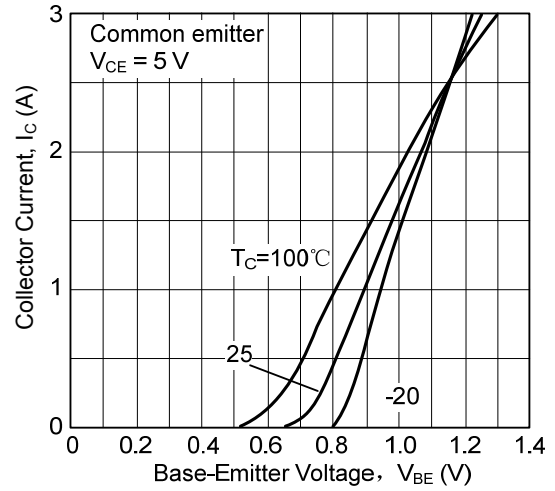
PARAMETER		SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
Collector-Base Breakdown Voltage		BV_{CBO}	$I_C=1\text{ mA}, I_E=0$	900			V
Collector-Emitter Breakdown Voltage		BV_{CEO}	$I_C=10\text{ mA}, I_B=0$	750			V
Collector Cut-off Current		I_{CBO}	$V_{CB}=720\text{ V}, I_E=0$			100	μA
Emitter Cut-off Current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

TYPICAL CHARACTERISTICS

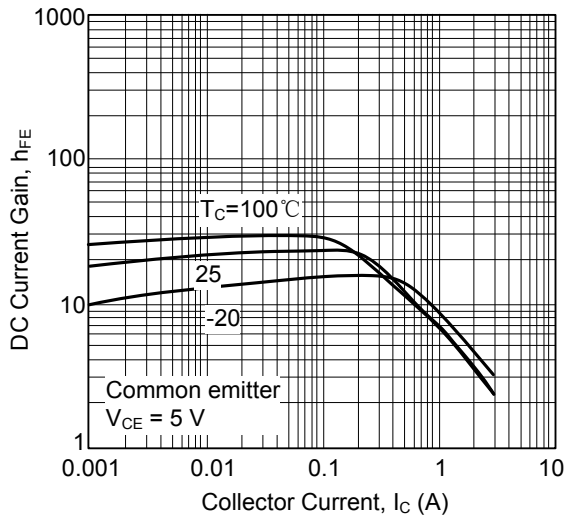
Collector Current vs. Collector-Emitter Voltage



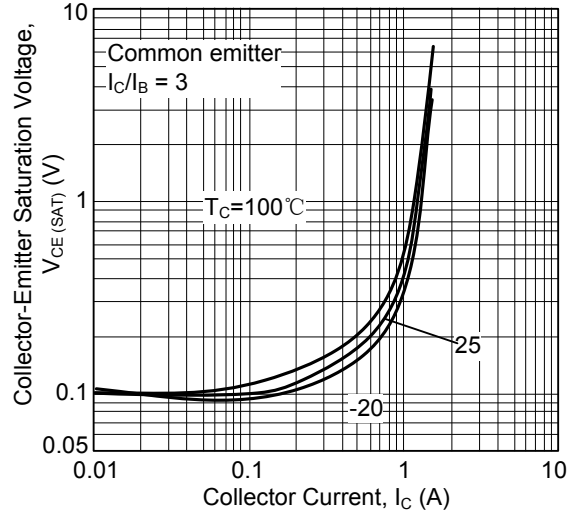
Collector Current vs. Base-Emitter Voltage



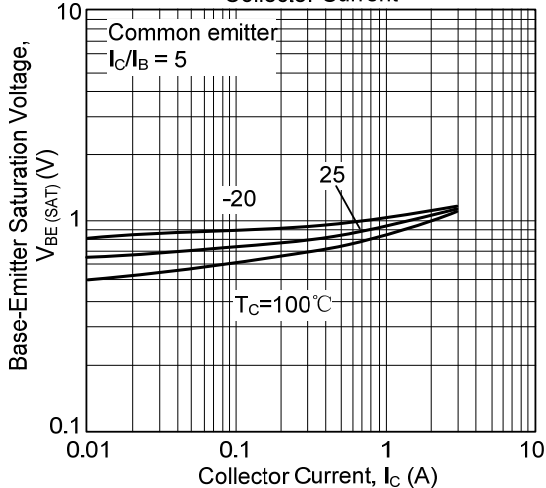
DC Current Gain vs. Collector Current



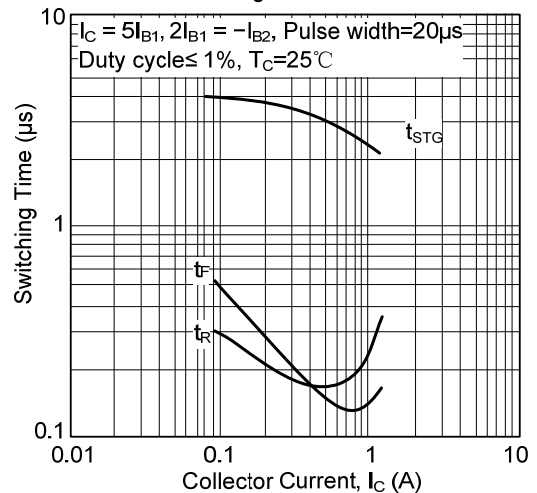
Collector-Emitter Saturation Voltage vs. Collector Current



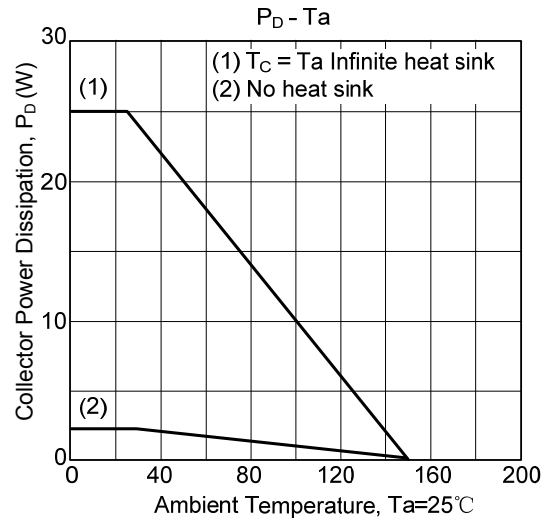
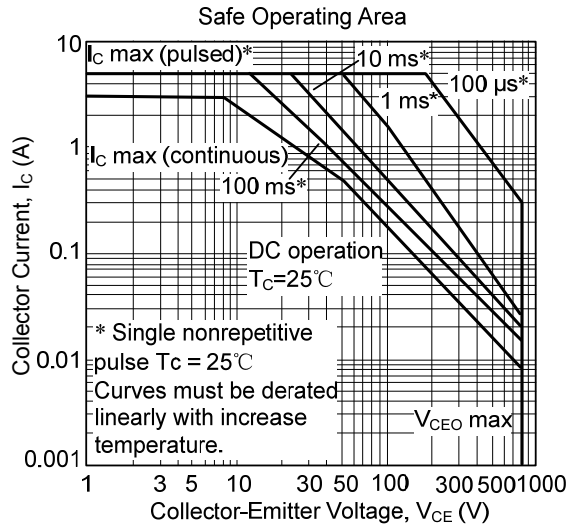
Base-Emitter Saturation Voltage vs. Collector Current



Switching Characteristics



■ TYPICAL CHARACTERISTICS(Cont.)



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