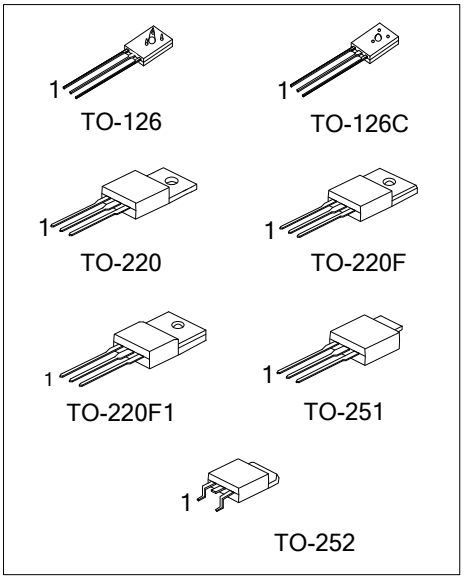
2SC5353B

NPN SILICON TRANSISTOR

HIGH VOLTAGE NPN TRANSISTOR



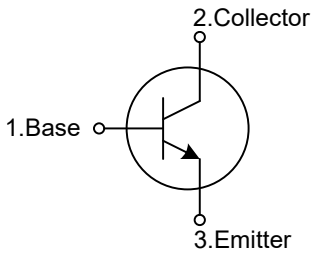
■ DESCRIPTION

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

■ FEATURES

* Excellent switching times: t_R = 0.7μs$_{(MAX)}$, t_F = 0.5μs $_{(MAX)}$
* High collectors breakdown voltage: V_{CEO} = 700V

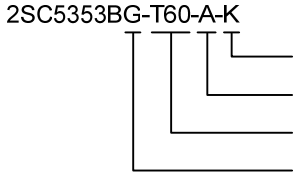
■ SYMBOL



■ ORDERING INFORMATION

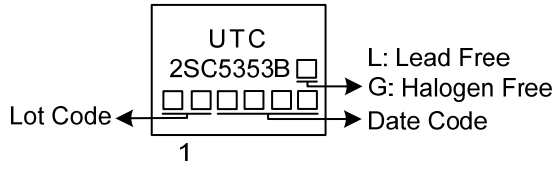
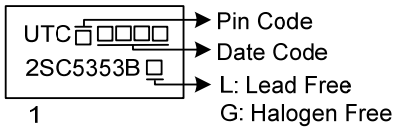
Ordering Number		Package	Pin Assignment			Packing
Lead Free	Halogen Free		1	2	3	
2SC5353BL-T60-K	2SC5353BG-T60-K	TO-126	B	C	E	Bulk
2SC5353BL-T60-A-K	2SC5353BG-T60-A-K	TO-126	E	C	B	Bulk
2SC5353BL-T6C-K	2SC5353BG-T6C-K	TO-126C	B	C	E	Bulk
2SC5353BL-TA3-T	2SC5353BG-TA3-T	TO-220	B	C	E	Tube
2SC5353BL-TF3-T	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: B: Base C: Collector E: Emitter



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

■ MARKING

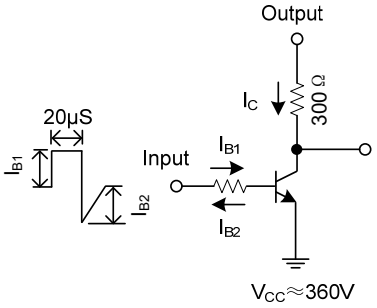
TO-220 / TO-220F TO-220F1 / TO-251 / TO-252	TO-126 / TO-126C
	

■ ABSOLUTE MAXIMUM RATINGS (T_C=25°C unless otherwise specified)

PARAMETER		SYMBOL	RATINGS	UNIT
Collector-Base Voltage		V_{CBO}	900	V
Collector-Emitter Voltage		V_{CEO}	700	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 TO-220F/TO-220F1	P_D	20	W
	TO-220		25	W
	TO-251/TO-252		22	W
Junction Temperature		T_J	+150	°C
Storage Temperature		T_{STG}	-40 ~ +150	°C

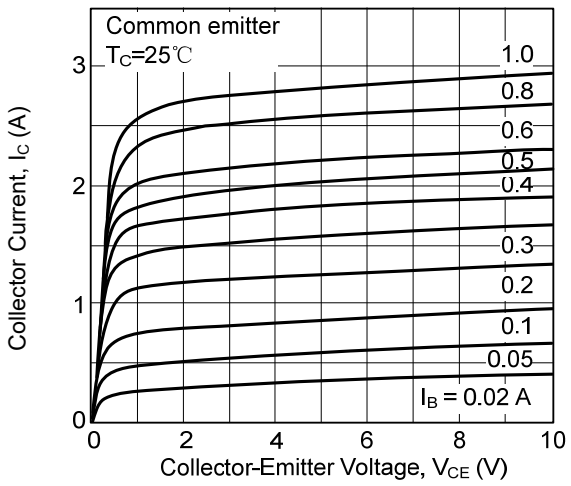
Note: Absolute maximum ratings are those values beyond which the device could be permanently damaged. Absolute maximum ratings are stress ratings only and functional device operation is not implied.

■ ELECTRICAL CHARACTERISTICS (T_C=25°C unless otherwise specified)

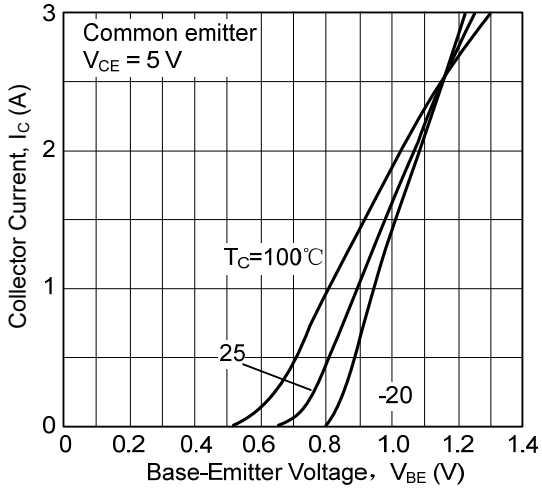
PARAMETER		SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
Collector-Base Breakdown Voltage		BV_{CBO}	I_C=1mA, I_E=0	900			V
Collector-Emitter Breakdown Voltage		BV_{CEO}	I_C=10mA, I_B=0	700			V
Emitter to Base Breakdown Voltage		BV_{EBO}	I_E=100μA, I_C=0	7			V
Collector Cut-off Current		I_{CBO}	V_{CB}=720V, I_E=0			100	μA
Collector Cutoff Current		I_{CEO}	V_{CE}=700V, I_B=0			100	μA
Emitter Cut-off Current		I_{EBO}	V_{EB}=7V, I_C=0			10	μA
DC Current Gain		h_{FE1}	V_{CE}=5V, I_C=1mA	10			
		h_{FE2}	V_{CE}=5V, I_C=0.15A	15			
Collector-Emitter Saturation Voltage		$V_{CE(SAT)}$	I_C=1.2A, I_B=0.24A			1.0	V
Base-Emitter Saturation Voltage		$V_{BE(SAT)}$	I_C=1.2A, I_B=0.24A			1.3	V
Switching Time	Rise Time	t_R				0.7	μS
	Storage Time	t_{STG}				4.0	μS
	Fall Time	t_F	I_{B1} = 0.24 A, I_{B2} = −0.48 A, duty cycle ≤ 1%			0.5	μS

■ TYPICAL CHARACTERISTICS

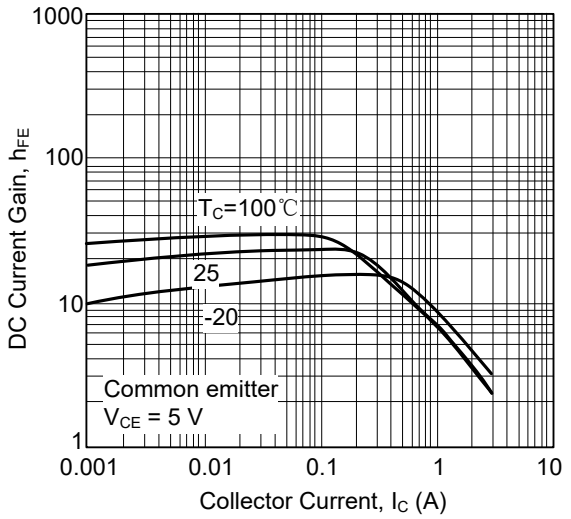
Collector Current vs. Collector-Emitter Voltage



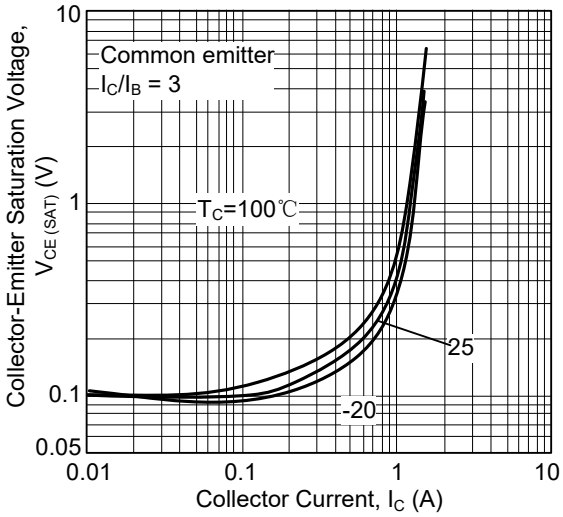
Collector Current vs. Base-Emitter Voltage



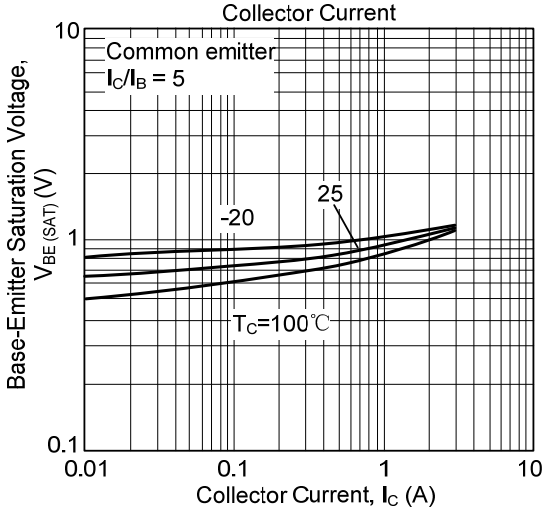
DC Current Gain vs. Collector Current



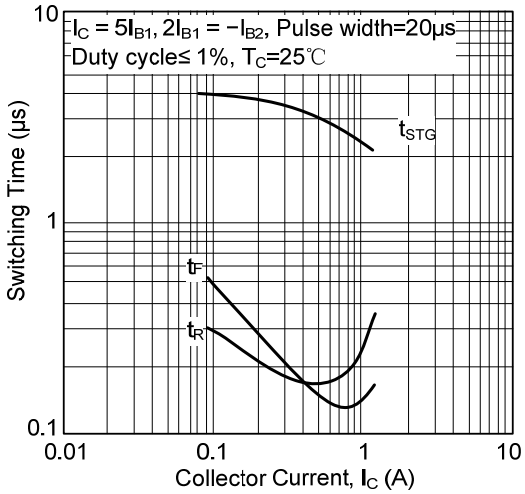
Collector-Emitter Saturation Voltage vs. Collector Current



Base-Emitter Saturation Voltage vs. Collector Current



Switching Characteristics



■ TYPICAL CHARACTERISTICS (Cont.)