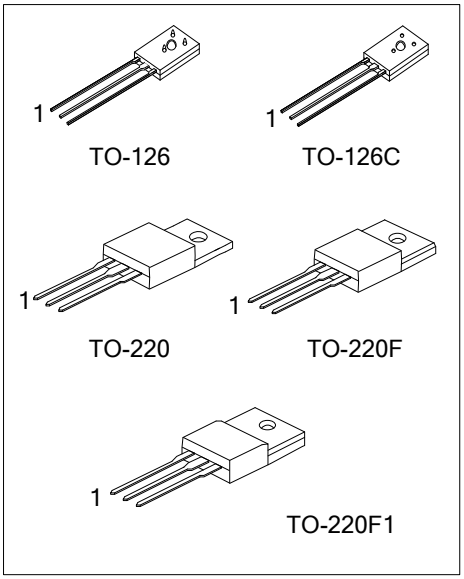
2SC5353

NPN SILICON TRANSISTOR

HIGH VOLTAGE NPN TRANSISTOR



■ DESCRIPTION

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

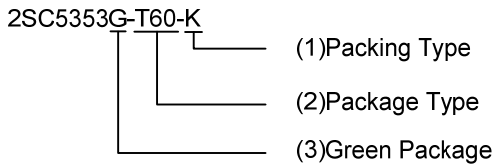
■ FEATURES

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

■ ORDERING INFORMATION

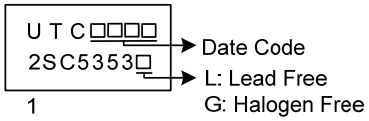
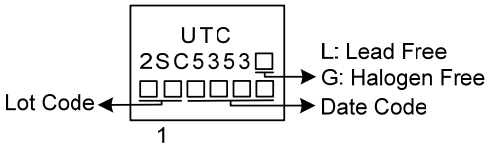
Ordering Number		Package	Pin Assignment			Packing
Lead Free	Halogen Free		1	2	3	
2SC5353L-T60-K	2SC5353G-T60-K	TO-126	B	C	E	Bulk
2SC5353L-T6C-K	2SC5353G-T6C-K	TO-126C	B	C	E	Bulk
2SC5353L-TA3-T	2SC5353G-TA3-T	TO-220	B	C	E	Tube
2SC5353L-TF1-T	2SC5353G-TF1-T	TO-220F1	B	C	E	Tube
2SC5353L-TF3-T	2SC5353G-TF3-T	TO-220F	B	C	E	Tube

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



(1) K: Bulk, T: Tube
(2) T60: TO-126, T6C: TO-126C, TA3: TO-220,
TF3: TO-220F, TF1: TO-220F1
(3) G: Halogen Free and Lead Free, L: Lead Free

■ MARKING

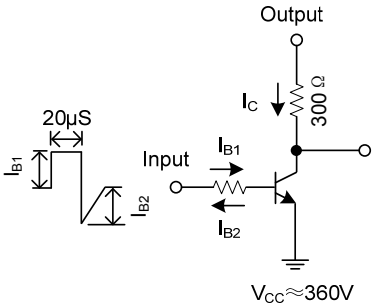
TO-126 / TO-126C	TO-220 / TO-220F / TO-220F1
	

■ ABSOLUTE MAXIMUM RATINGS (T_C=25°C)

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	
Base Current		I_B	1	A
Collector Power Dissipation	TO-220F/ TO-220F1 TO-126/TO-126C	P_D	20	W
	TO-220		25	
Junction Temperature		T_J	+150	°C
Storage Temperature		T_{STG}	-40 ~ +150	°C

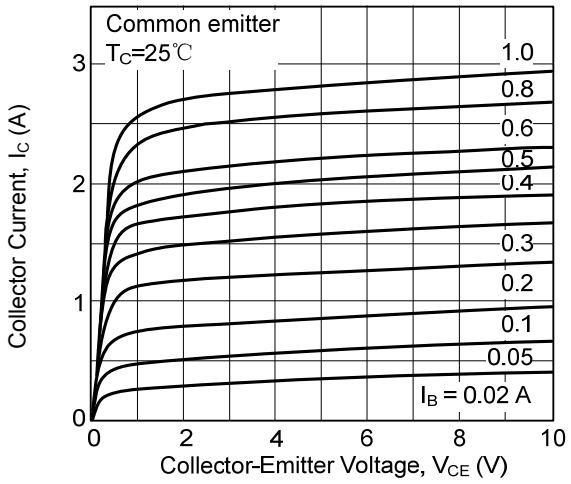
Note: Absolute maximum ratings are those values beyond which the device could be permanently damaged. Absolute maximum ratings are stress ratings only and functional device operation is not implied.

■ ELECTRICAL CHARACTERISTICS (Tc=25°C)

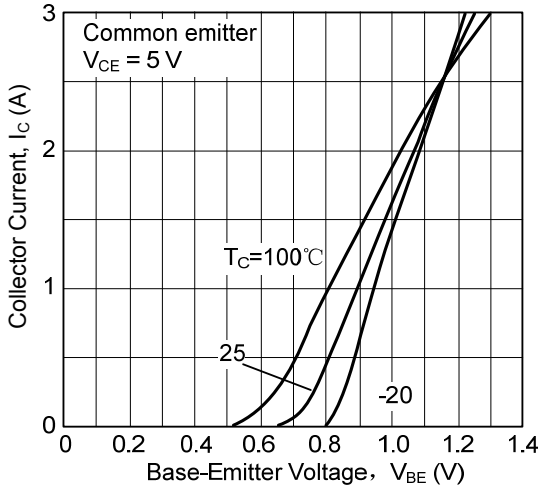
PARAMETER		SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
Collector-Base Breakdown Voltage		BV_{CBO}	I_C=1 mA, I_E = 0	900			V
Collector-Emitter Breakdown Voltage		BV_{CEO}	I_C=10 mA, I_B = 0	700			V
Collector Cut-off Current		I_{CBO}	V_{CB}=720V, I_E= 0			100	μA
Emitter Cut-off Current		I_{EBO}	V_{EB}=7V, I_C= 0			10	μA
DC Current Gain		h_{FE1}	V_{CE}=5 V, I_C=1 mA	10			
		h_{FE2}	V_{CE}=5 V, I_C=0.15 A	15			
Collector-Emitter Saturation Voltage		$V_{CE(SAT)}$	I_C=1.2 A, I_B=0.24 A			1.0	V
Base-Emitter Saturation Voltage		$V_{BE(SAT)}$	I_C=1.2 A, I_B=0.24 A			1.3	V
Switching Time	Rise Time	t_R	 I_{B1} = 0.24 A, I_{B2} = −0.48 A, duty cycle ≤ 1%			0.7	μS
	Storage Time	t_{STG}				4.0	
	Fall Time	t_F				0.5	
Collector Output Capacitance		C_{ob}	V_{CB}= 0V, f=1MHz		86		pF
			V_{CB}= 10V, f=1MHz		23.5		pF

■ TYPICAL CHARACTERISTICS

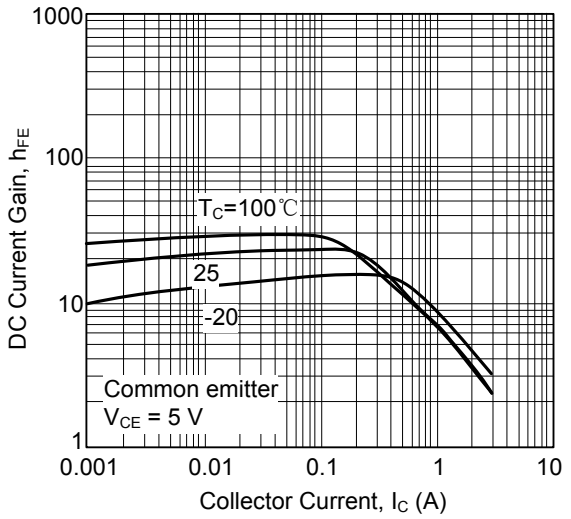
Collector Current vs. Collector-Emitter Voltage



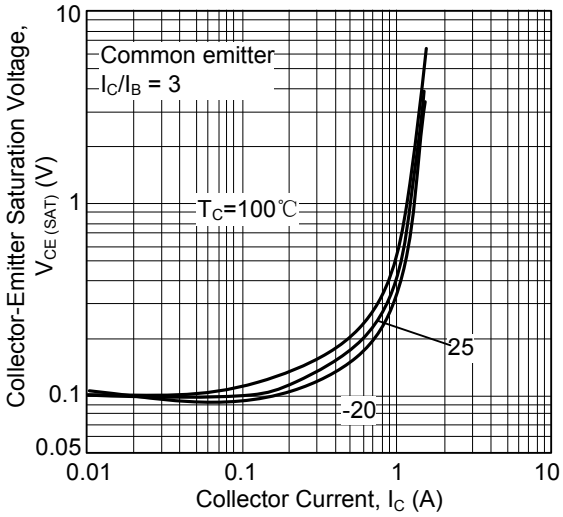
Collector Current vs. Base-Emitter Voltage



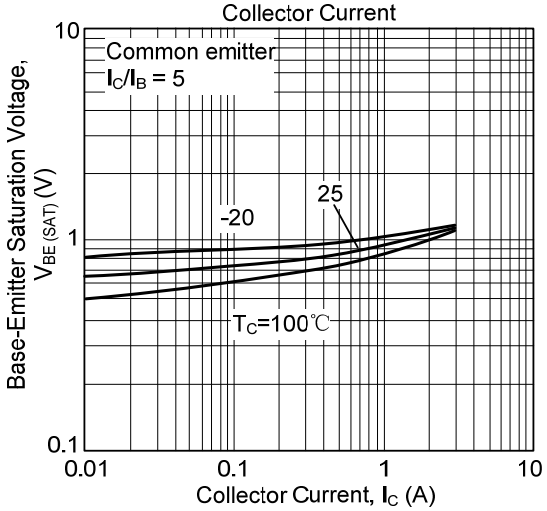
DC Current Gain vs. Collector Current



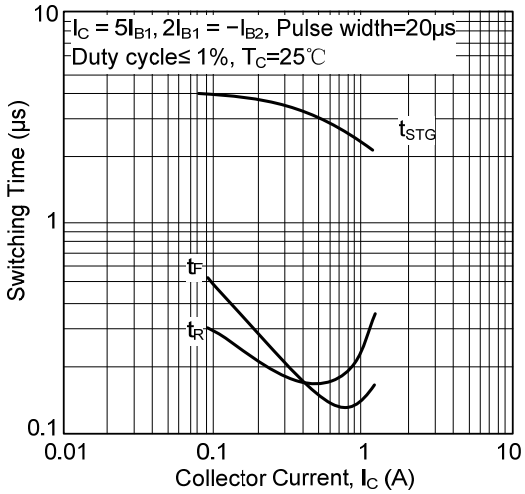
Collector-Emitter Saturation Voltage vs. Collector Current



Base-Emitter Saturation Voltage vs. Collector Current



Switching Characteristics



■ TYPICAL CHARACTERISTICS(Cont.)