

2SC3353, 2SC3353A

Silicon NPN Triple-Diffused Junction Mesa Type

High Breakdown Voltage, High Speed Switching

■ Features

- High speed switching
- High collector-base voltage (V_{CBO})
- Low collector-emitter saturation voltage ($V_{CE(sat)}$)
- “Full Pack” package for simplified mounting on a heat sink with one screw

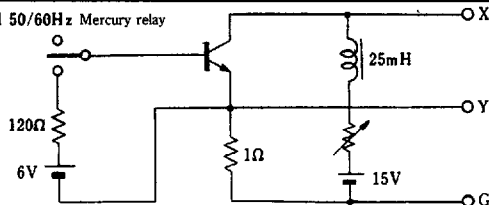
■ Absolute Maximum Ratings (Tc=25°C)

Item		Symbol	Value	Unit
Collector-base voltage	2SC3353	V_{CBO}	800	V
	2SC3353A		900	
Collector-emitter voltage		V_{CEO}	500	V
Emitter-base voltage		V_{EB0}	8	V
Peak collector current		I_{CP}	10	A
Collector current		I_C	5	A
Base current		I_B	3	A
Collector power dissipation	$T_c = 25^\circ\text{C}$	P_C	40	W
	$T_a = 25^\circ\text{C}$		2	
Junction temperature		T_j	150	$^\circ\text{C}$
Storage temperature		T_{stg}	$-55 \sim +150$	$^\circ\text{C}$

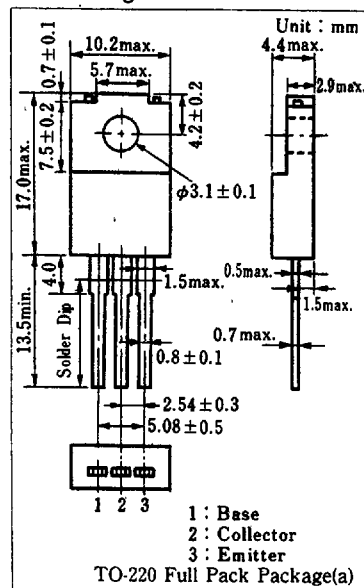
■ Electrical Characteristics (Tc=25°C)

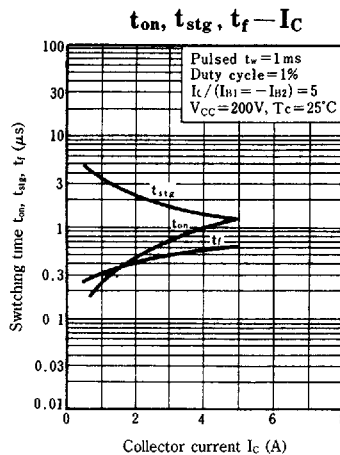
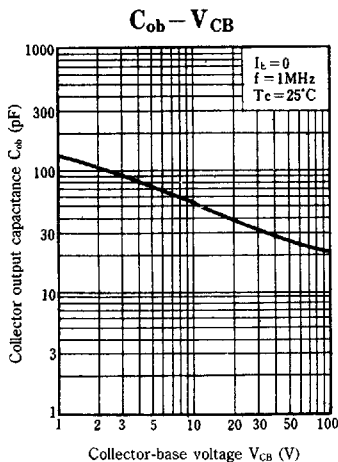
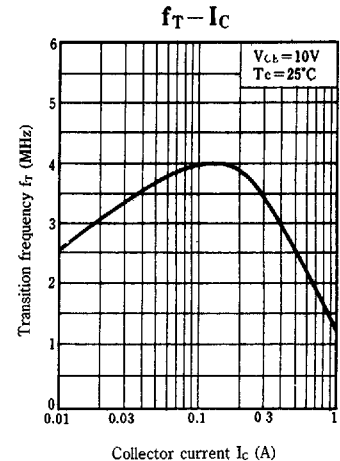
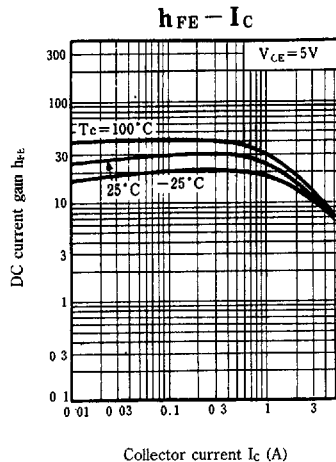
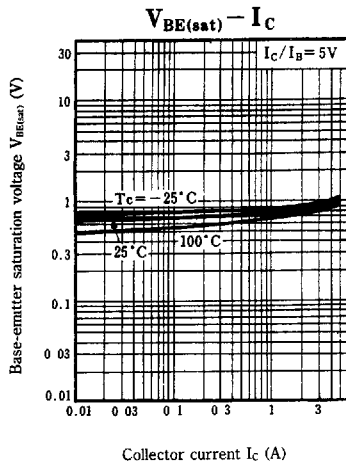
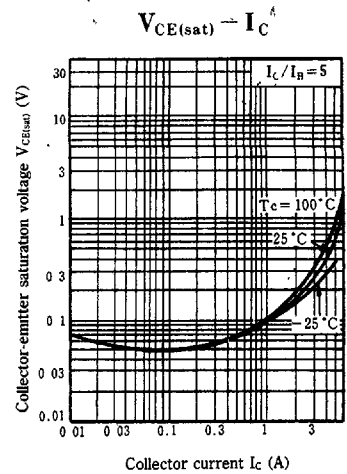
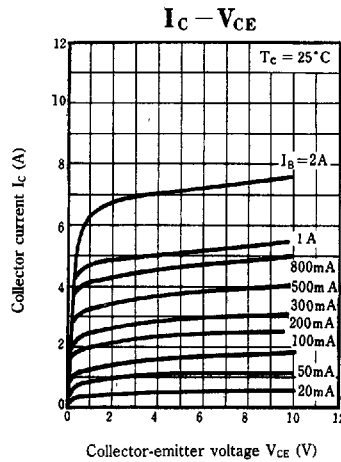
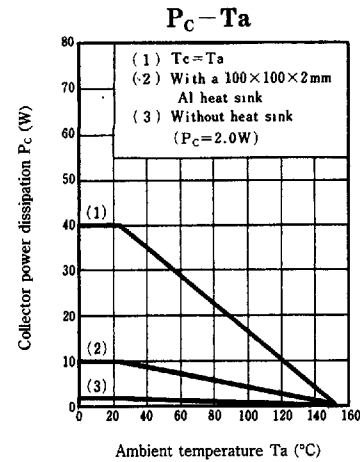
Item		Symbol	Condition	min.	typ.	max.	Unit
Collector cutoff current	2SC3353	I_{CBO}	$V_{CB}=800\text{ V}$, $I_E=0$			100	μA
	2SC3353A		$V_{CB}=900\text{ V}$, $I_E=0$			100	
Emitter cutoff current		I_{EBO}	$V_{EB}=5\text{ V}$, $I_C=0$			100	μA
Collector-emitter voltage		$V_{CE(O(sus))}$	$I_C=0.2\text{ A}$, $L=25\text{ mH}$	500			V
DC current gain		h_{FE1}	$V_{CE}=5\text{ V}$, $I_C=0.1\text{ A}$	15			
		h_{FE2}	$V_{CE}=5\text{ V}$, $I_C=3\text{ A}$	8			
Collector-emitter saturation voltage		$V_{CE(sat)}$	$I_C=3\text{ A}$, $I_B=0.6\text{ A}$			1	V
Base-emitter saturation voltage		$V_{BE(sat)}$	$I_C=3\text{ A}$, $I_B=0.6\text{ A}$			1.5	V
Transition frequency		f_T	$V_{CE}=10\text{V}$, $I_C=0.5\text{A}$, $f=1\text{MHz}$		3		MHz
Turn-on time	2SC3353	t_{on}	$I_C=3\text{ A}$ $I_{B1}=0.6\text{ A}$, $I_{B2}=-0.6\text{ A}$ $V_{CC}=200\text{ V}$			1	μs
	2SC3353A					1.2	
Storage time		t_{stg}				3	μs
Fall time	2SC3353	t_f				1	μs
	2SC3353A					1.2	

* $V_{CEO(sus)}$ Test method 50/60Hz Mercury relay

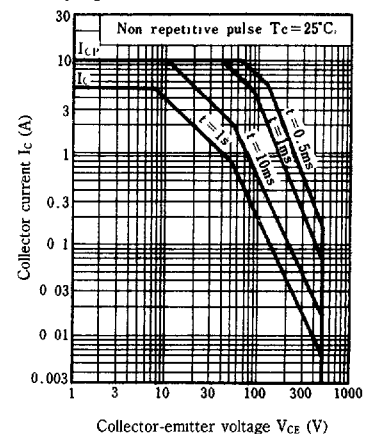


■ Package Dimensions

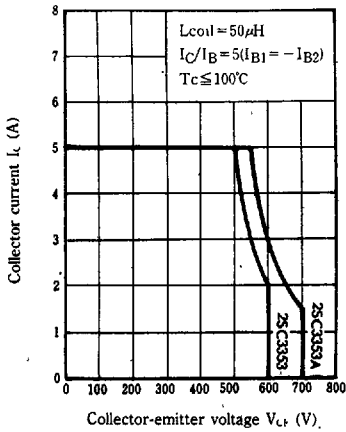




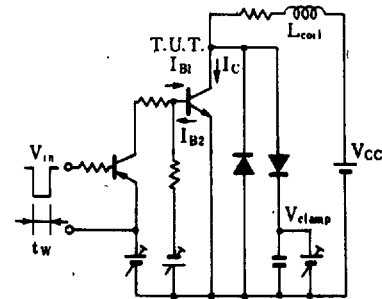
Safety operation area-forward bias (ASO)



Safety operation area-reverse bias (ASO)



Measurement circuit of reverse bias ASO



$R_{th(t)} - t$

