



SANYO Semiconductors

DATA SHEET

2SA2153

 — PNP Epitaxial Planar Silicon Transistor

High-Current Switching Applications

Applications

- Voltage regulators, relay drivers, lamp drivers, electrical equipment.

Features

- Adoption of MBIT process.
- Low saturation voltage.
- High current capacity and wide ASO.

Specifications

Absolute Maximum Ratings at $T_a=25^\circ\text{C}$

Parameter	Symbol	Conditions	Ratings	Unit
Collector-to-Base Voltage	V_{CB0}		-50	V
Collector-to-Emitter Voltage	V_{CEO}		-50	V
Emitter-to-Base Voltage	V_{EBO}		-6	V
Collector Current	I_C		-2	A
Collector Current (Pulse)	I_{CP}		-4	A
Base Current	I_B		-400	mA
Collector Dissipation	P_C	Mounted on a ceramic board (450mm ² X0.8mm)	1.3	W
		$T_c=25^\circ\text{C}$	3.5	W
Junction Temperature	T_J		150	$^\circ\text{C}$
Storage Temperature	T_{stg}		-55 to +150	$^\circ\text{C}$

Electrical Characteristics at $T_a=25^\circ\text{C}$

Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Collector Cutoff Current	I_{CBO}	$V_{CB}=-40\text{V}, I_E=0$			-1	μA
Emitter Cutoff Current	I_{EBO}	$V_{EB}=-4\text{V}, I_C=0$			-1	μA
DC Current Gain	h_{FE1}	$V_{CE}=-2\text{V}, I_C=-100\text{mA}$	200		560	
	h_{FE2}	$V_{CE}=-2\text{V}, I_C=-1.5\text{A}$	40			
Gain-Bandwidth Product	f_T	$V_{CE}=-10\text{V}, I_C=-300\text{mA}$		420		MHz
Output Capacitance	C_{ob}	$V_{CB}=-10\text{V}, f=1\text{MHz}$		16		pF
Collector-to-Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C=-1\text{A}, I_B=-50\text{mA}$		-0.2	-0.4	V
Base-to-Emitter Saturation Voltage	$V_{BE(sat)}$	$I_C=-1\text{A}, I_B=-50\text{mA}$		-0.9	-1.2	V

Marking : AZ

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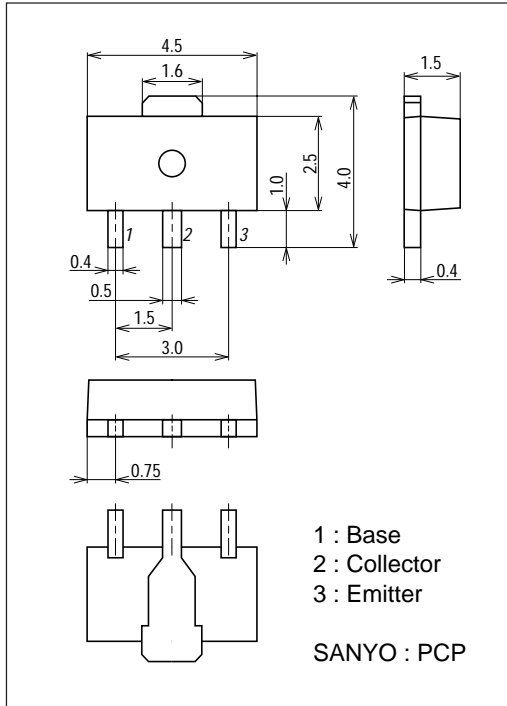
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Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Collector-to-Base Breakdown Voltage	$V_{(BR)CBO}$	$I_C = -10\mu A, I_E = 0$	-50			V
Collector-to-Emitter Breakdown Voltage	$V_{(BR)CEO}$	$I_C = -1mA, R_{BE} = \infty$	-50			V
Emitter-to-Base Breakdown Voltage	$V_{(BR)EBO}$	$I_E = -10\mu A, I_C = 0$	-6			V
Turn-ON Time	t_{on}	See specified Test Circuit.		35		ns
Storage Time	t_{stg}	See specified Test Circuit.		200		ns
Fall Time	t_f	See specified Test Circuit.		24		ns

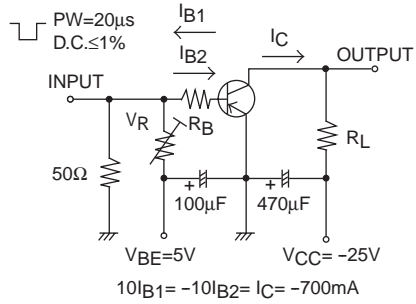
Package Dimensions

unit : mm

2038B

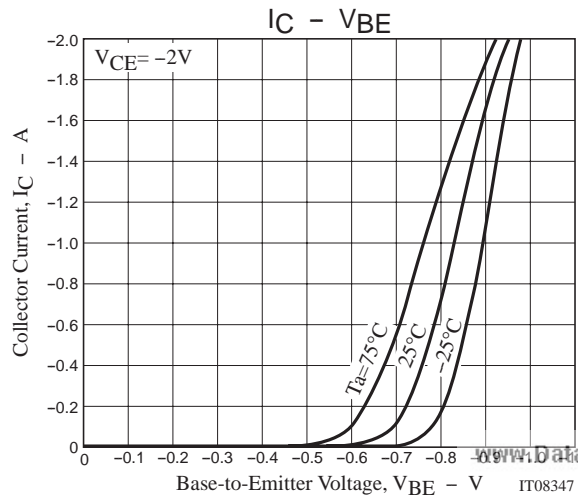
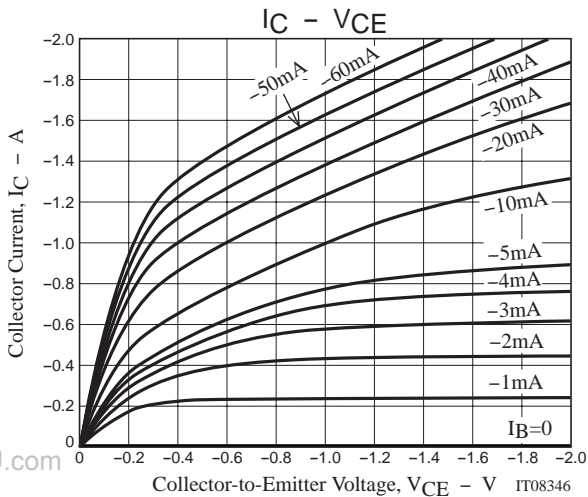


Switching Time Test Circuit

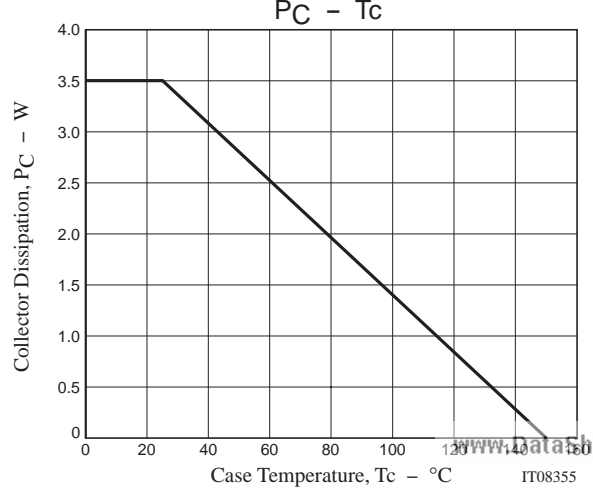
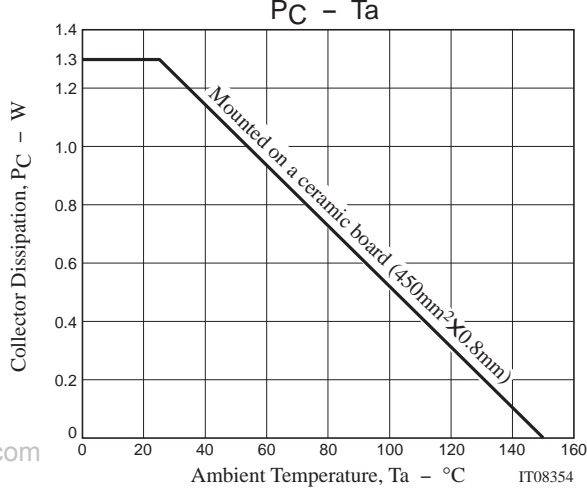
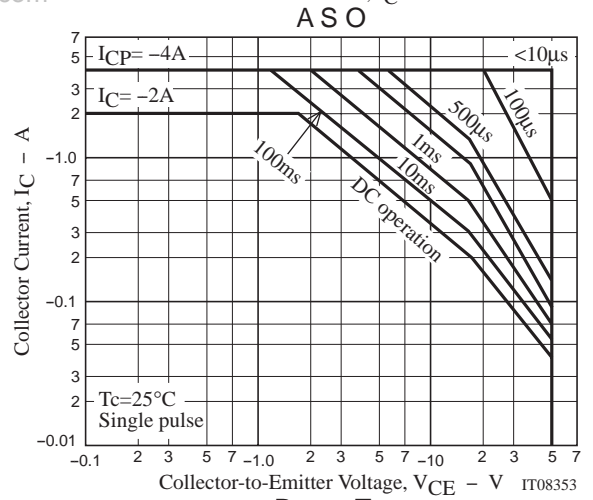
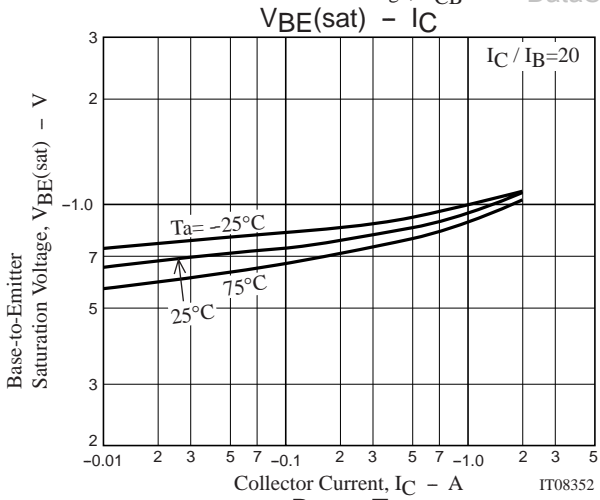
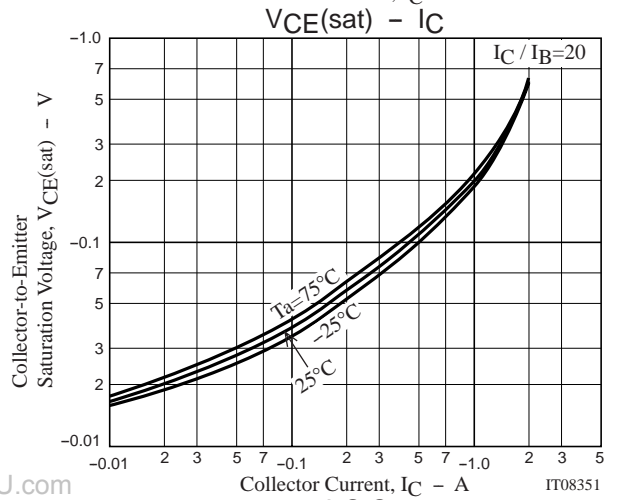
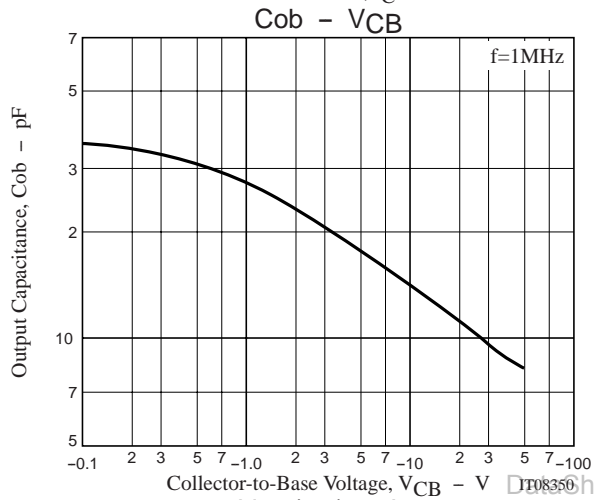
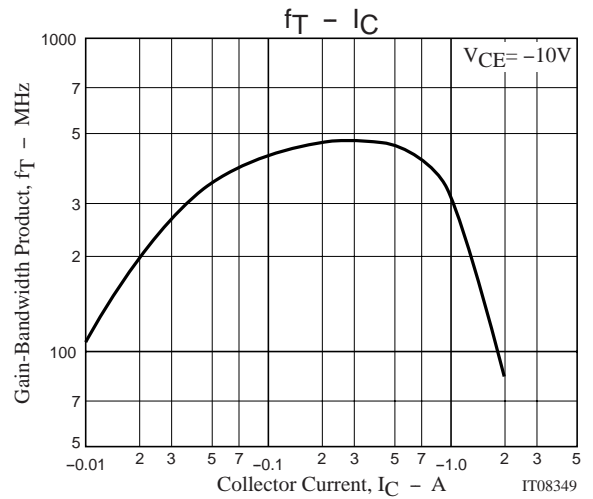
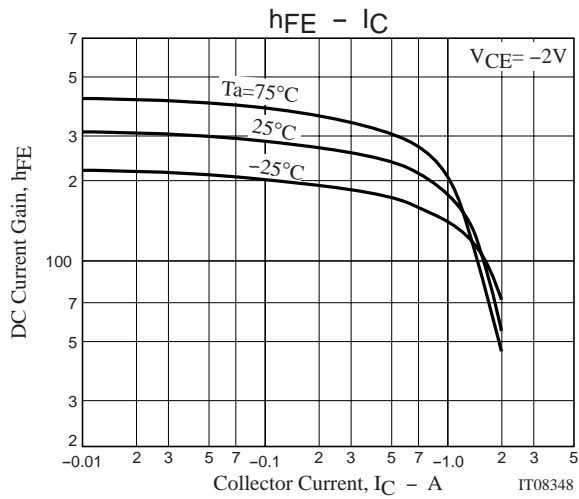


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