

**SANYO**

No. 1332A

**2SC3292**

NPN Planar Type Silicon Darlington Transistor

FOR GENERAL-PURPOSE DRIVERS

**Use:**

- Especially suited for use in switching of L load motor driver, printer hammer driver, relay driver, etc.

**Features:**

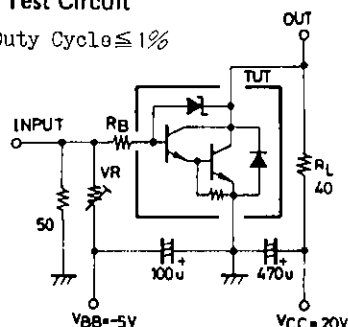
- High DC current gain
- Large current capacity and wide ASO
- Contains  $60 \pm 10$  V zener diode between collector and base
- Uniformity in collector-to-base breakdown voltage due to adoption of accurate impurity diffusion process
- 15 mJ reverse energy rating

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

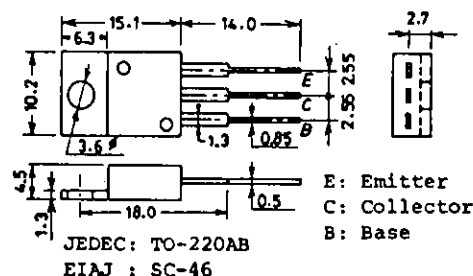
			unit	
Collector to base voltage	$V_{CB0}$	50*	V	*: Built-in
Collector to emitter voltage	$V_{CE0}$	50*	V	Zener Diode
Emitter to base voltage	$V_{EB0}$	6	V	( $60 \pm 10$ V)
Collector current	$I_C$	1.2	A	
Peak collector current	$I_{cp}$	2.5	A	
Base current	$I_B$	0.25	A	
Collector dissipation	$P_C$	20	W	$T_c = 25^\circ\text{C}$
Junction temperature	$T_j$	150	$^\circ\text{C}$	
Storage temperature	$T_{stg}$	-55 ~ +150	$^\circ\text{C}$	

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

			min	typ	max	unit
Collector cutoff current	$I_{CBO}$	$V_{CB} = 40\text{ V}, I_E = 0$			10	$\mu\text{A}$
Emitter cutoff current	$I_{EBO}$	$V_{EB} = 5\text{ V}, I_C = 0$			2	mA
DC current gain	$h_{FE}$	$V_{CE} = 5\text{ V}, I_C = 0.5\text{ A}$	1000	4000		
Gain bandwidth product	$f_T$	$V_{CE} = 5\text{ V}, I_C = 0.5\text{ A}$		180		MHz
C-E saturation voltage	$V_{CE(sat)}$	$I_C = 0.5\text{ A}, I_B = 2\text{ mA}$		1.0	1.5	V
B-E saturation voltage	$V_{BE(sat)}$	$I_C = 0.5\text{ A}, I_B = 2\text{ mA}$			2.0	V
C-B breakdown voltage	$V_{(BR)CBO}$	$I_C = 0.1\text{ mA}, I_E = 0$	50	60	70	V
C-E breakdown voltage	$V_{(BR)CEO}$	$I_C = 1\text{ mA}, R_{BE} = \infty$	50	60	70	V
Unclamped inductive load energy	$E_s/b$	$L = 100\text{ mH}, R_{BE} = 100\Omega$	15			mJ
Turn-on time	$t_{on}$	$V_{CC} = 20\text{ V}, I_C = 0.5\text{ A}$		0.2		$\mu\text{s}$
Storage time	$t_{stg}$	$I_{B1} = -I_{B2} = 2\text{ mA}$		2.2		$\mu\text{s}$
Fall time	$t_f$			0.4		$\mu\text{s}$

**Switching Time Test Circuit**PW = 50  $\mu\text{s}$ , Duty Cycle  $\leq 1\%$ Unit (resistance:  $\Omega$ , capacitance: F)**Package Dimensions 2010A**

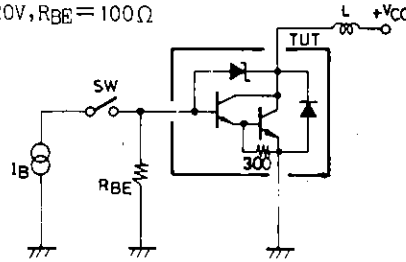
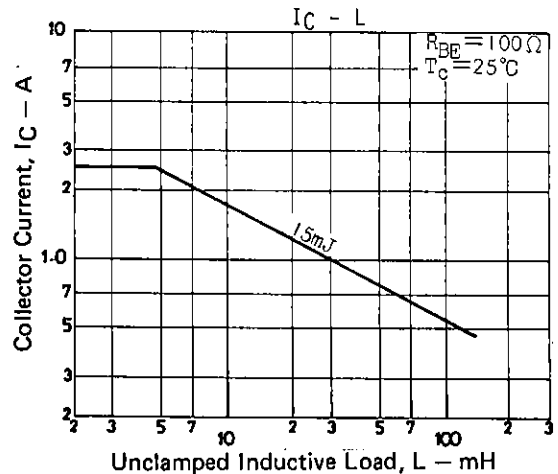
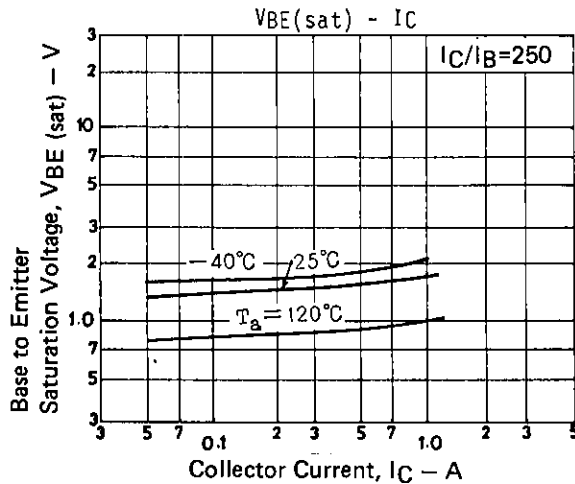
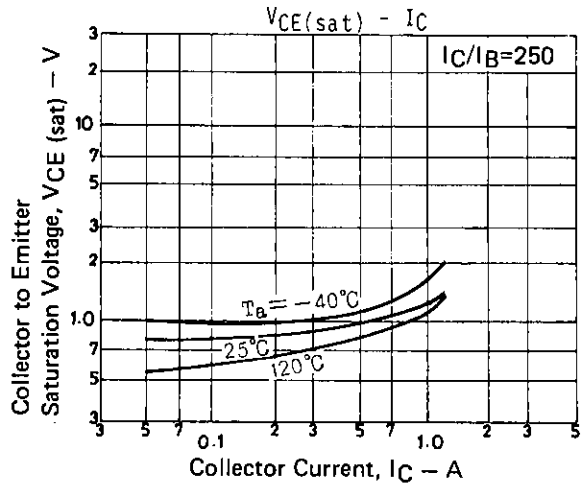
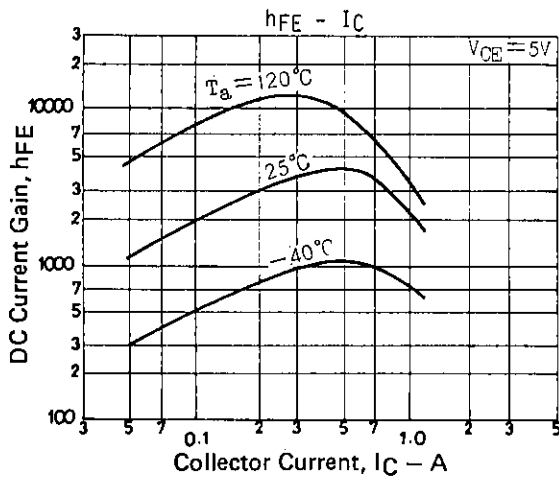
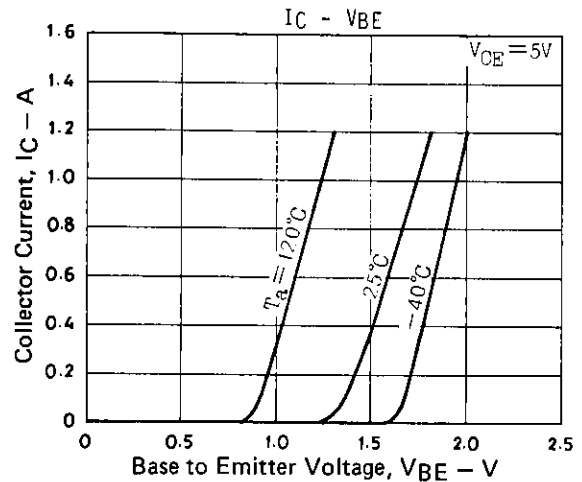
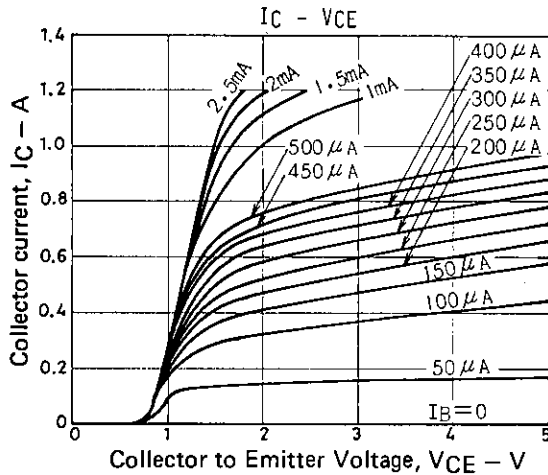
(unit: mm)

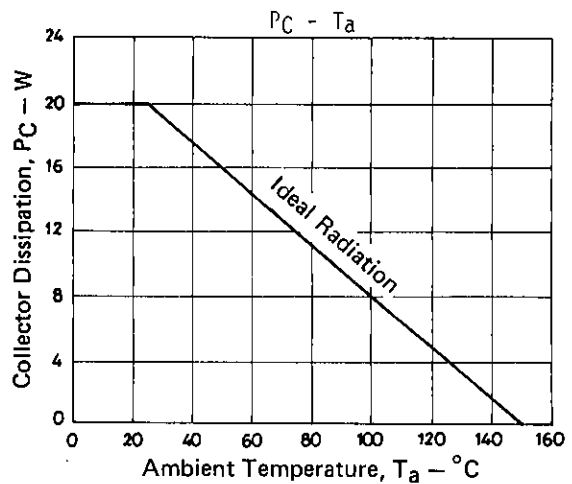
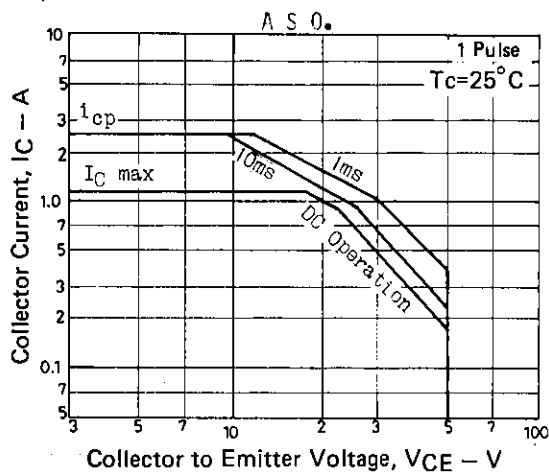


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## Es/b Test Circuit

$$V_{CC}=20V, R_{BE}=100\Omega$$

Unit (resistance:  $\Omega$ )



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