

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±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/ $T_a = 25^\circ\text{C}$

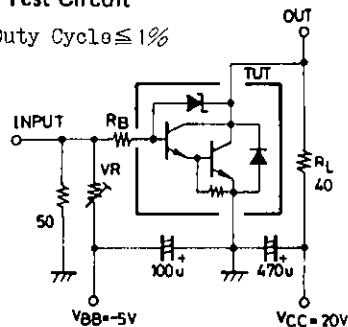
Parameter	Symbol	Value	unit	Notes
Collector to base voltage	V_{CB0}	50*	V	*: Built-in Zener Diode (60±10 V)
Collector to emitter voltage	V_{CE0}	50*	V	
Emitter to base voltage	V_{EB0}	6	V	
Collector current	I_C	1.2	A	
Peak collector current	I_{cp}	2.5	A	
Base current	I_B	0.25	A	
Collector dissipation	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/ $T_a = 25^\circ\text{C}$

Parameter	Symbol	Test Conditions	min	typ	max	unit
Collector cutoff current	I_{CBO}	$V_{CB}=40\text{ V}, I_E=0$			10	μA
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		μs
Storage time	t_{stg}	$I_{B1}=-I_{B2}=2\text{ mA}$		2.2		μs
Fall time	t_f			0.4		μs

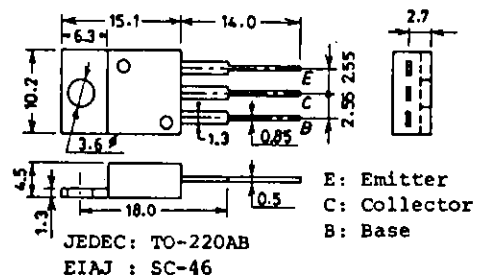
Switching Time Test Circuit

$PW=50\mu\text{s}$, Duty Cycle $\leq 1\%$



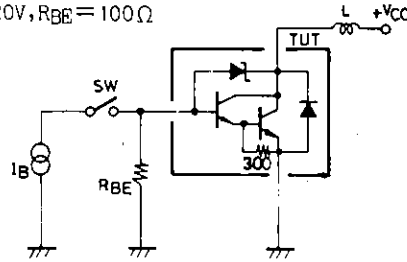
Unit (resistance: Ω , capacitance: F)

Package Dimensions 2010A
(unit: mm)

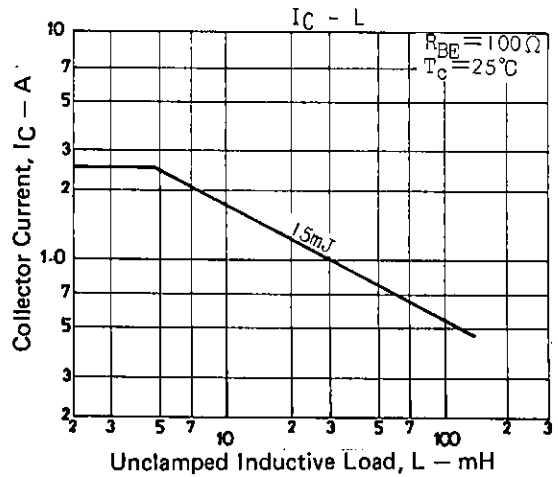
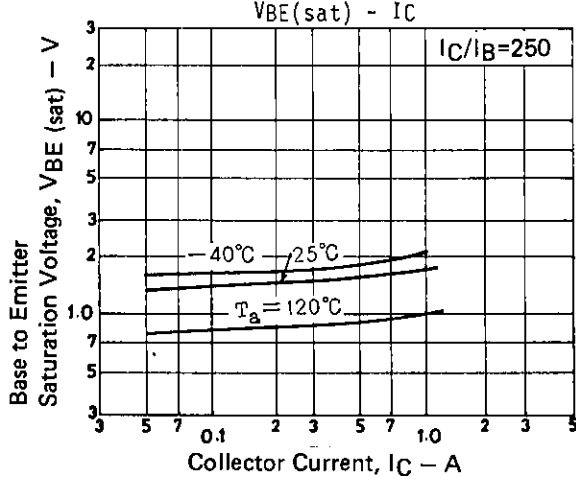
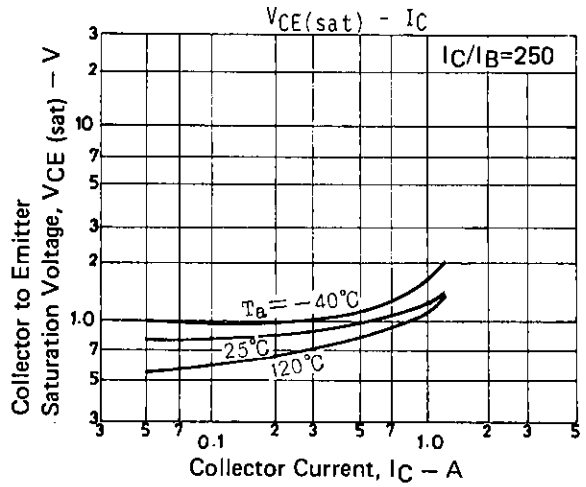
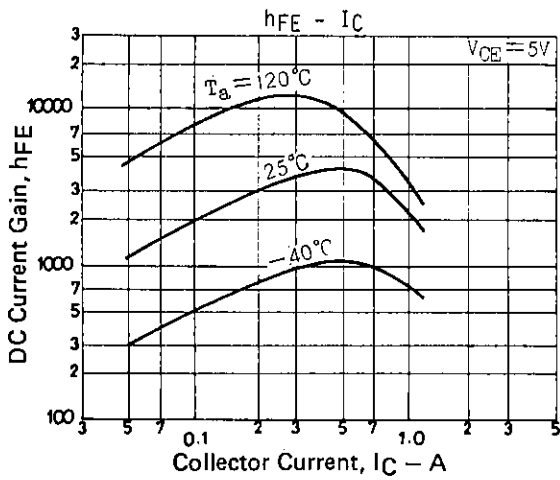
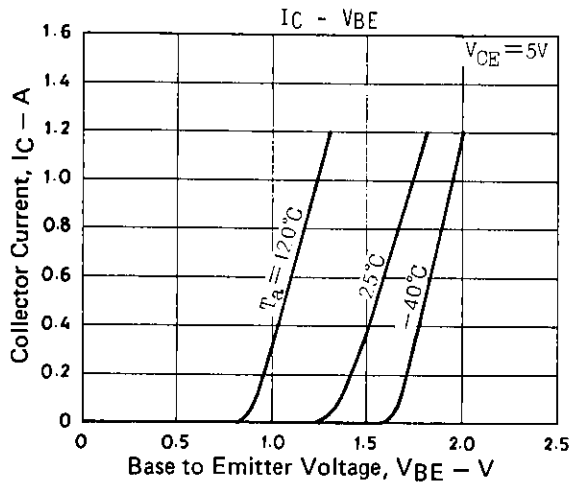
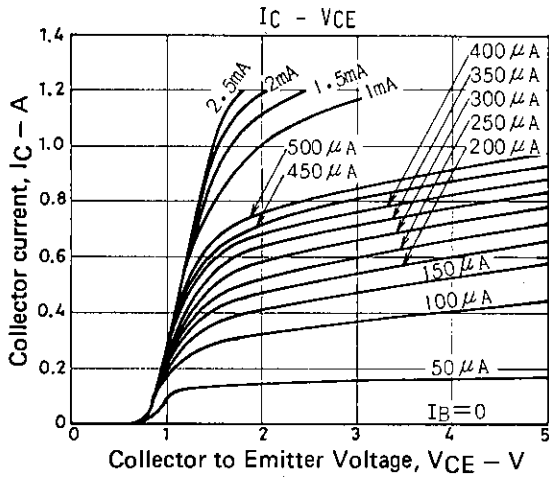


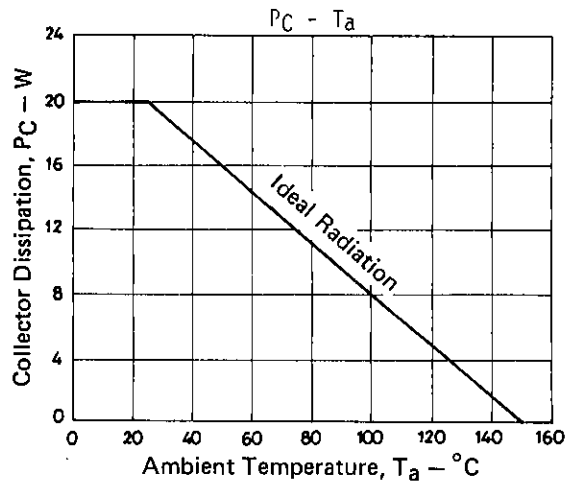
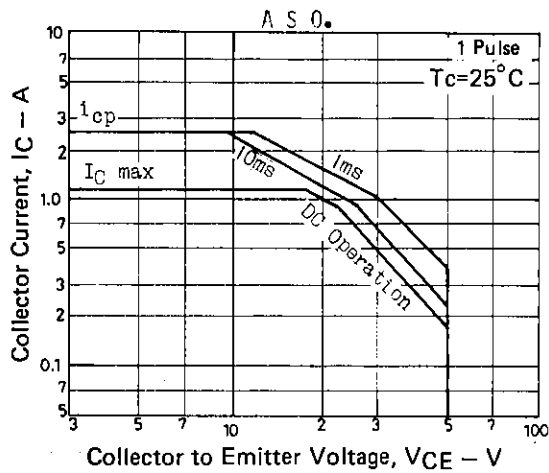
Es/b Test Circuit

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



Unit (resistance: Ω)





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