

SANYO	No:2271A	2SC4005
	NPN Planar Type Silicon Darlington Transistor	
DRIVER APPLICATIONS		

Applications

- . Suitable for use in switching of L load (motor drivers, printer hammer drivers, relay drivers)

Features

- . High DC current gain
- . Large current capacity and wide ASO
- . On-chip zener diode of $50 \pm 8V$ between collector and base
- . Uniformity in collector to base breakdown voltage due to accurate impurity diffusion process
- . Large inductive load handling capability
- . Micaless package facilitating mounting

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

				unit
Collector to Base Voltage	V_{CBO}	42*	V	
Collector to Emitter Voltage	V_{CEO}	42*	V	
Emitter to Base Voltage	V_{EBO}	6	V	
Collector Current	I_C	2	A	
Peak Collector Current	i_{cp}	4	A	
Base Current	I_B	0.4	A	
Collector Dissipation	P_C	2.0	W	
		$T_c=25^\circ C$	15	W
Junction Temperature	T_j	150	$^\circ C$	
Storage Temperature	T_{stg}	-55 to +150	$^\circ C$	

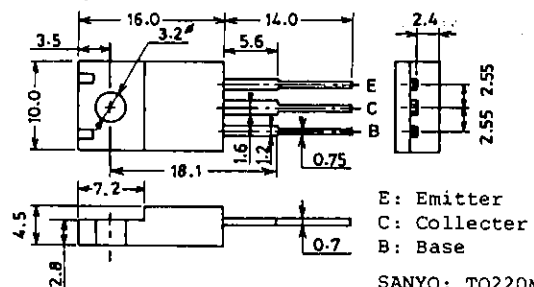
*: On-chip Zener diode of $50 \pm 8V$

Electrical Characteristics at $T_a=25^\circ C$

		min	typ	max	unit
Collector Cutoff Current	I_{CBO}			10	μA
Emitter Cutoff Current	I_{EBO}			2	mA
DC Current Gain	h_{FE}	2000	4000		
Gain-Bandwidth Product	f_T		180		MHz
C-E Saturation Voltage	$V_{CE(sat)}$		1.0	1.5	V
B-E Saturation Voltage	$V_{BE(sat)}$			2.0	V
C-B Breakdown Voltage	$V_{(BR)CBO}$	42	50	58	V

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Package Dimensions 2041
(unit: mm)



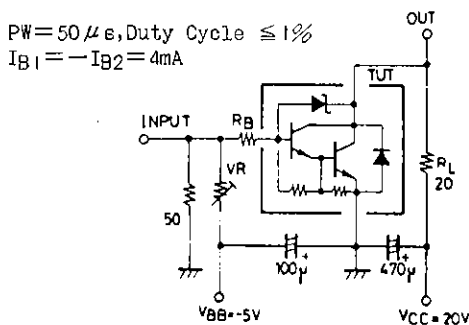
E: Emitter
C: Collector
B: Base

SANYO: TO220M

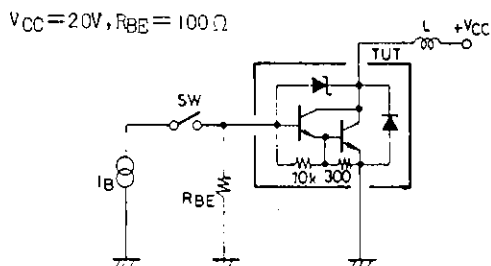
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		min	typ	max	unit
C-E Breakdown Voltage	$V_{(BR)CEO}$	42	50	58	V
Inductive Load	E_s/b	25			mJ
Handling Capability					
Turn-on Time	t_{on}	See specified Test Circuit.		0.2	μs
Storage Time	t_{stg}	$V_{CC}=20V, I_C=1A$		3.5	μs
Fall Time	t_f	$I_{B1}=-I_{B2}=4mA$		0.5	μs

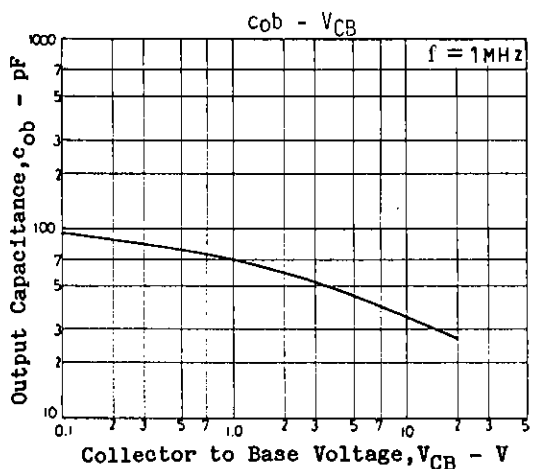
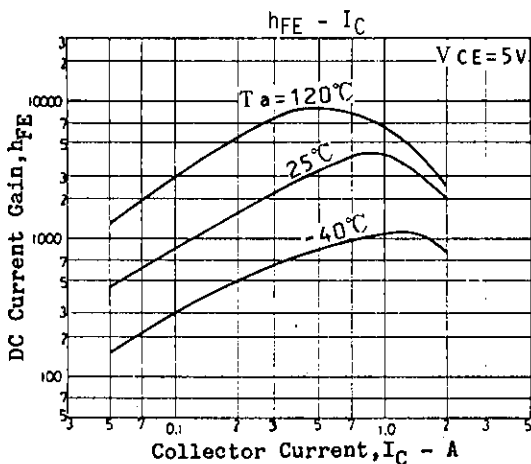
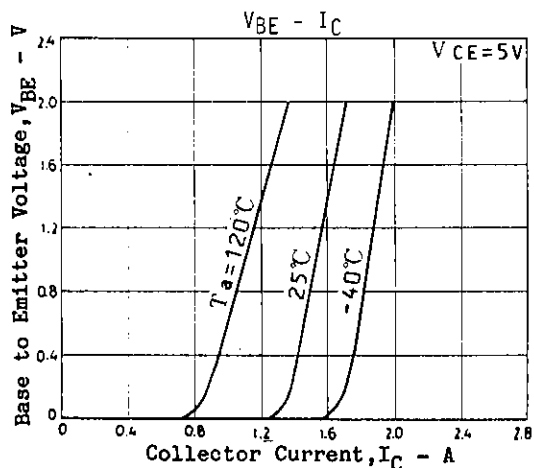
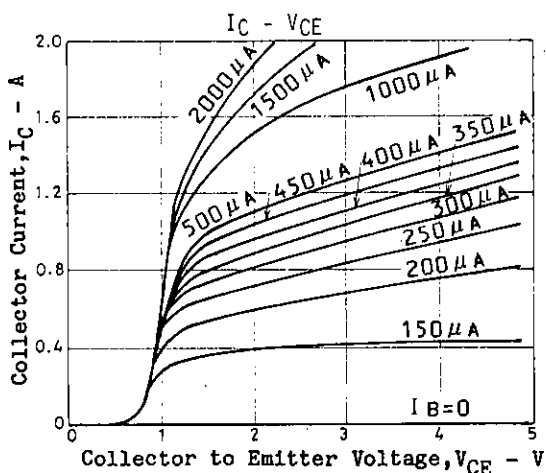
Switching Time Test Circuit

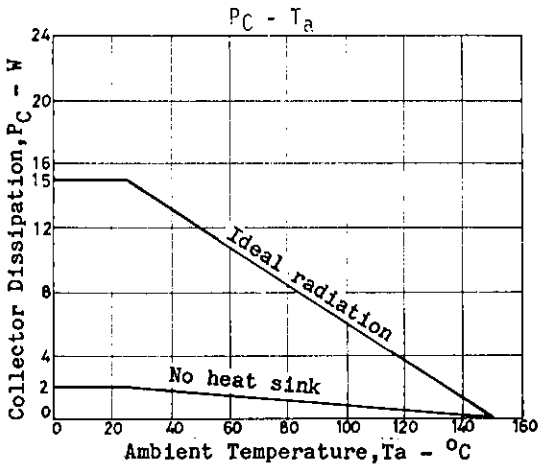
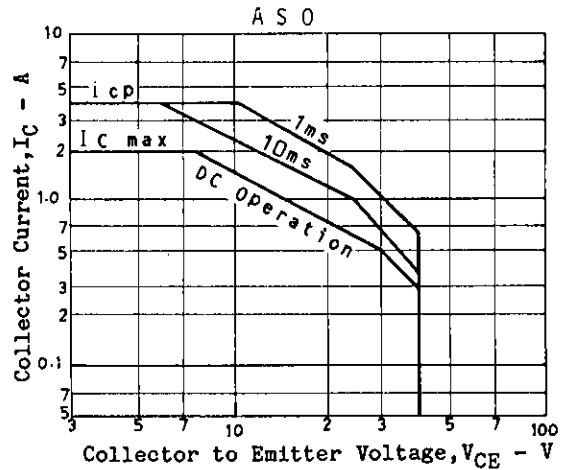
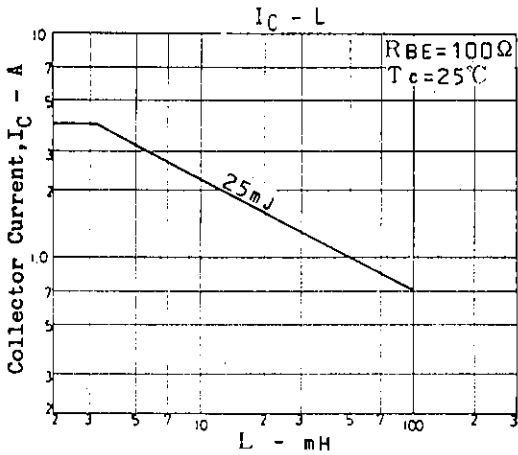
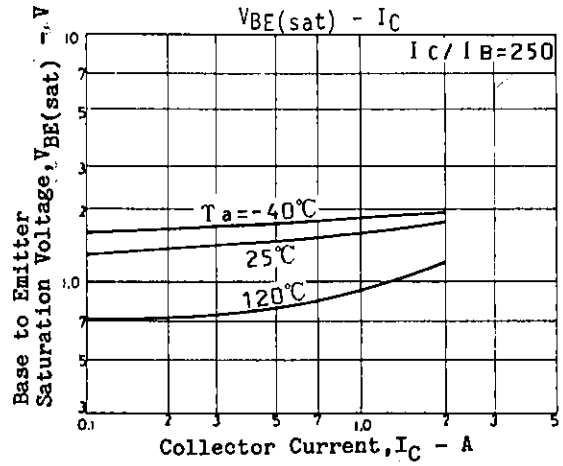
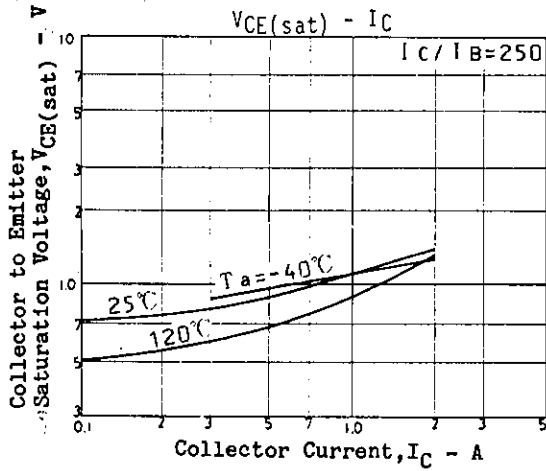


Es/b Test Circuit



Unit (resistance: Ω , capacitance: F)





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