

SANYO	No.2272A	2 S C 4 0 0 6
	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 $T_a=25^\circ C$

Collector to Base Voltage	V_{CBO}	42*	V	unit
Collector to Emitter Voltage	V_{CEO}	42*	V	
Emitter to Base Voltage	V_{EBO}	6	V	
Collector Current	I_C	3	A	
Peak Collector Current	i_{cp}	6	A	
Base Current	I_B	0.6	A	
Collector Dissipation	P_C	2.0	W	
		$T_c=25^\circ C$	20	W
Junction Temperature	T_j	150	$^\circ C$	
Storage Temperature	T_{stg}	-55 to +150	$^\circ C$	

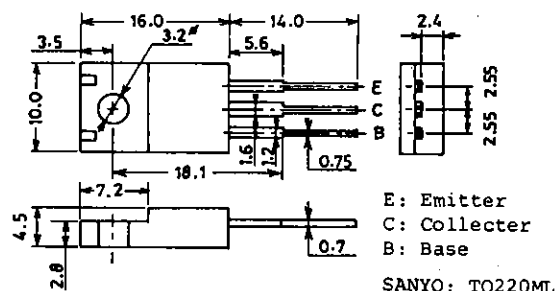
*: On-chip Zener diode of $50 \pm 8V$

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

			min	typ	max		unit
Collector Cutoff Current	I_{CBO}	$V_{CB}=30V, I_E=0$			10		μA
Emitter Cutoff Current	I_{EBO}	$V_{EB}=5V, I_C=0$			2		mA
DC Current Gain	h_{FE}	$V_{CE}=5V, I_C=1.5A$	2000	4000			
Gain-Bandwidth Product	f_T	$V_{CE}=5V, I_C=1.5A$		180			MHz
C-E Saturation Voltage	$V_{CE(sat)}$	$I_C=1.5A, I_B=6mA$		1.0	1.5		V
B-E Saturation Voltage	$V_{BE(sat)}$	$I_C=1.5A, I_B=6mA$			2.0		V
C-B Breakdown Voltage	$V_{(BR)CBO}$	$I_C=0.1mA, I_E=0$	42	50	58		V

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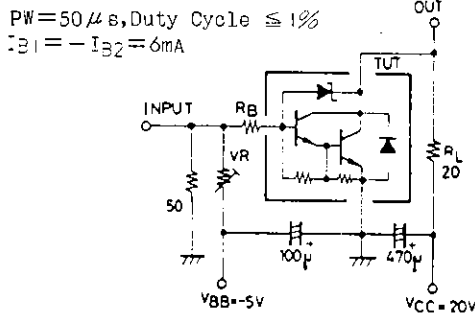
Package Dimensions 2041
(unit: mm)



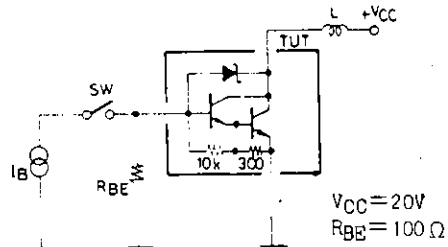
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			min	typ	max	unit
C-E Breakdown Voltage	$V_{(BR)CEO}$	$I_C=1mA, R_{BE}=\infty$	42	50	58	V
Inductive Load	Es/b	$L=100mH, R_{BE}=100ohms$	30			mJ
Handling Capability						
Turn-on Time	t_{on}	See specified Test Circuit. $V_{CC}=20V, I_C=1.5A$ $I_{B1}=-I_{B2}=6mA$		0.2		μs
Storage Time	t_{stg}			3.0		μs
Fall Time	t_f			0.7		μs

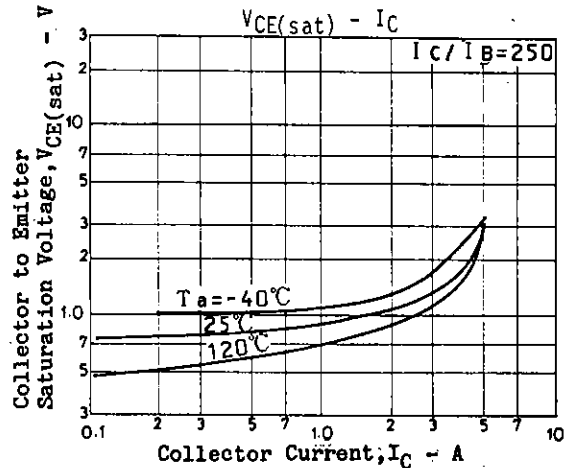
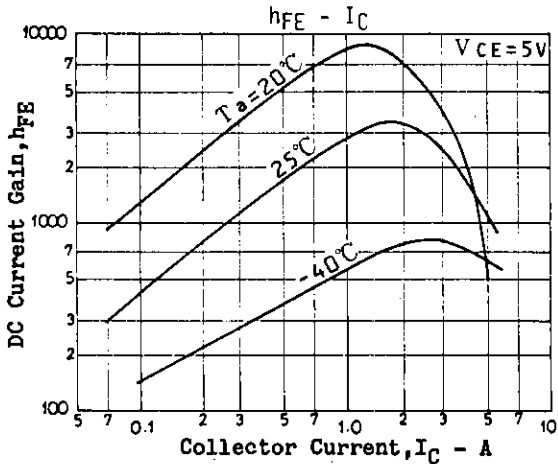
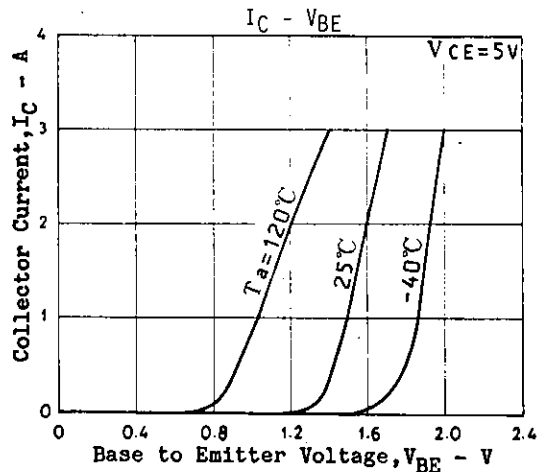
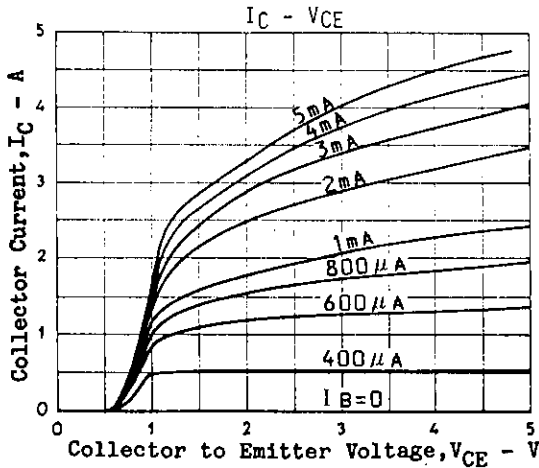
Switching Time Test Circuit

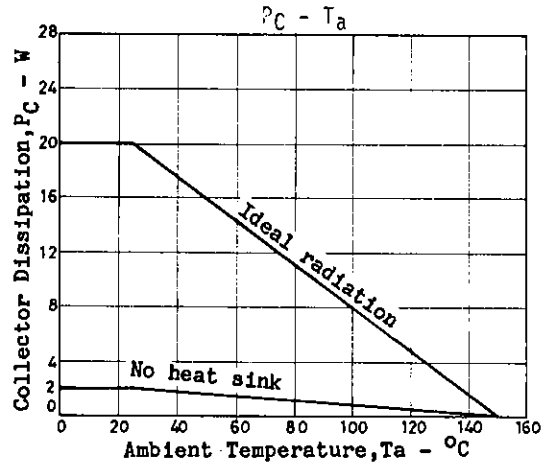
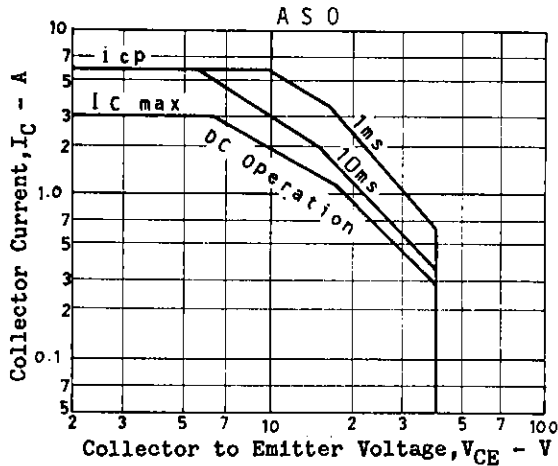
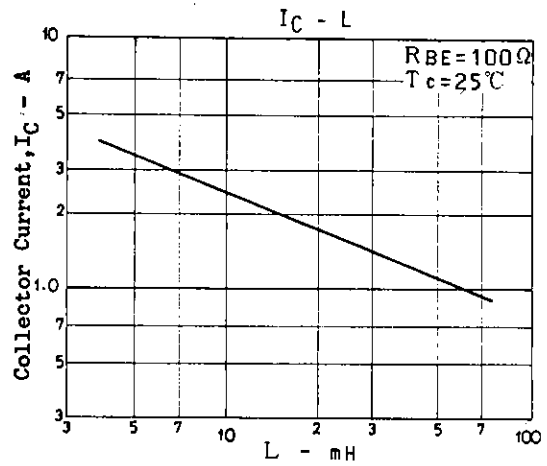
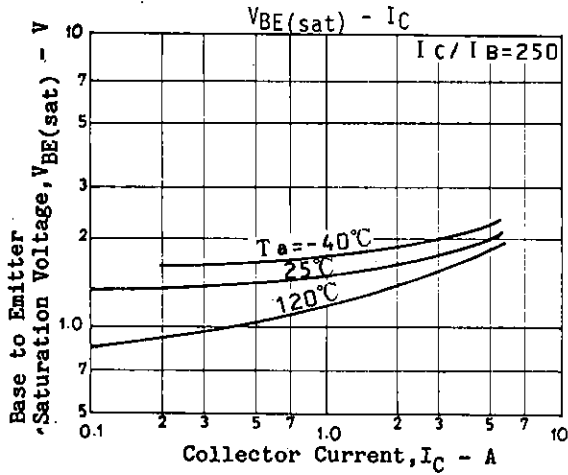


Es/b Test Circuit



Unit (resistance: Ω , capacitance: F)





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