

No.2298

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SANYO

NPN Epitaxial Planar Type Silicon Transistor
DRIVER APPLICATIONS

Applications

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

Features

- High DC current gain
- Wide ASO
- On-chip zener diode of $60 \pm 10V$ between collector and base
- Uniformity in collector to base breakdown voltage
- Large inductive load handling capability

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

			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
Peak Collector Current	i_{cp}	4	A
Collector Dissipation	P_C	1.2	W
	P_C	20	W
Junction Temperature	T_j	150	$^\circ C$
Storage Temperature	T_{stg}	-55 to +150	$^\circ C$

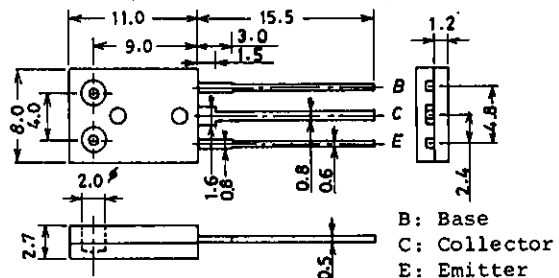
*: On-chip zener diode ($60 \pm 10V$)

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

			min	typ	max	unit
Collector Cutoff Current	I_{CBO}	$V_{CB}=40V, I_E=0$			10	μA
Emitter Cutoff Current	I_{EBO}	$V_{EB}=5V, I_C=0$			2	mA
DC Current Gain	h_{FE}	$V_{CE}=5V, I_C=1A$	1000	4000		
Gain-Bandwidth Product	f_T	$V_{CE}=5V, I_C=1A$		180		MHz
C-E Saturation Voltage	$V_{CE(sat)}$	$I_C=1A, I_B=4mA$		1.0	1.5	V
B-E Saturation Voltage	$V_{BE(sat)}$	$I_C=1A, I_B=4mA$			2.0	V
Inductive Load Handling Capability	E s/b	$L=100mH, R_{BE}=100ohms$	25			mJ
C-B Breakdown Voltage	$V_{(BR)CBO}$	$I_C=100\mu A, I_E=0$	50	60	70	V
C-E Breakdown Voltage	$V_{(BR)CEO}$	$I_C=1mA, R_{BE}=\infty$	50	60	70	V

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Package Dimensions 2043A
(unit: mm)



B: Base
C: Collector
E: Emitter

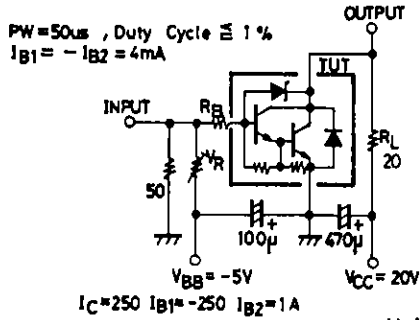
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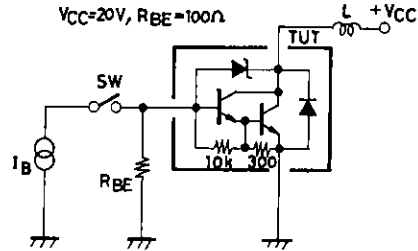
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			min	typ	max	unit
Turn-on Time	t_{on}	See specified Test Circuit.		0.2		us
Storage Time	t_{stg}		n	3.5		us
Fall Time	t_f		n	0.5		us

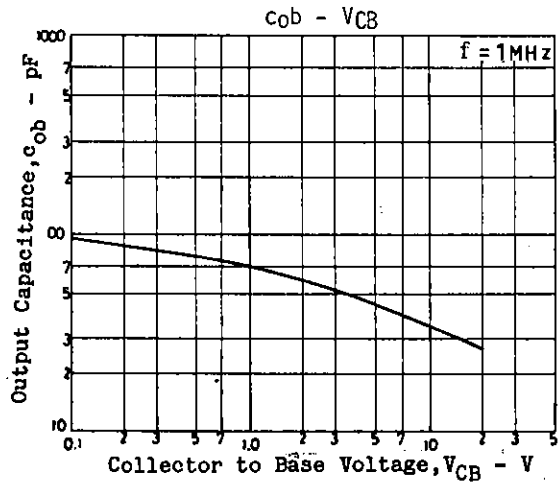
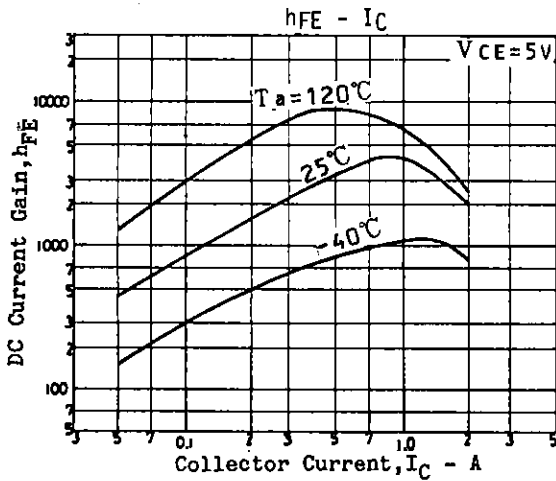
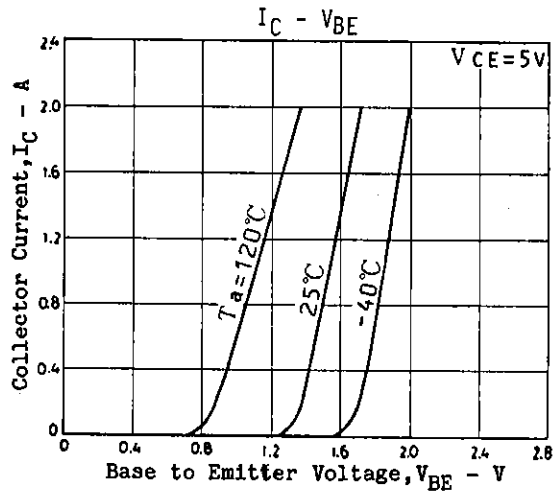
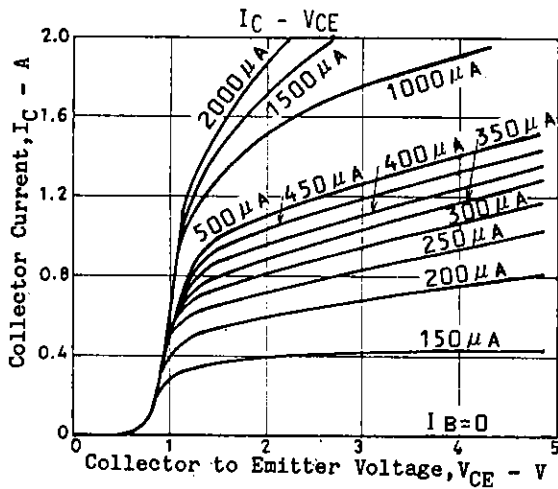
Switching Time Test Circuit

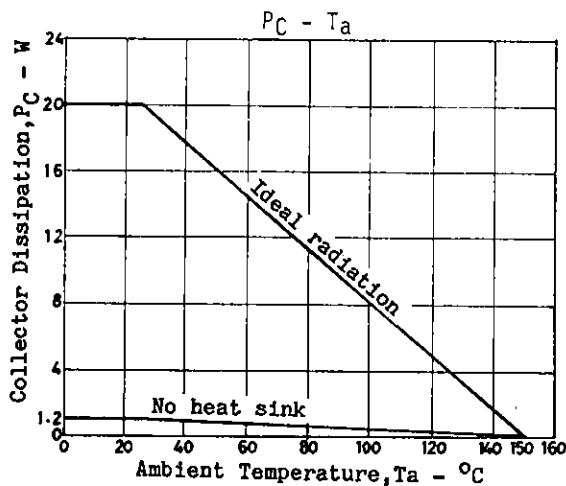
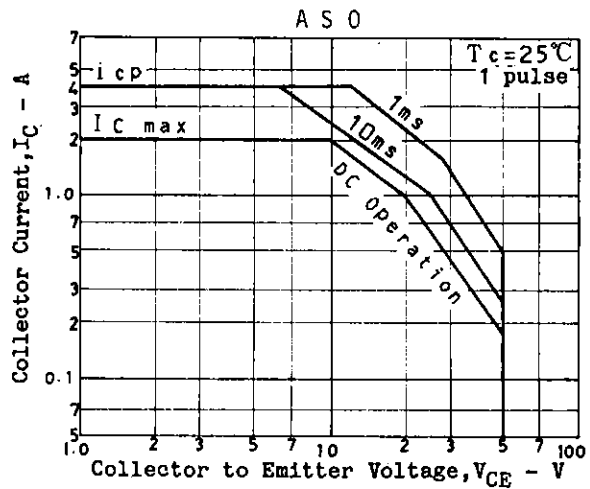
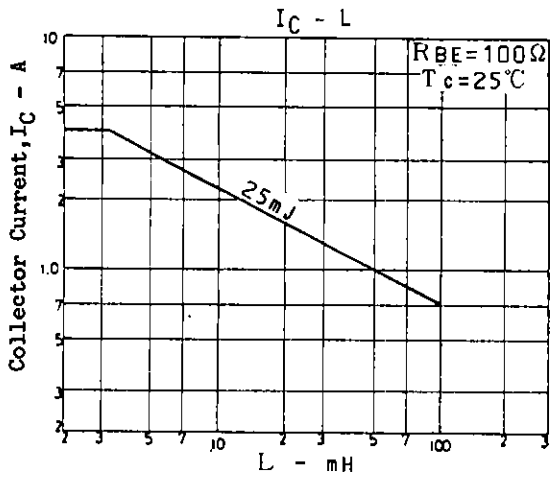
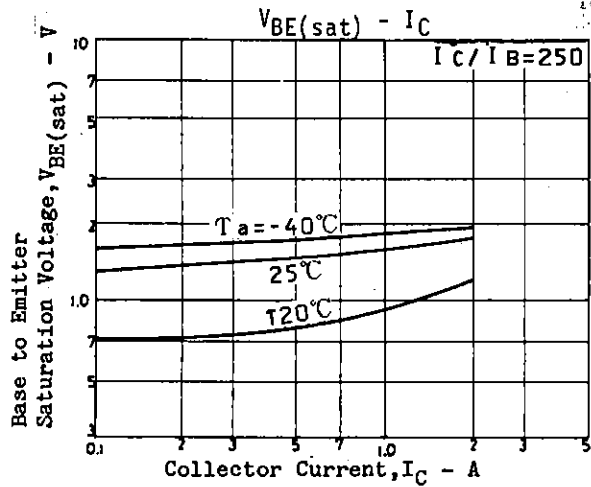
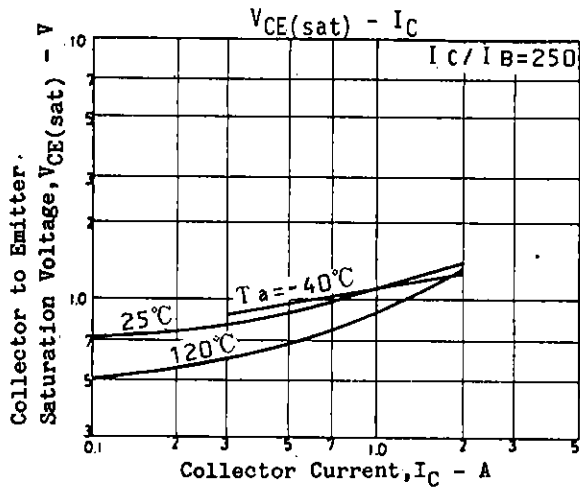


Es/b Test Circuit



Unit (resistance: Ω , capacitance: F)





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