

<b>SANYO</b>	No.2297A	2 S C 3 7 8 4
	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	$V_{CBO}$	#50	V
Collector to Emitter Voltage	$V_{CEO}$	#50	V
Emitter to Base Voltage	$V_{EBO}$	6	V
Collector Current	$I_C$	1.2	A
Peak Collector Current	$i_{cp}$	2.5	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	$^\circ C$

$T_c=25^\circ C$

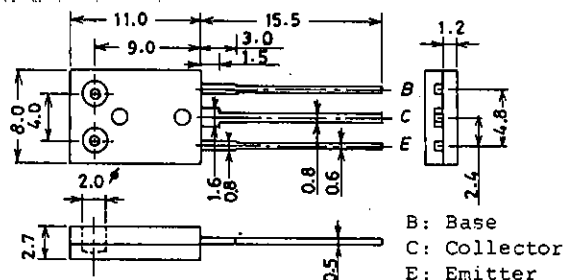
\*: On-chip zener diode ( $60 \pm 10V$ )

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

			min	typ	max	unit
Collector Cutoff Current	$I_{CBO}$	$V_{CB}=40V, I_E=0$			10	$\mu A$
Emitter Cutoff Current	$I_{EBO}$	$V_{EB}=5V, I_C=0$			10	mA
DC Current Gain	$h_{FE}$	$V_{CE}=5V, I_C=500mA$	1000	4000		
Gain-Bandwidth Product	$f_T$	$V_{CE}=5V, I_C=500mA$		180		MHz
C-E Saturation Voltage	$V_{CE(sat)}$	$I_C=500mA, I_B=2mA$		1.0	1.5	V
B-E Saturation Voltage	$V_{BE(sat)}$	$I_C=500mA, I_B=2mA$			2.0	V
Inductive Load Handling Capability	E s/b	$L=100mH, R_{BE}=100ohms$	15			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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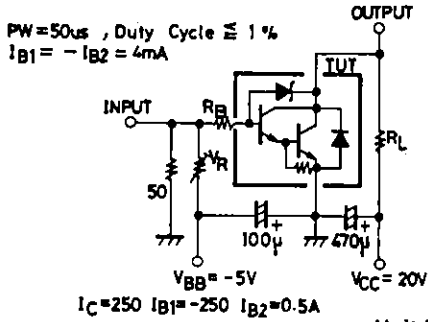
**Package Dimensions 2043A**  
(unit: mm)



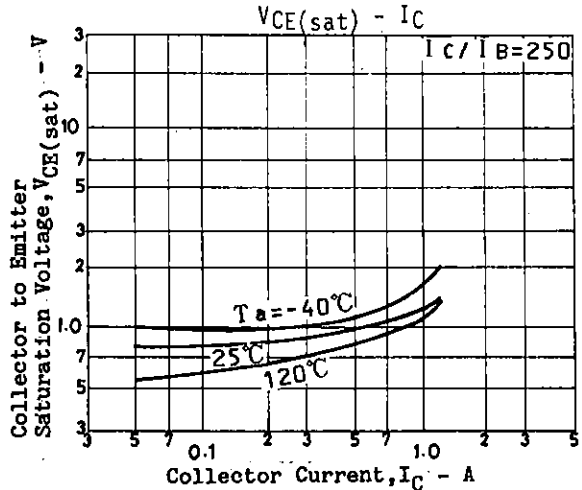
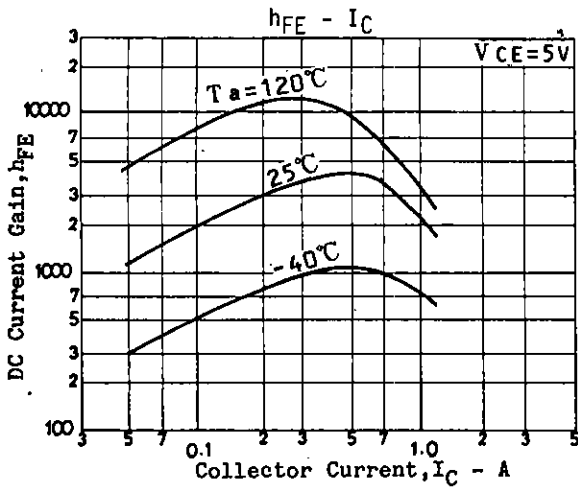
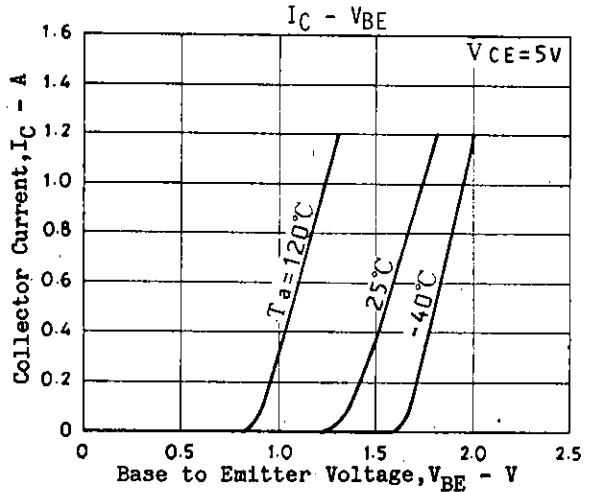
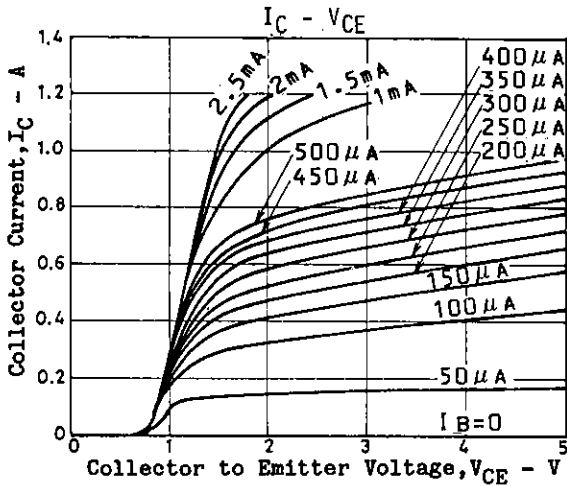
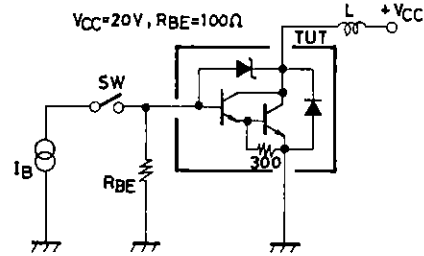
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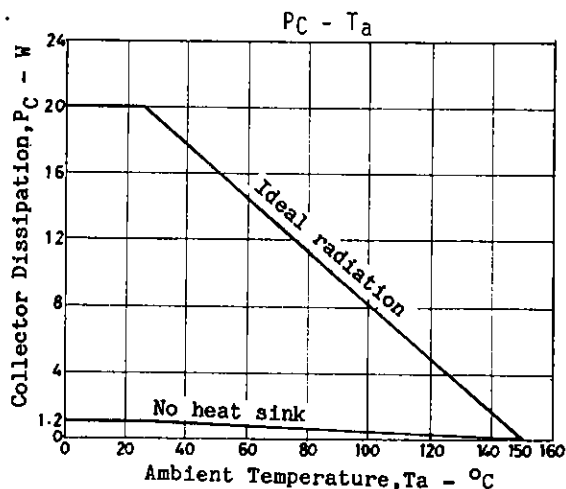
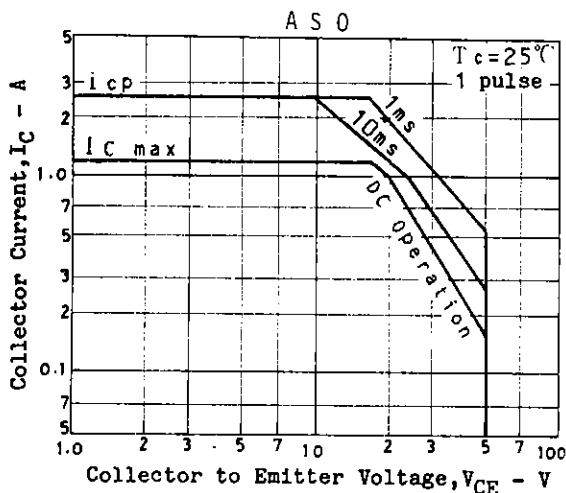
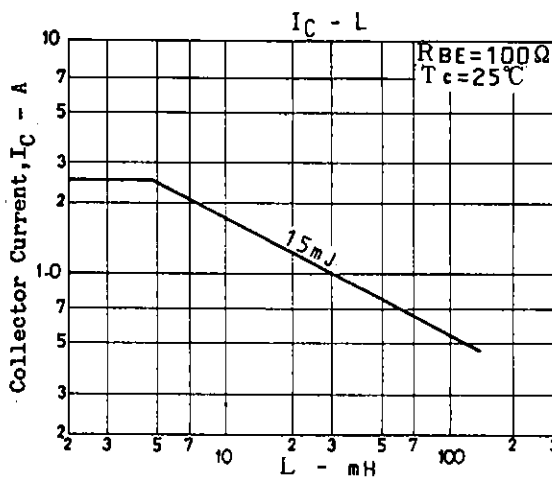
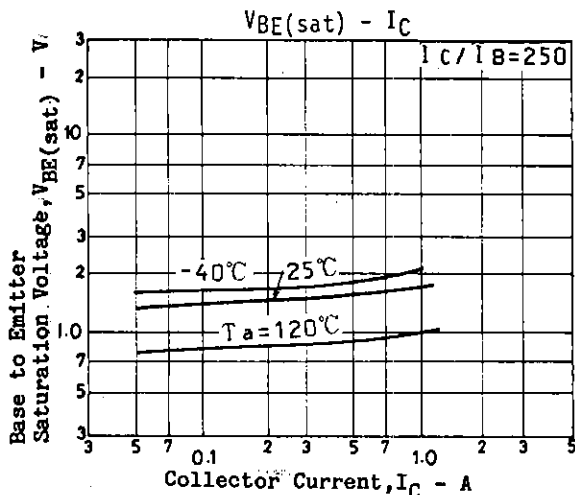
			min	typ	max	unit
Turn-on Time	$t_{on}$	See specified Test Circuit.		0.2		us
Storage Time	$t_{stg}$			2.2		us
Fall Time	$t_f$			0.4		us

Switching Time Test Circuit



Es/b Test Circuit





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