

SANYO	No.2146B	2SC3705
		NPN Epitaxial Planar Silicon Darlington Transistor

Printer Driver Applications

Applications

- Switching of L load (motor drivers, printer drivers, relay drivers).

Features

- High DC current gain.
- Large current capacity and wide ASO.
- Contains a Zener diode across collector and base.

Absolute Maximum Ratings at Ta = 25°C

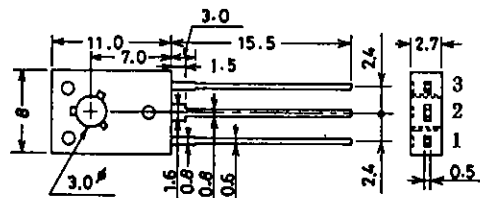
				unit
Collector-to-Base Voltage	V _{CBO}	With Zener diode (60 ± 10V)	50	V
Collector-to-Emitter Voltage	V _{CEO}	With Zener diode (60 ± 10V)	50	V
Emitter-to-Base Voltage	V _{EBO}		6	V
Collector Current	I _C		1.2	A
Collector Current (Pulse)	I _{CP}		2.5	A
Base Current	I _B		0.25	A
Collector Dissipation	P _C		1	W
		T _c = 25°C	10	W
Junction Temperature	T _j		150	°C
Storage Temperature	T _{stg}		-55 to +150	°C

Electrical Characteristics at Ta = 25°C

			min	typ	max	unit
Collector Cutoff Current	I _{CBO}	V _{CB} = 40V, I _E = 0			19	μA
Emitter Cutoff Current	I _{EBO}	V _{EB} = 5V, I _C = 0			10	μA
DC Current Gain	h _{FE}	V _{CE} = 5V, I _C = 0.5A	1000	4000		
Gain-Bandwidth Product	f _T	V _{CE} = 5V, I _C = 0.5A		180		MHz
Inductive Load Handling Capability	Es/b	L = 100mH, R _{BE} = 100Ω	15			mJ
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
C-B Breakdown Voltage	V _{(BR)CBO}	I _C = 0.1mA, I _E = 0	50	60	70	V
C-E Breakdown Voltage	V _{(BR)CEO}	I _C = 1mA, R _{BE} = ∞	50	60	70	V
Rise Time	t _{on}	See specified Test Circuit.		0.2		μs
Storage Time	t _{stg}	∕		2.2		μs
Fall Time	t _f	∕		0.4		μs

Package Dimensions 2009B

(unit : mm)



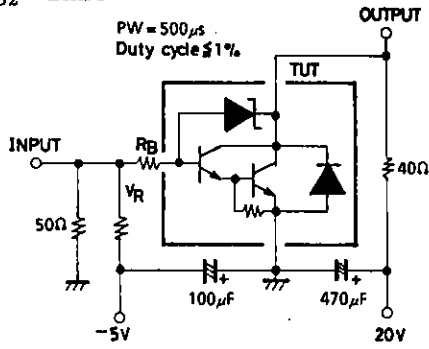
JEDEC: TO-126

- 1: Emitter
- 2: Collector
- 3: Base

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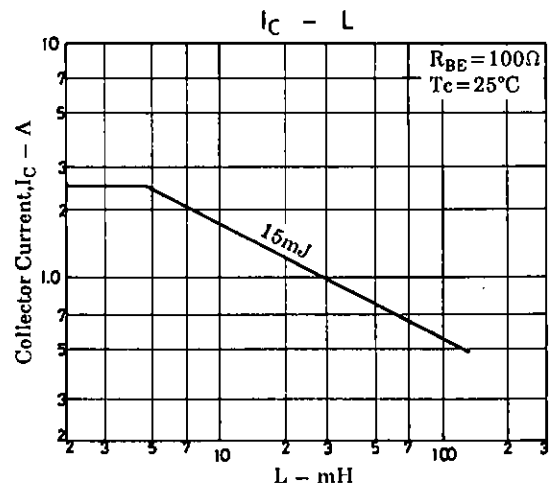
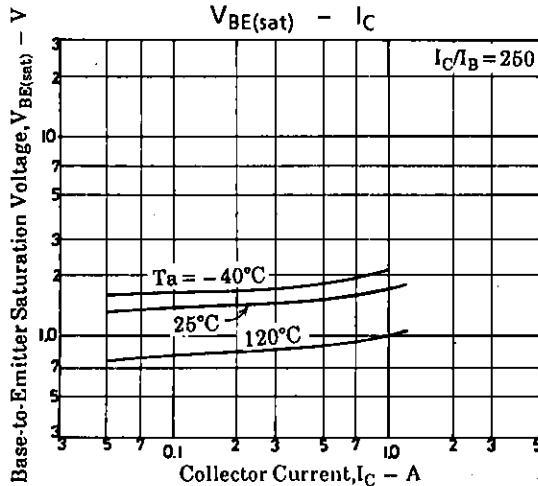
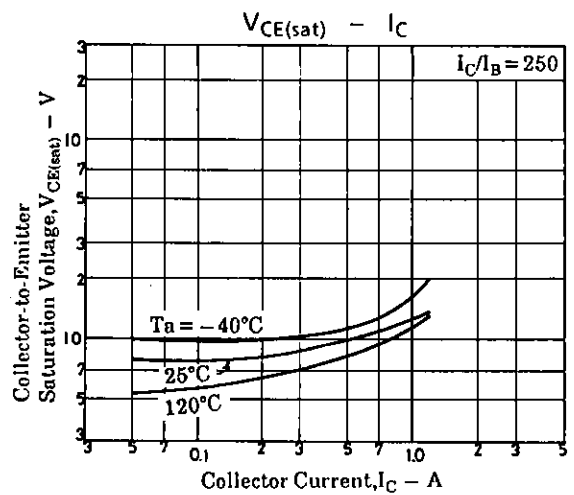
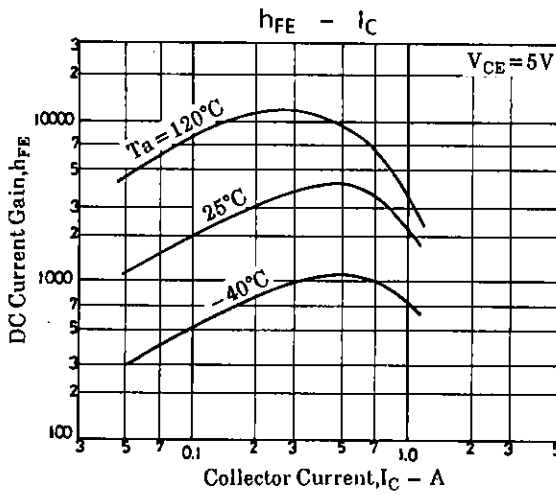
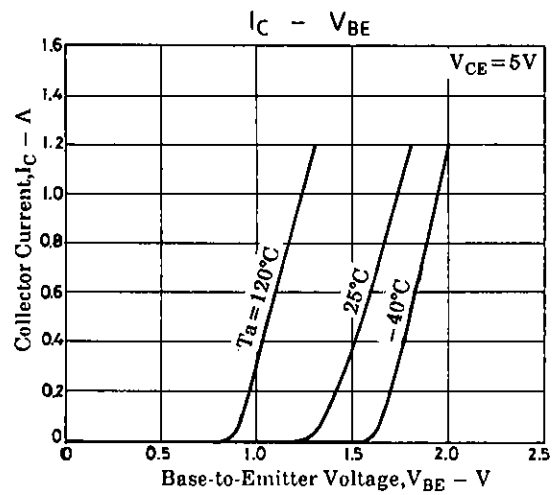
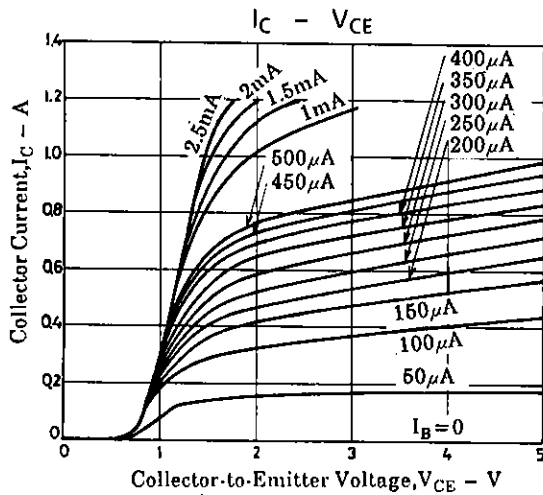
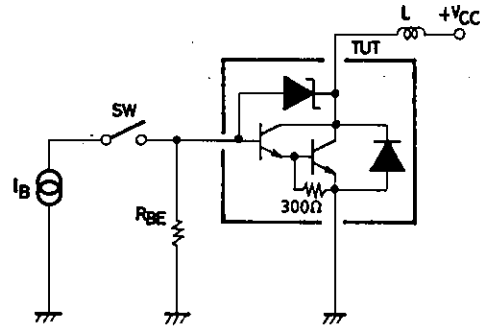
Switching Time Test Circuit

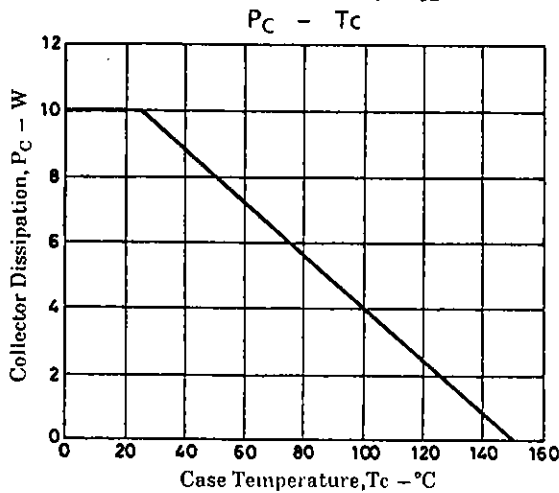
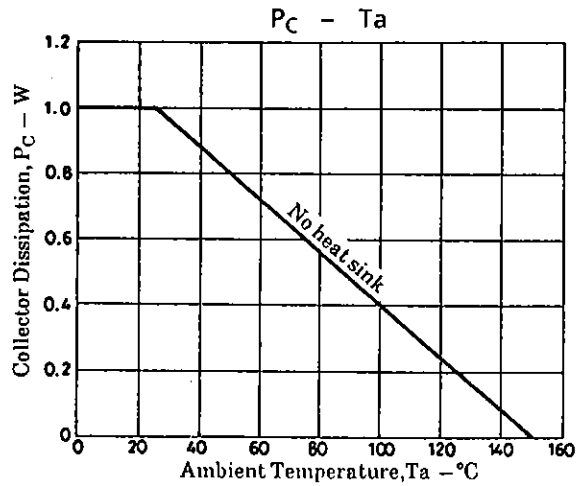
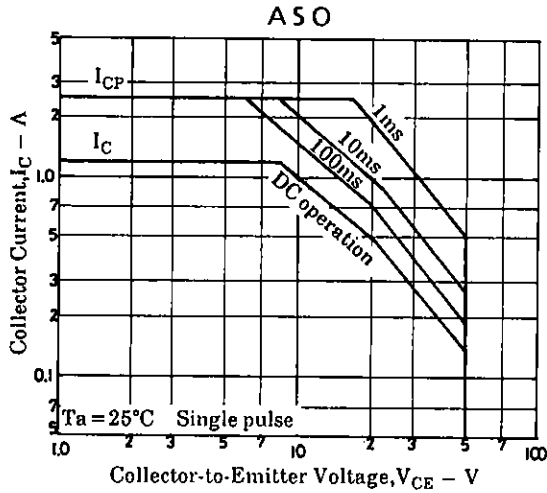
$I_{B1} = -I_{B2} = 2\text{mA}$



Es/b Test Circuit

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





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