

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

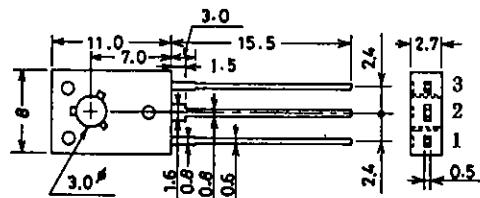
				unit
Collector-to-Base Voltage	V _{CBO}	With Zener diode (60 ± 10V)	50	V
Collector-to-Emitter Voltage	V _{CEO}	With Zener diode (60 ± 10V)	50	V
Emitter-to-Base Voltage	V _{EBO}		6	V
Collector Current	I _C		1.2	A
Collector Current (Pulse)	I _{CP}		2.5	A
Base Current	I _B		0.25	A
Collector Dissipation	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

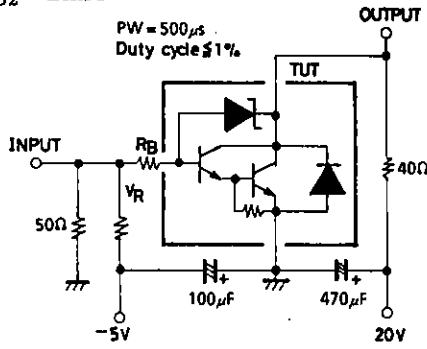
1: Emitter
2: Collector
3: Base

SANYO Electric Co., Ltd. Semiconductor Business Headquarters

TOKYO OFFICE Tokyo Bldg., 1-10, 1 Chome, Ueno, Taito-ku, TOKYO, 110 JAPAN

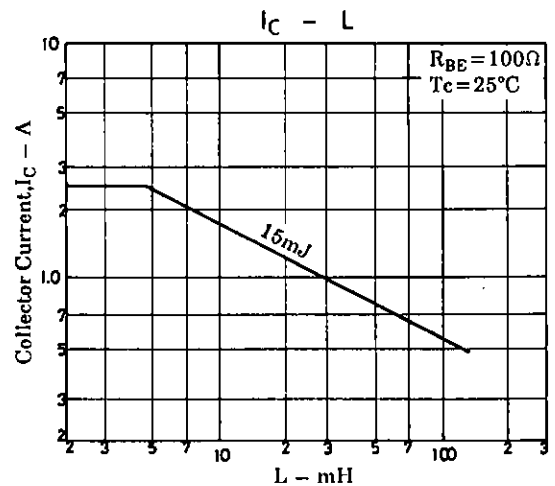
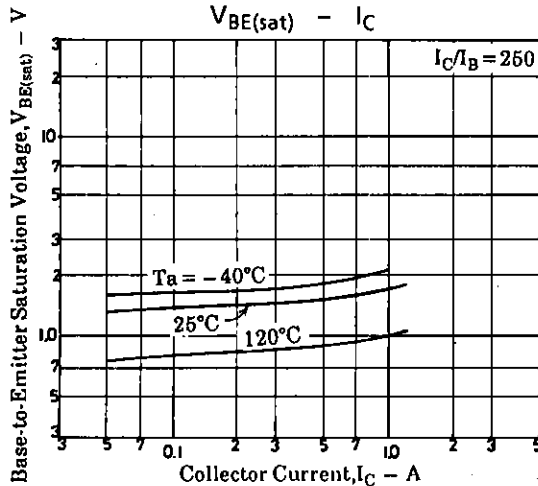
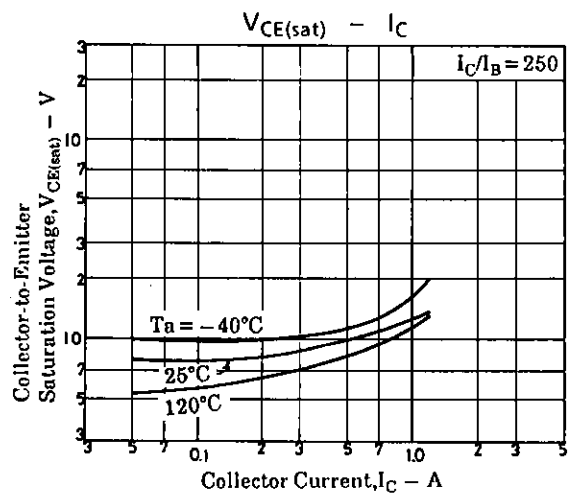
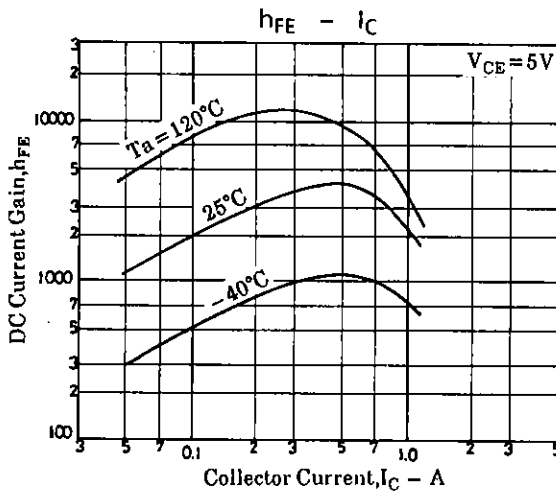
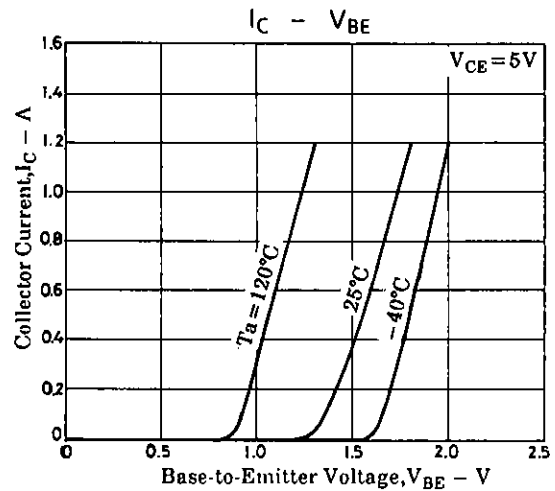
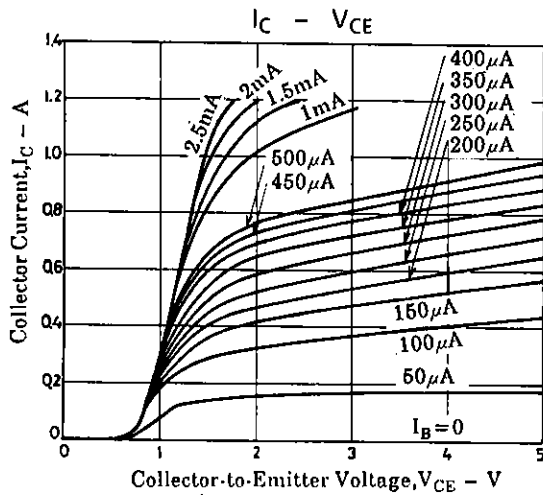
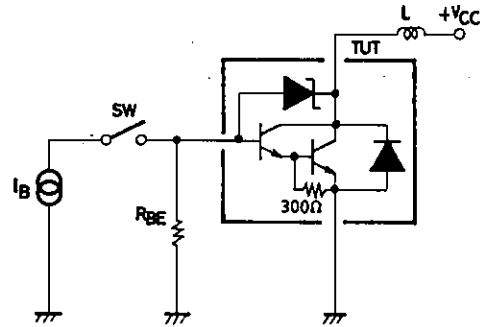
Switching Time Test Circuit

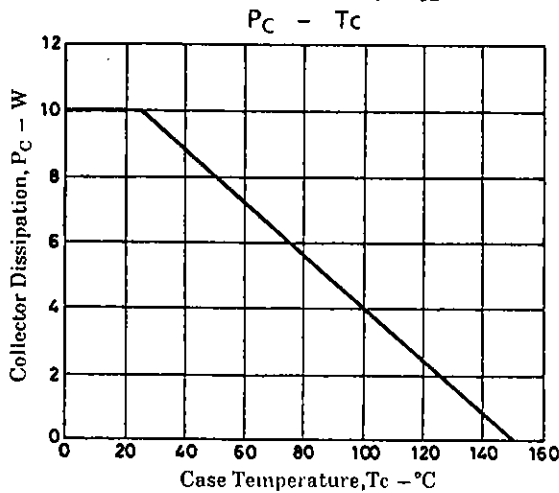
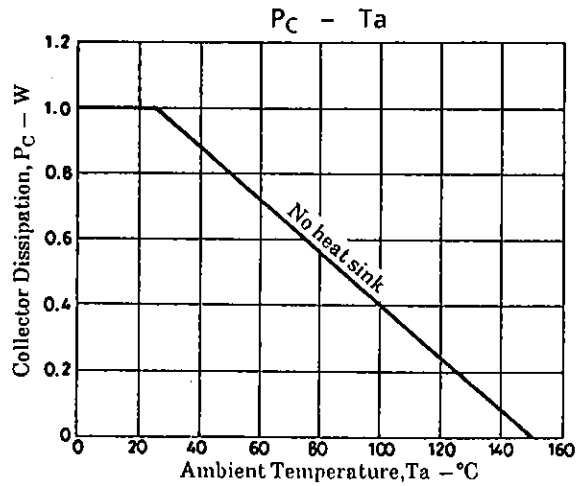
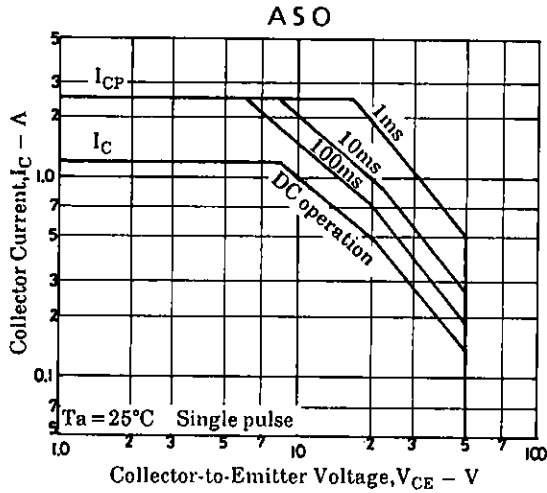
$I_{B1} = -I_{B2} = 2\text{mA}$



Es/b Test Circuit

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





- No products described or contained herein are intended for use in surgical implants, life-support systems, aerospace equipment, nuclear power control systems, vehicles, disaster/crime-prevention equipment and the like, the failure of which may directly or indirectly cause injury, death or property loss.
- Anyone purchasing any products described or contained herein for an above-mentioned use shall:
 - ① Accept full responsibility and indemnify and defend SANYO ELECTRIC CO., LTD., its affiliates, subsidiaries and distributors and all their officers and employees, jointly and severally, against any and all claims and litigation and all damages, cost and expenses associated with such use:
 - ② Not impose any responsibility for any fault or negligence which may be cited in any such claim or litigation on SANYO ELECTRIC CO., LTD., its affiliates, subsidiaries and distributors or any of their officers and employees jointly or severally.
- Information (including circuit diagrams and circuit parameters) herein is for example only; it is not guaranteed for volume production. SANYO believes information herein is accurate and reliable, but no guarantees are made or implied regarding its use or any infringements of intellectual property rights or other rights of third parties.

This catalog provides information as of July, 1995. Specifications and information herein are subject to change without notice.