Ordering number: EN3712

SANYO

No.3712

2SC4547

NPN Planar 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.
· Contains zener diode of 95±10V between collector and base.
· Uniformity in collector-to-base breakdown voltage due to adoption of accurate impurity-diffusion process.
· High inductive load handling capability.

Absolute Maximum Ratings at Ta=25°C

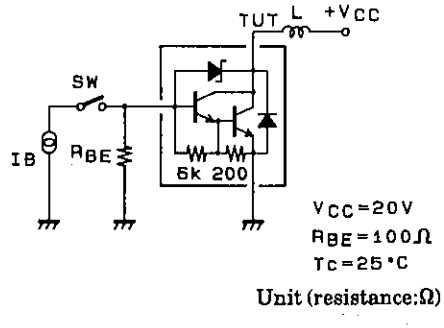
				unit
Collector-to-Base Voltage	V_{CBO}		※85	V
Collector-to-Emitter Voltage	V_{CEO}		※85	V
Emitter-to-Base Voltage	V_{EBO}		6	V
Collector Current	I_C		3	A
Peak Collector Current	i_{cp}		5	A
Base Current	I_B		0.5	A
Collector Dissipation	P_C		1.75	W
		Tc=25°C	30	W
Junction Temperature	Tj		150	°C
Storage Temperature	Tstg		−55 to +150	°C

※ : With Zener diode (95±10V).

Electrical Characteristics at Ta=25°C

			min	typ	max	unit
Collector Cutoff Current	I_{CBO}	V_{CB}=70V,I_E=0			10	μA
Emitter Cutoff Current	I_{EBO}	V_{EB}=5V,I_C=0			3	mA
DC Current Gain	h_{FE}	V_{CE}=3V,I_C=1.5A	2000	6000		
Gain-Bandwidth Product	f_T	V_{CE}=5V,I_C=1.5A		50		MHz
C-E Saturation Voltage	$V_{CE(sat)}$	I_C=1.5A,I_B=3mA		0.9	1.5	V
B-E Saturation Voltage	$V_{BE(sat)}$	I_C=1.5A,I_B=3mA			2.0	V
C-B Breakdown Voltage	$V_{(BR)CBO}$	I_C=0.1mA,I_E=0	85	95	105	V
C-E Breakdown Voltage	$V_{(BR)CEO}$	I_C=1mA,R_{BE}=∞	85	95	105	V
Inductive Load Voltage	Es/b	L=100mH,R_{BE}=100Ω	15			mJ

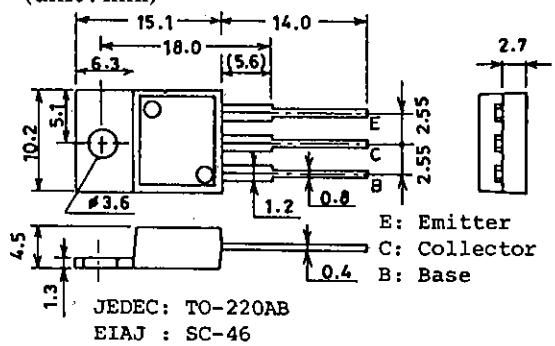
Es/b Test Circuit

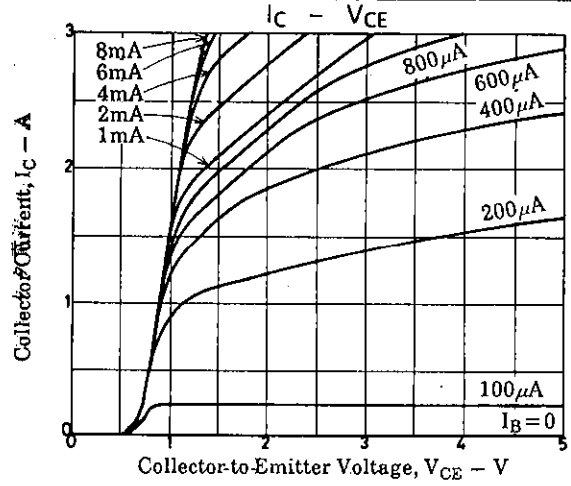


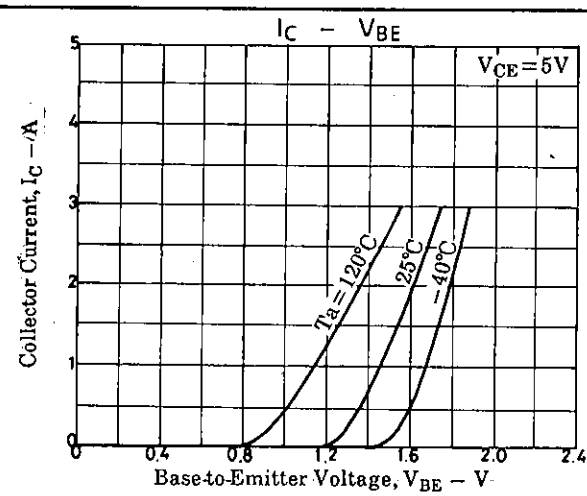
Unit (resistance:Ω)

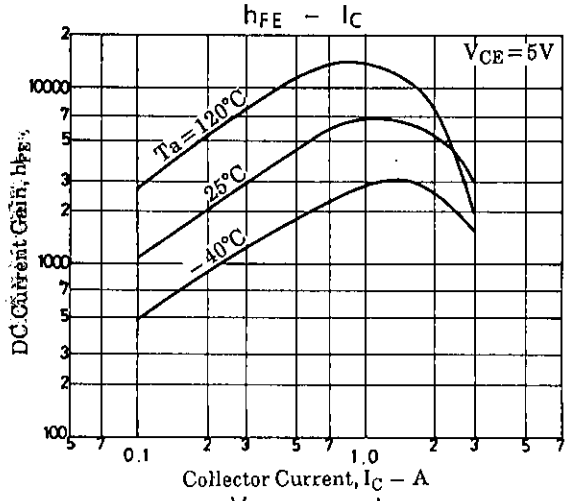
Package Dimensions 2010B

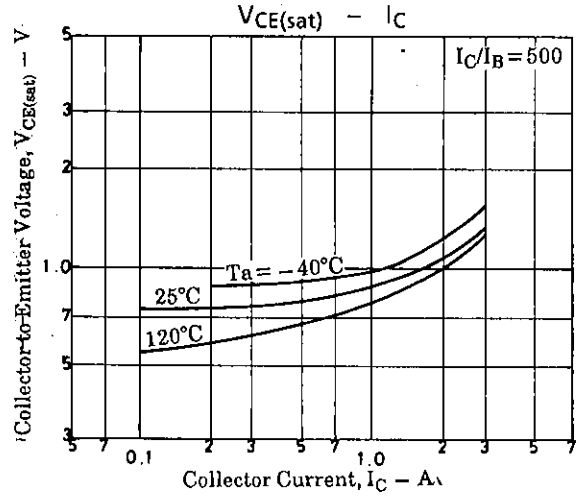
(unit : mm)

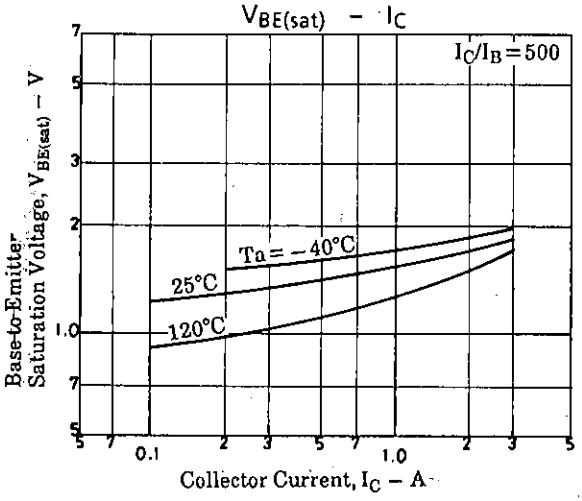


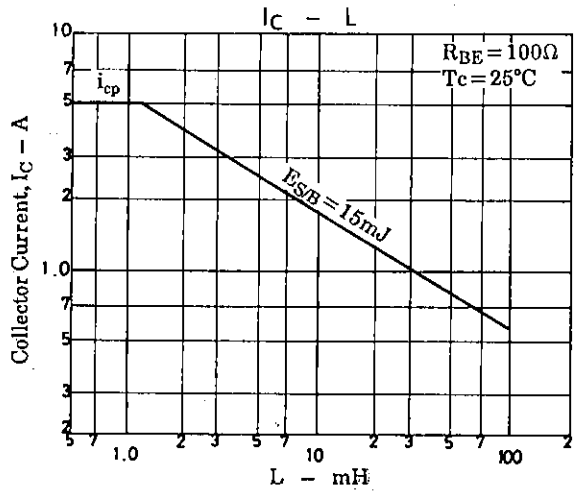

I_C – V_{CE}
8mA
6mA
4mA
2mA
1mA
800μA
600μA
400μA
200μA
100μA
I_B=0
Collector Current, I_C – A
Collector-to-Emitter Voltage, V_{CE} – V

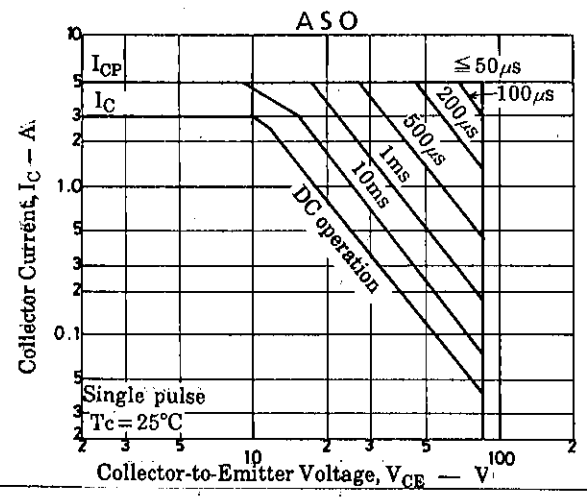

I_C – V_{BE}
V_{CE}=5V
Ta=120°C
25°C
–40°C
Collector Current, I_C – A
Base-to-Emitter Voltage, V_{BE} – V

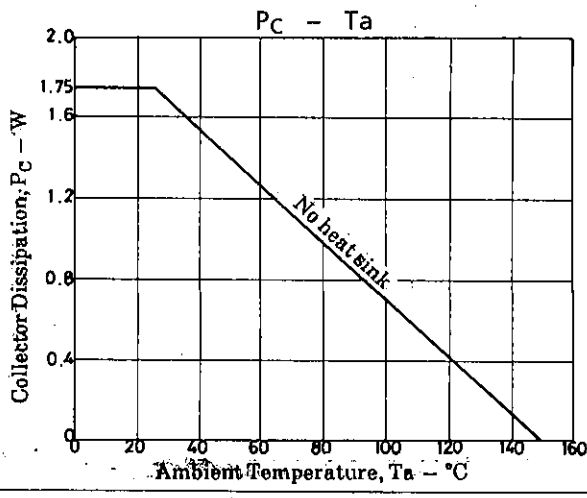

h_{FE} – I_C
V_{CE}=5V
Ta=120°C
25°C
–40°C
DC Current Gain, h_{FE}
Collector Current, I_C – A


$V_{CE(sat)}$ – I_C
I_C/I_B=500
Ta=–40°C
25°C
120°C
Collector-to-Emitter Voltage, $V_{CE(sat)}$ – V
Collector Current, I_C – A


$V_{BE(sat)}$ – I_C
I_C/I_B=500
Ta=–40°C
25°C
120°C
Base-to-Emitter Saturation Voltage, $V_{BE(sat)}$ – V
Collector Current, I_C – A


I_C – L
R_{BE}=100Ω
Tc=25°C
i_{cp}
$E_{S/B}$=15mJ
Collector Current, I_C – A
L – mH


A S O
I_{CP}
I_C
≦50μs
100μs
200μs
500μs
1ms
10ms
DC operation
Single pulse
Tc=25°C
Collector Current, I_C – A
Collector-to-Emitter Voltage, V_{CE} – V


P_C – Ta
No heat sink
Collector Dissipation, P_C – W
Ambient Temperature, Ta – °C