

2SB1664 — PNP Epitaxial Planar Silicon Darlington Transistor

Driver Applications

Applications

- Motor drivers, printer hammer drivers, relay drivers, voltage regulator control.

Features

- High DC current gain.
- Large current capacity and wide ASO.
- Low saturation voltage.

Specifications

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

Parameter	Symbol	Conditions	Ratings	Unit
Collector-to-Base Voltage	V_{CB0}		-110	V
Collector-to-Emitter Voltage	V_{CEO}		-100	V
Emitter-to-Base Voltage	V_{EBO}		-6	V
Collector Current	I_C		-8	A
Collector Current (Pulse)	I_{CP}		-12	A
Collector Dissipation	P_C	$T_c=25^\circ\text{C}$	35	W
Junction Temperature	T_j		150	$^\circ\text{C}$
Storage Temperature	T_{stg}		-55 to +150	$^\circ\text{C}$

Electrical Characteristics at $T_a=25^\circ\text{C}$

Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Collector Cutoff Current	I_{CB0}	$V_{CB}=-80\text{V}, I_E=0\text{A}$			-0.1	mA
Emitter Cutoff Current	I_{EBO}	$V_{EB}=-5\text{V}, I_C=0\text{A}$			-3.0	mA
DC Current Gain	h_{FE}	$V_{CE}=-3\text{V}, I_C=-4\text{A}$	1500	4000		
Gain-Bandwidth Product	f_T	$V_{CE}=-5\text{V}, I_C=-4\text{A}$		20		MHz
Collector-to-Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C=-4\text{A}, I_B=-8\text{mA}$		-1.0	-1.5	V
Base-to-Emitter Saturation Voltage	$V_{BE(sat)}$	$I_C=-4\text{A}, I_B=-8\text{mA}$			-2.0	V
Collector-to-Base Breakdown Voltage	$V_{(BR)CBO}$	$I_C=-5\text{mA}, I_E=0\text{A}$	-110			V
Collector-to-Emitter Breakdown Voltage	$V_{(BR)CEO}$	$I_C=-50\text{mA}, R_{BE}=\infty$	-100			V
Turn-ON Time	t_{on}	See specified Test Circuit.		0.7		μs
Storage Time	t_{stg}	See specified Test Circuit.		1.4		μs
Fall Time	t_f	See specified Test Circuit.		1.5		μs

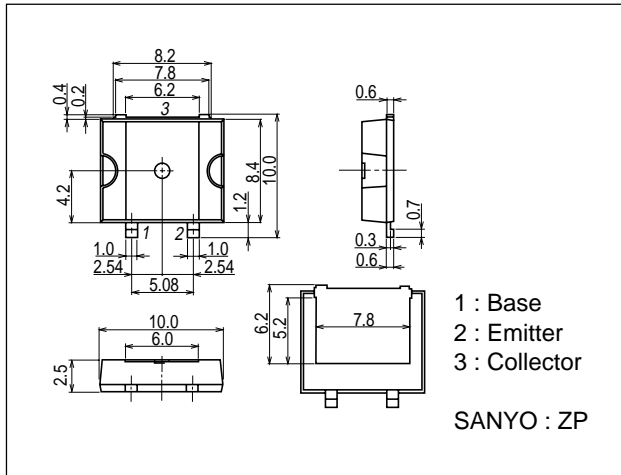
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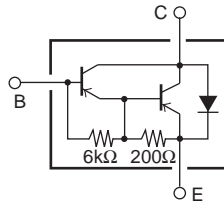
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Package Dimensions

unit : mm (typ)
7002-003

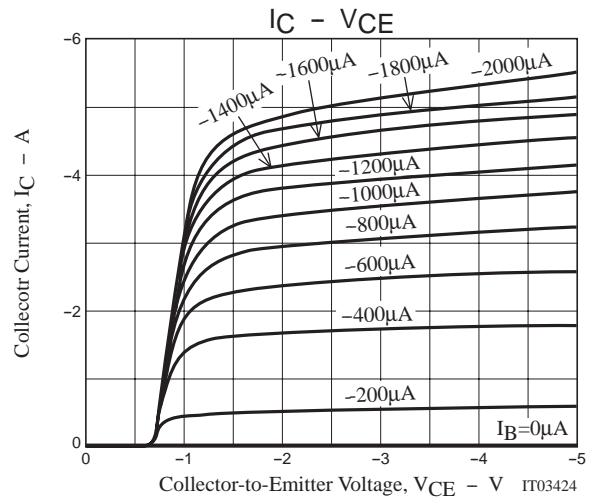
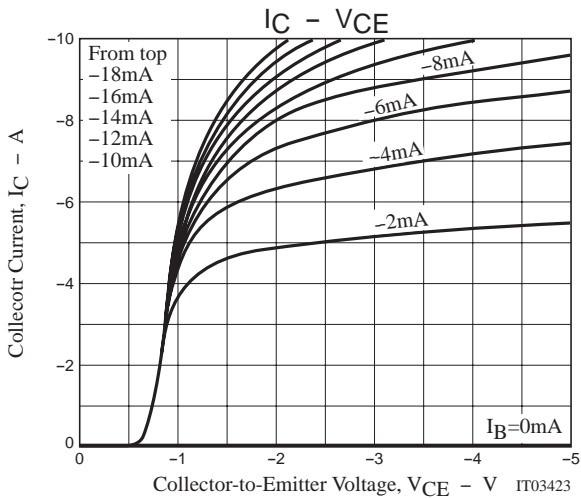
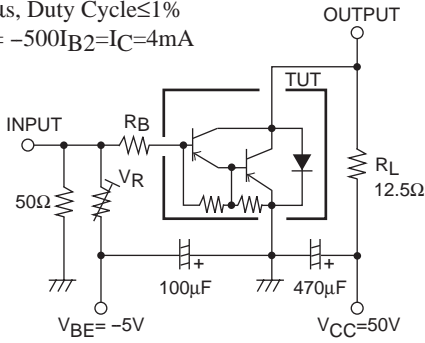


Electrical Connection



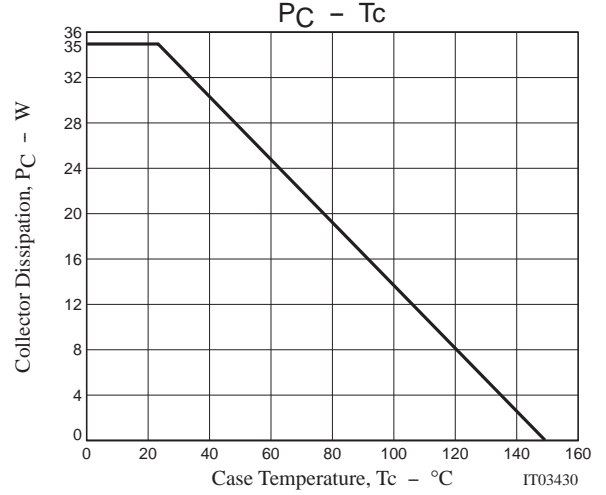
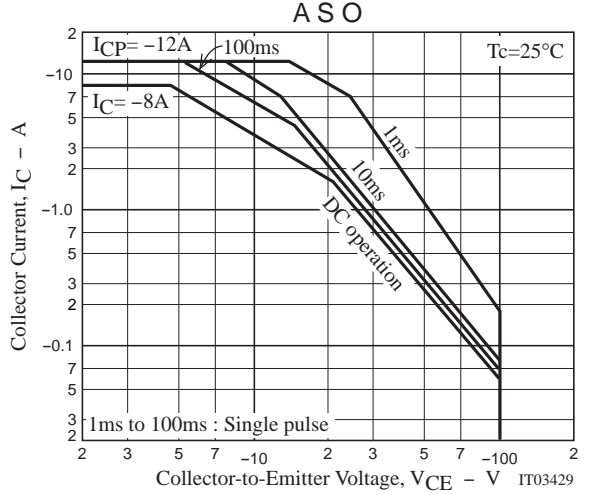
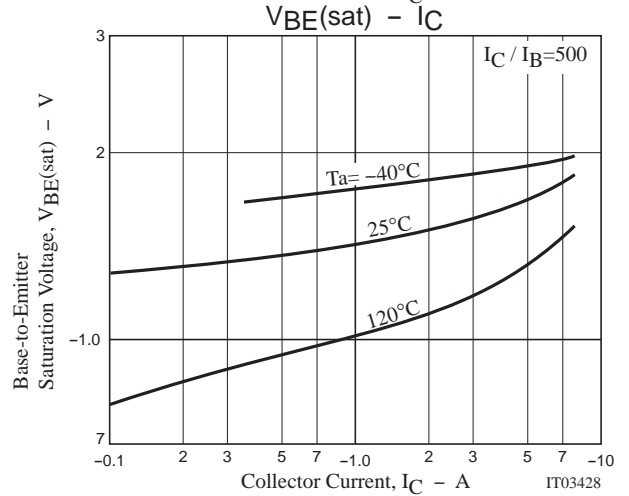
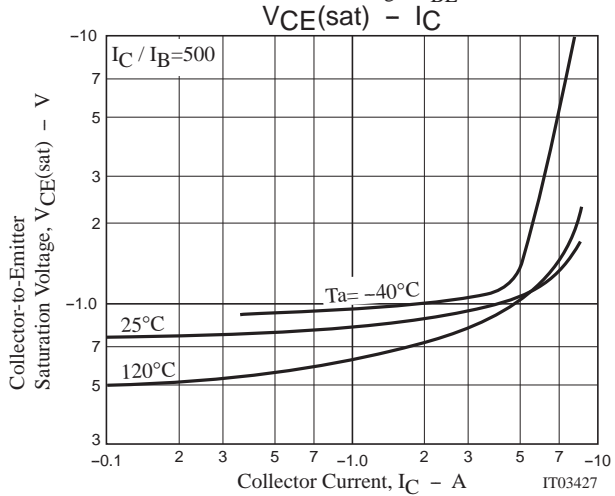
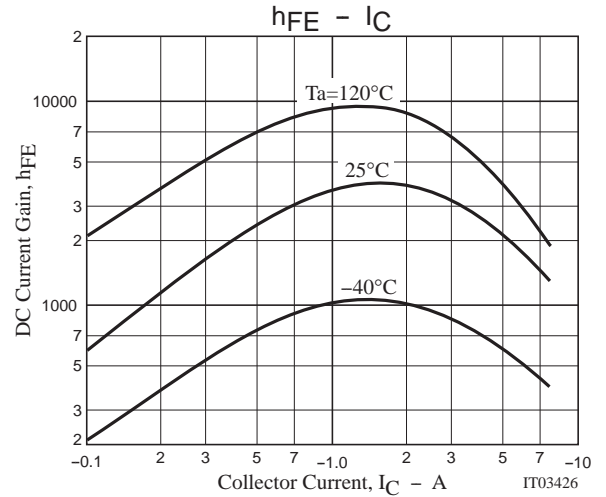
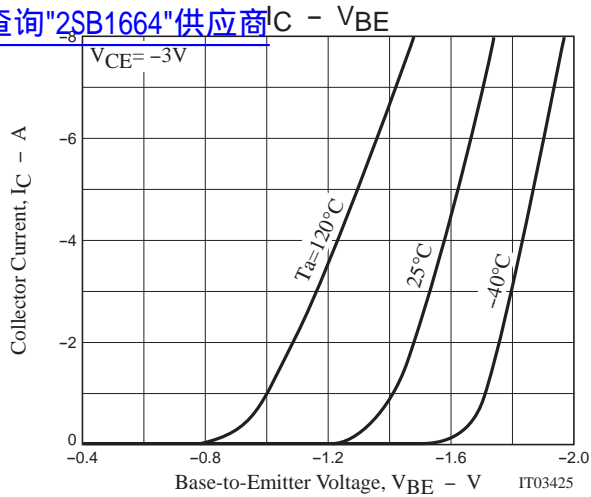
Switching Time Test Circuit

PW=50μs, Duty Cycle≤1%
500I_{B1}= -500I_{B2}=I_C=4mA



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