



# 2SD2712 — NPN Triple Diffused Planar Silicon Darlington Transistor

## Driver Applications

### Applications

- Suitable for use in control motor drivers, printer hammer drivers, relay drivers, audio output and constant-voltage regulators.

### Features

- High DC current gain.
- Wide ASO.
- Low saturation voltage.
- Adoption of MBIT process.

### Specifications

#### Absolute Maximum Ratings at Ta=25°C

Parameter	Symbol	Conditions	Ratings	Unit
Collector-to-Base Voltage	V <sub>CB0</sub>		180	V
Collector-to-Emitter Voltage	V <sub>CEO</sub>		160	V
Emitter-to-Base Voltage	V <sub>EBO</sub>		6	V
Collector Current	I <sub>C</sub>		10	A
Collector Current (Pulse)	I <sub>CP</sub>		16	A
Collector Dissipation	P <sub>C</sub>		2.5	W
		T <sub>c</sub> =25°C	110	W
Junction Temperature	T <sub>J</sub>		150	°C
Storage Temperature	T <sub>stg</sub>		-55 to +150	°C

#### Electrical Characteristics at Ta=25°C

Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Collector Cutoff Current	I <sub>CB0</sub>	V <sub>CB</sub> =180V, I <sub>E</sub> =0A			0.1	mA
Emitter Cutoff Current	I <sub>EBO</sub>	V <sub>EB</sub> =6V, I <sub>C</sub> =0A			10	mA
DC Current Gain	h <sub>FE</sub>	V <sub>CE</sub> =5V, I <sub>C</sub> =6.5A	5000			
Gain-Bandwidth Product	f <sub>T</sub>	V <sub>CE</sub> =5V, I <sub>C</sub> =6.5A		15		MHz
Collector-to-Emitter Saturation Voltage	V <sub>CE(sat)</sub>	I <sub>C</sub> =5.5A, I <sub>B</sub> =11mA			1.5	V
Base-to-Emitter Saturation Voltage	V <sub>BE(sat)</sub>	I <sub>C</sub> =5.5A, I <sub>B</sub> =11mA			2.3	V
Collector-to-Base Breakdown Voltage	V <sub>(BR)CBO</sub>	I <sub>C</sub> =1mA, I <sub>E</sub> =0A	180			V
Collector Sustain Voltage	V <sub>CEO(SUS)</sub>	I <sub>C</sub> =100mA, I <sub>B</sub> =0A	160			V

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# 2SD2712

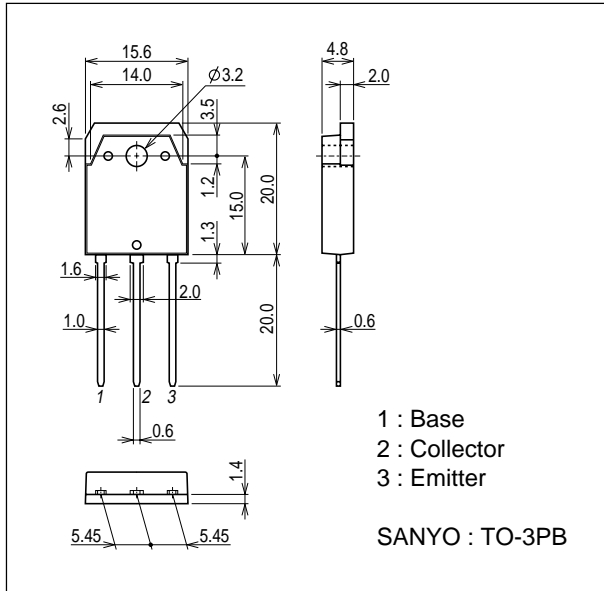
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Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Turn-ON Time	$t_{on}$	See specified Test Circuit.		0.9		$\mu s$
Storage Time	$t_{stg}$	See specified Test Circuit.		8.0		$\mu s$
Fall Time	$t_f$	See specified Test Circuit.		3.0		$\mu s$

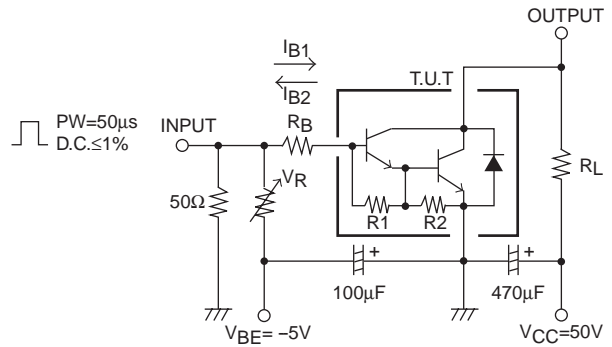
## Package Dimensions

unit : mm

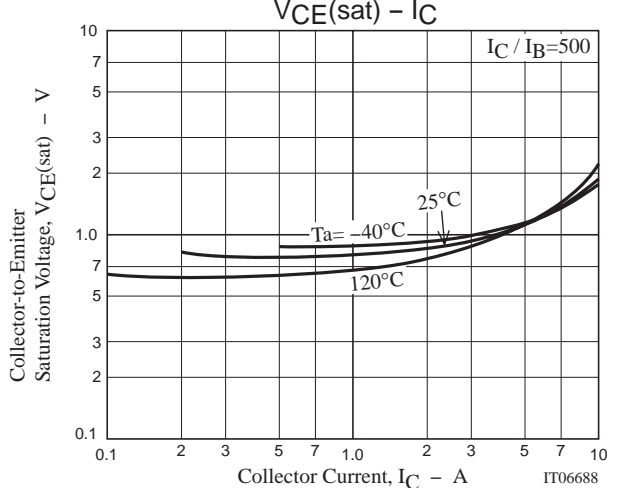
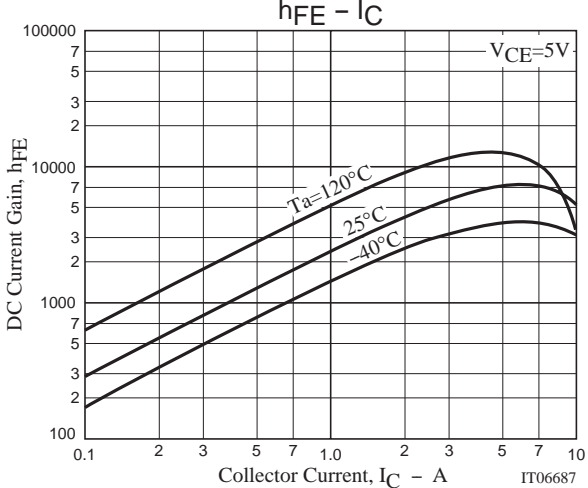
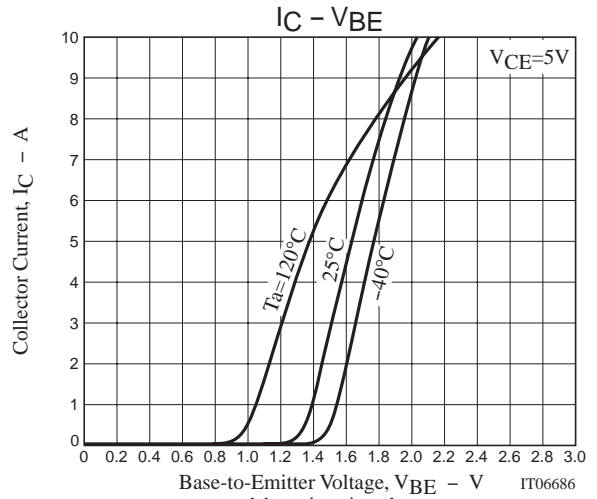
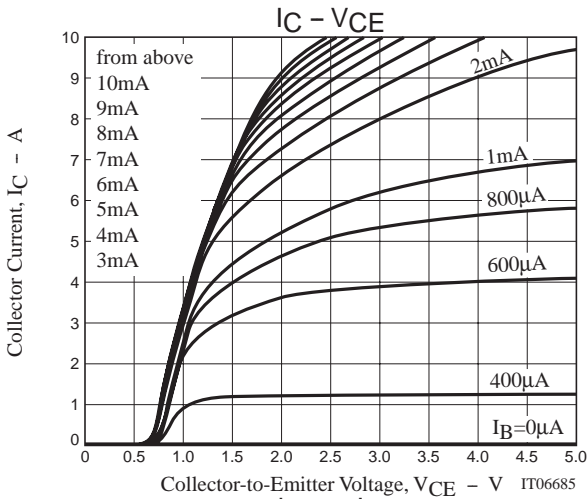
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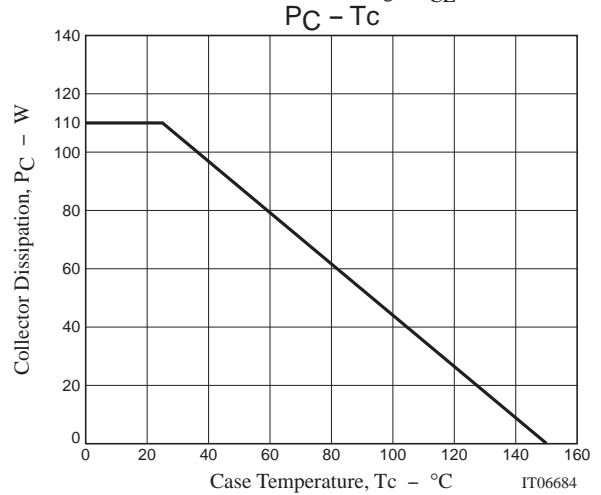
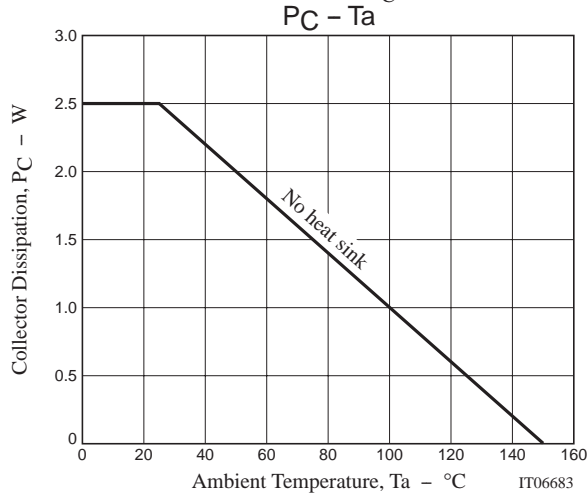
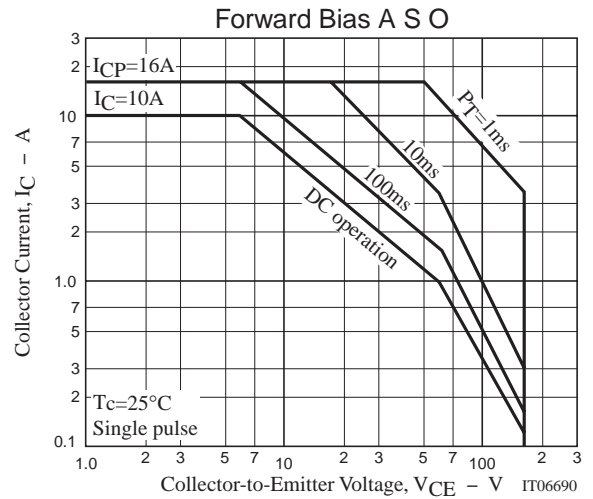
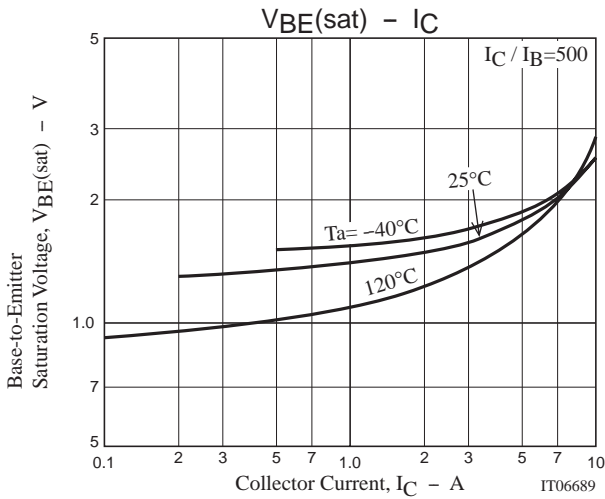


## Switching Time Test Circuit



$$I_C = 500I_{B1} = 500I_{B2} = 6.5A$$





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