

**SANYO**

No.2752A

**2SD2049**

NPN Triple Diffused Planar Silicon Transistor  
Driver Applications

**Applications**

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

**Features**

- . Suitable for sets whose height is restricted
- . High DC current gain
- . Large current capacity and wide ASO
- . Package: TO-220MF

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

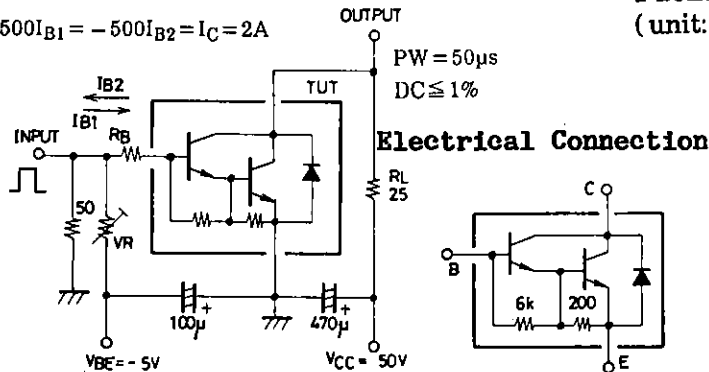
			unit
Collector to Base Voltage	V <sub>CB0</sub>	110	V
Collector to Emitter Voltage	V <sub>CEO</sub>	100	V
Emitter to Base Voltage	V <sub>EBO</sub>	6	V
Collector Current	I <sub>C</sub>	5	A
Peak Collector Current	i <sub>cp</sub>	8	A
Collector Dissipation	P <sub>C</sub>	1.65	W
		T <sub>c</sub> =25°C	35
Junction Temperature	T <sub>j</sub>	150	°C
Storage Temperature	T <sub>stg</sub>	-55 to +150	°C

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

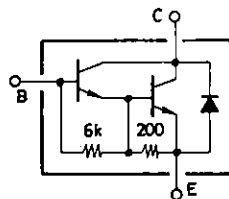
			min	typ	max	unit
Collector Cutoff Current	I <sub>CB0</sub>	V <sub>CB</sub> =80V, I <sub>E</sub> =0			0.1	mA
Emitter Cutoff Current	I <sub>EBO</sub>	V <sub>EB</sub> =5V, I <sub>C</sub> =0			3.0	mA
DC Current Gain	h <sub>FE</sub>	V <sub>CE</sub> =3V, I <sub>C</sub> =2.5A	1500	4000		
Gain-Bandwidth Product	f <sub>T</sub>	V <sub>CE</sub> =5V, I <sub>C</sub> =2.5A		20		MHz
C-E Saturation Voltage	V <sub>CE(sat)</sub>	I <sub>C</sub> =2.5A, I <sub>B</sub> =5mA		0.9	1.5	V
B-E Saturation Voltage	V <sub>BE(sat)</sub>	I <sub>C</sub> =2.5A, I <sub>B</sub> =5mA			2.0	V
C-B Breakdown Voltage	V <sub>(BR)CBO</sub>	I <sub>C</sub> =5mA, I <sub>E</sub> =0	110			V
C-E Breakdown Voltage	V <sub>(BR)CEO</sub>	I <sub>C</sub> =50mA, R <sub>BE</sub> =∞	100			V
Turn-on Time	t <sub>on</sub>	See Specified Test Circuit.		0.6		μs
Storage Time	t <sub>stg</sub>	See Specified Test Circuit.		4.8		μs
Fall Time	t <sub>r</sub>	See Specified Test Circuit.		1.6		μs

**Switching Time Test Circuit**

500I<sub>B1</sub> = -500I<sub>B2</sub> = I<sub>C</sub> = 2A



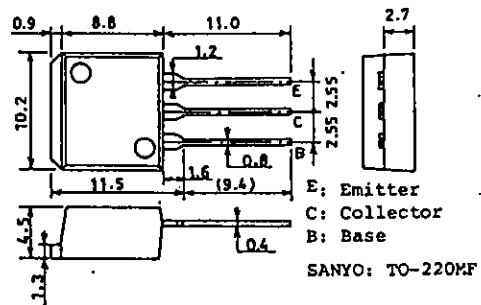
**Electrical Connection**



Unit (resistance: Ω, capacitance: F)

**Package Dimensions 2049**

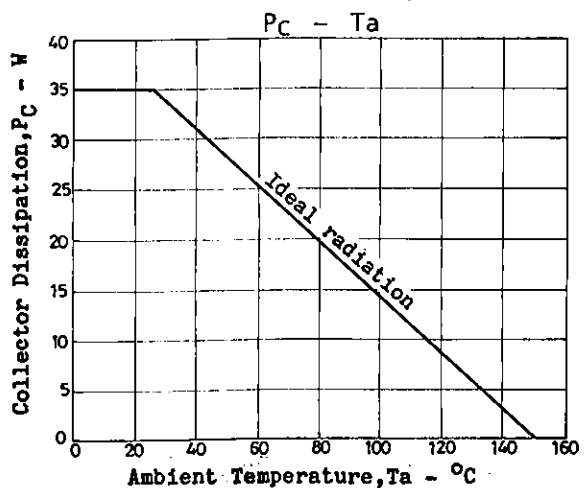
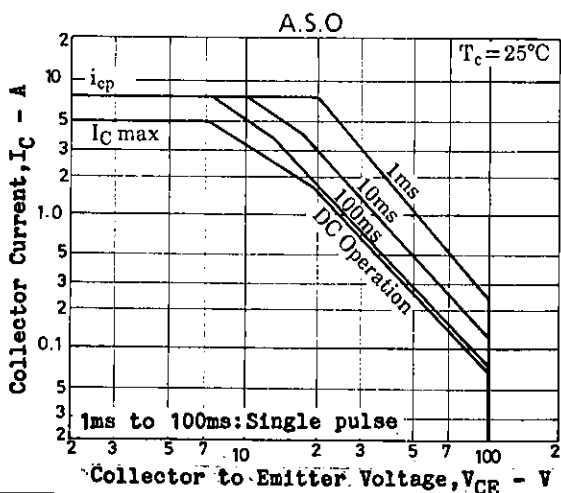
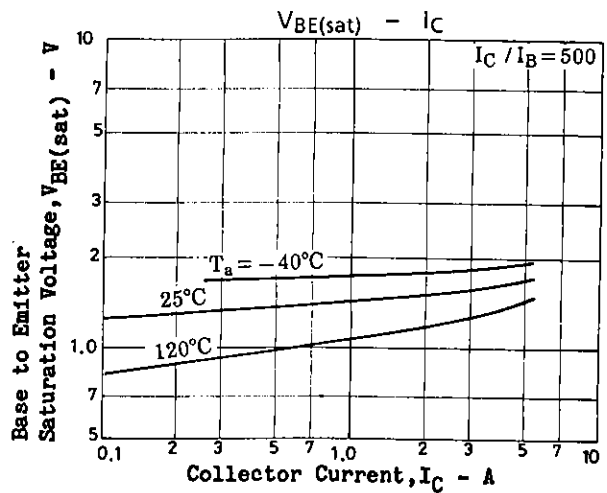
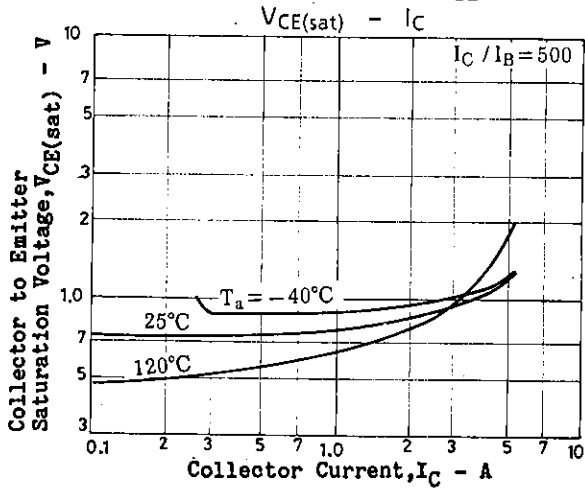
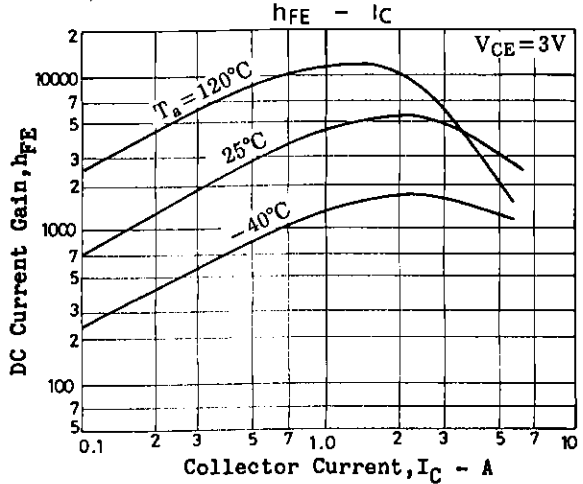
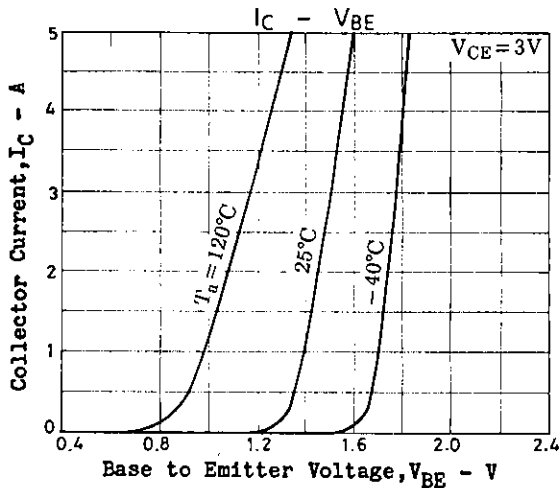
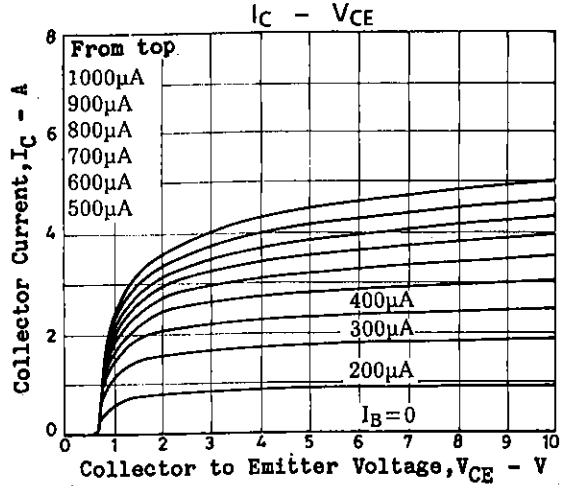
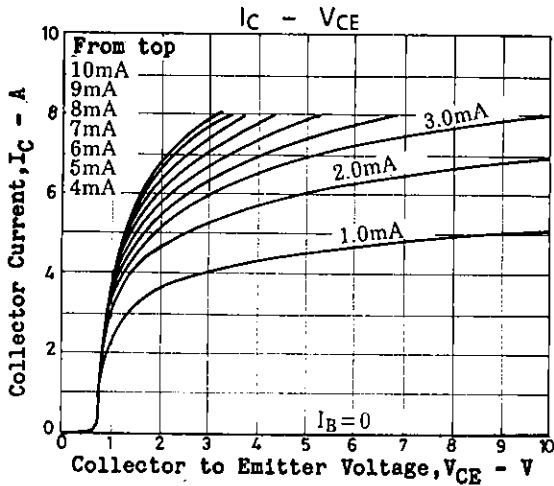
(unit: mm)



E: Emitter  
C: Collector  
B: Base

SANYO: TO-220MF

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