

SANYO Semiconductors DATA SHEET

2SD1710C — NPN Triple Diffused Planar Silicon Transistor 500V / 7A Switching Regulator Applications

Features

- · High breakdown voltage, high reliability.
- · Fast switching speed.
- · Wide ASO.
- · Adoption of MBIT process.
- · Micaless package facilitating mounting.

Specifications

Absolute Maximum Ratings at Ta=25°C

Parameter	Symbol	Conditions	Ratings	Unit
Collector-to-Base Voltage	VCBO		900	V
Collector-to-Emitter Voltage	VCEO		500	V
Emitter-to-Base Voltage	VEBO		7	V
Collector Current	IC		7	Α
Collector Current (Pulse)	ICP	PW≤300μs, duty cycle≤10%	14	Α
Base Current	IB		3	Α
Collector Dissipation	De		3	W
	PC	Tc=25°C	45	W
Junction Temperature	Tj		150	°C
Storage Temperature	Tstg		-55 to +150	°C

Electrical Characteristics at Ta=25°C

Parameter	Symbol	Conditions	Ratings			1.114
			min	typ	max	Unit
Collector Cutoff Current	ICBO	V _{CB} =500V, I _E =0A			10	μΑ
Emitter Cutoff Current	IEBO	V _{EB} =5V, I _C =0A			10	μΑ

Continued on next page.

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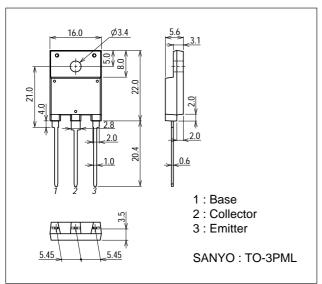
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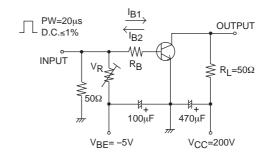
Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	Offic
DC Current Gain	hFE1	VCE=5V, IC=0.6A	20		50	
	hFE2	V _{CE} =5V, I _C =3A	8			
Gain-Bandwidth Product	fT	V _{CE} =10V, I _C =0.6A		18		MHz
Output Capacitance	Cob	V _{CB} =10V, f=1MHz		80		pF
Collector-to-Emitter Saturation Voltage	V _{CE} (sat)	I _C =3A, I _B =0.6A			1	V
Base-to-Emitter Saturation Voltage	V _{BE} (sat)	I _C =3A, I _B =0.6A			1.5	V
Collector-to-Base Breakdown Voltage	V(BR)CBO	I _C =1mA, I _E =0A	900			V
Collector-to-Emitter Breakdown Voltage	V(BR)CEO	IC=5mA, RBE=∞	500			V
Emitter-to-Base Breakdown Voltage	V(BR)EBO	IE=1mA, IC=0A	7			V
Collector-to-Emitter Sustain Voltage	VCEX(sus)	I _C =2.5A, I _{B1} =-I _{B2} =1A, L=1mH, Clamped	500			V
Turn-ON Time	ton	V _{CC} =200V, 5l _{B1} =-2.5l _{B2} =l _C =4A, R _L =50Ω			0.5	μS
Storage Time	tstg	V _{CC} =200V, 5l _{B1} =-2.5l _{B2} =l _C =4A, R _L =50Ω			3.0	μS
Fall Time	tf	V _{CC} =200V, 5l _{B1} =-2.5l _{B2} =l _C =4A, R _L =50Ω			0.3	μS

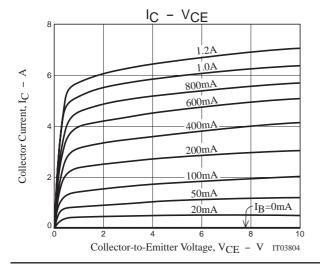
Package Dimensions

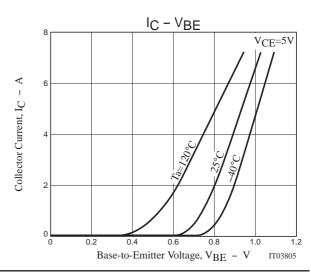
unit : mm (typ) 7502-002

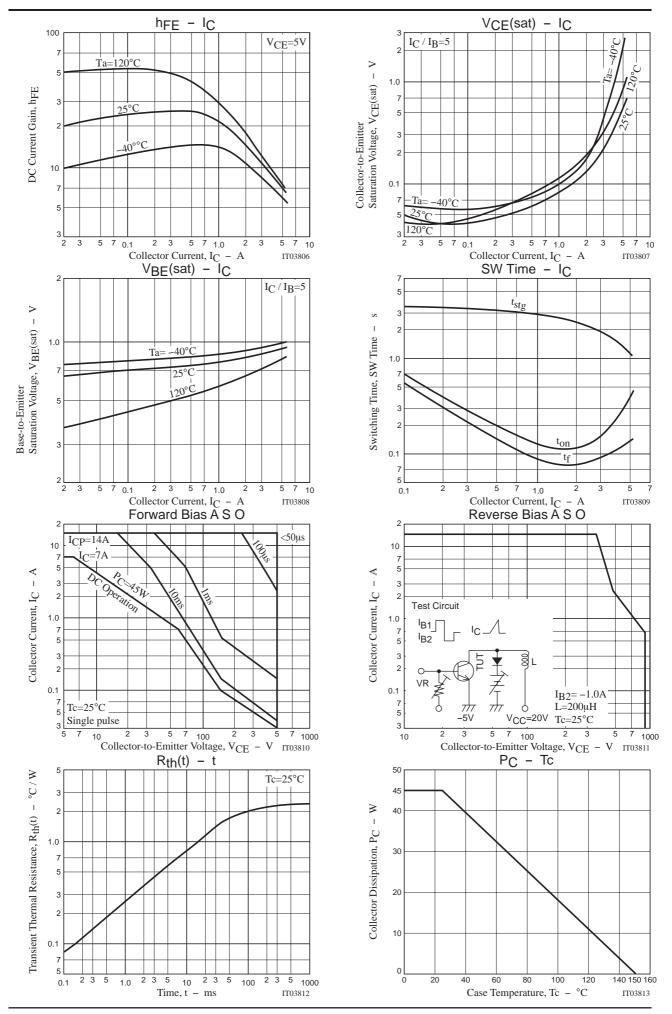


Switching Time Test Circuit









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