

### SANYO Semiconductors DATA SHEET

## CPH3249A-

# NPN Triple Diffused Planar Silicon Transistor Switching Regulator Applications

#### Features

- High breakdown voltage.
- Ultrahigh-speed switching.
- Wide ASO.
- · Adoption of MBIT process.

#### **Specifications**

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

Parameter	Symbol	Conditions	Ratings	Unit
Collector-to-Base Voltage	VCBO		700	V
Collector-to-Emitter Voltage	VCEO		400	V
Emitter-to-Base Voltage	VEBO		8	V
Collector Current	IC		1	А
Collector Current (Pulse)	ICP	PW≤300µs, duty cycle≤10%	2	А
Base Current	IB		0.5	А
Collector Dissipation	PC	Mounted on a ceramic board (600mm <sup>2</sup> ×0.8mm)	0.9	W
Junction Temperature	Tj		150	°C
Storage Temperature	Tstg		-55 to +150	°C

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

Parameter	Symbol	Conditions	Ratings			Linit
			min	typ	max	Unit
Collector Cutoff Current	ICBO	V <sub>CB</sub> =400V, I <sub>E</sub> =0A			10	μΑ
Emitter Cutoff Current	IEBO	VEB=5V, IC=0A			10	μΑ
DC Current Gain	hFE1	V <sub>CE</sub> =5V, I <sub>C</sub> =0.1A	50		100	
	hFE2	V <sub>CE</sub> =5V, I <sub>C</sub> =0.5A	10			
	hFE3	VCE=5V, IC=1mA	30			
Gain-Bandwidth Product	fT	V <sub>CE</sub> =10V, I <sub>C</sub> =0.1A		20		MHz
Output Capacitance	Cob	VCB=10V, f=1MHz		8		pF

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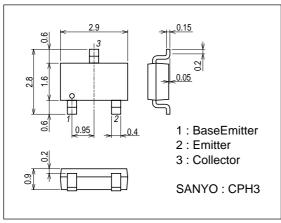
Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	Unit
Collector-to-Emitter Saturation Voltage	VCE(sat)	IC=0.5A, IB=0.1A			0.8	V
Base-to-Emitter Saturation Voltage	V <sub>BE</sub> (sat)	IC=0.5A, IB=0.1A			1.5	V
Collector-to-Base Breakdown Voltage	V(BR)CBO	IC=1mA, IE=0A	700			V
Collector-to-Emitter Breakdown Voltage	V(BR)CEO	IC=5mA, RBE=∞	400			V
Emitter-to-Base Breakdown Voltage	V(BR)EBO	IE=1mA, IC=0A	8			V
Turn-ON Time	ton	IC=0.5A, IB1=0.05A, IB2=-0.5A, RL=400Ω, VCC=200V			1.0	μs
Storage Time	<sup>t</sup> stg	IC=0.5A, IB1=0.05A, IB2=-0.5A, RL=400Ω, VCC=200V			2.5	μs
Fall Time	tf	$I_{C}$ =0.5A, $I_{B1}$ =0.05A, $I_{B2}$ =-0.5A, $R_{L}$ =400 $\Omega$ , $V_{CC}$ =200V			0.3	μS

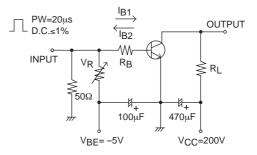
Note : Since the above stated product is a high-voltage device, so please pay attention to its reliability when in use.

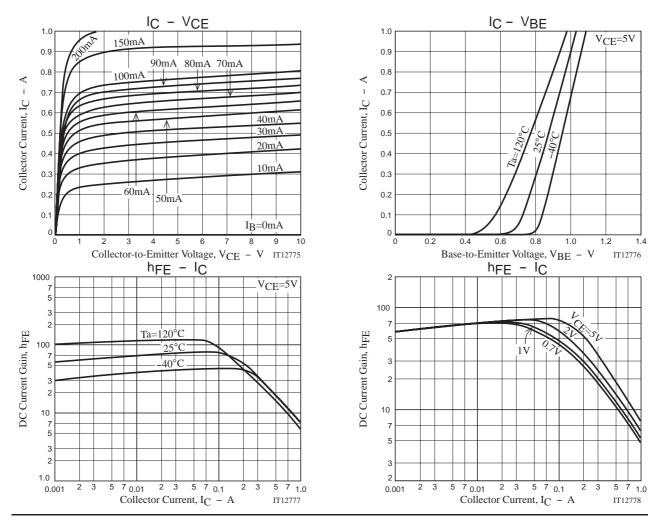
#### **Package Dimensions**

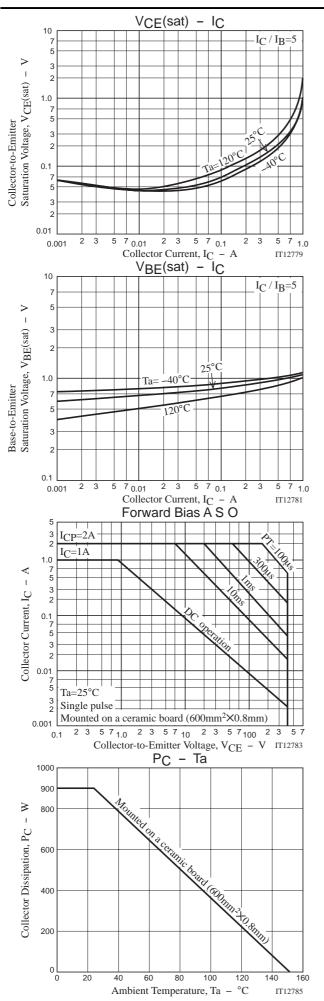
**Switching Time Test Circuit** 

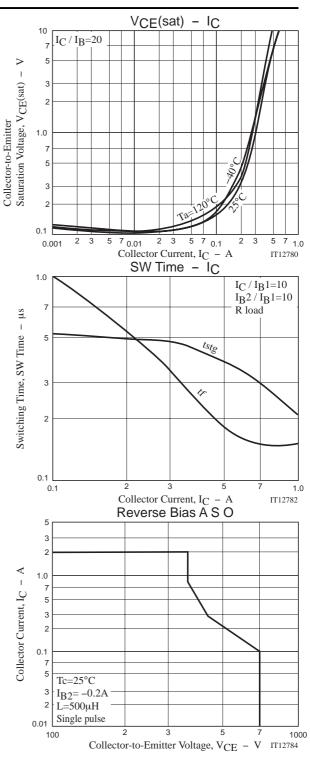












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