

ON Semiconductor 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	Α
Collector Current (Pulse)	ICP	PW≤300μs, duty cycle≤10%	2	Α
Base Current	IΒ		0.5	Α
Collector Dissipation	PC	Mounted on a ceramic board (600mm ² X0.8mm)	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			Unit
			min	typ	max	Unit
Collector Cutoff Current	ICBO	V _{CB} =400V, I _E =0A			10	μΑ
Emitter Cutoff Current	IEBO	VEB=5V, IC=0A			10	μΑ
DC Current Gain	hFE1	V _{CE} =5V, I _C =0.1A	50		100	
	hFE2	V _{CE} =5V, I _C =0.5A	10			
	hFE3	VCE=5V, IC=1mA	30			
Gain-Bandwidth Product	fT	V _{CE} =10V, I _C =0.1A		20		MHz
Output Capacitance	Cob	V _{CB} =10V, f=1MHz		8		pF

Continued on next page.

CPH3249A

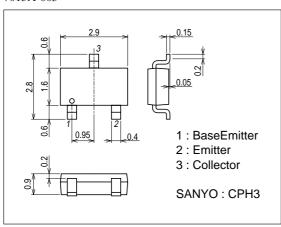
Continued from preceding page.

Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	Offic
Collector-to-Emitter Saturation Voltage	VCE(sat)	IC=0.5A, IB=0.1A			0.8	V
Base-to-Emitter Saturation Voltage	V _{BE} (sat)	I _C =0.5A, I _B =0.1A			1.5	V
Collector-to-Base Breakdown Voltage	V(BR)CBO	I _C =1mA, I _E =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	I _C =0.5A, I _{B1} =0.05A, I _{B2} =-0.5A, R _L =400Ω, V _{CC} =200V			1.0	μS
Storage Time	tstg	I _C =0.5A, I _{B1} =0.05A, I _{B2} =-0.5A, R _L =400Ω, V _{CC} =200V			2.5	μS
Fall Time	tf	I _C =0.5A, I _{B1} =0.05A, I _{B2} =-0.5A, R _L =400Ω, V _{CC} =200V			0.3	μS

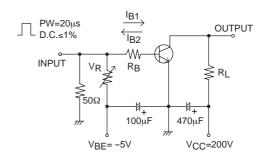
Note: Since the above stated product is a high-voltage device, so please pay attention to its reliability when in use.

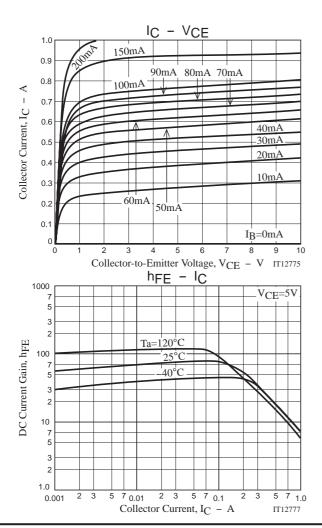
Package Dimensions

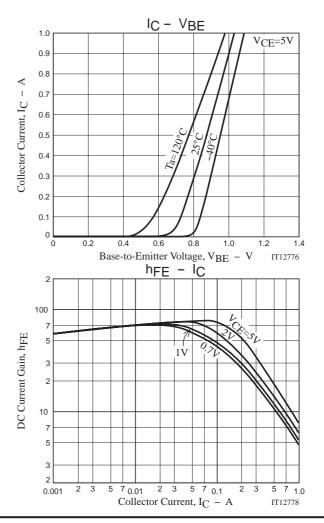
unit : mm (typ) 7015A-005

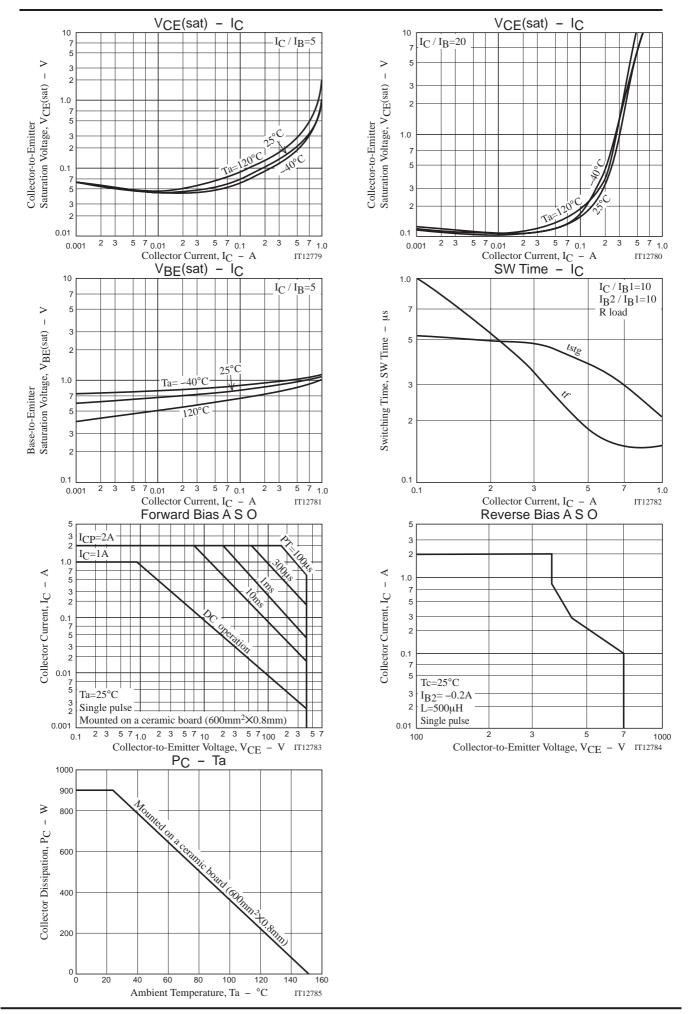


Switching Time Test Circuit









CPH3249A

ON Semiconductor and the ON logo are registered trademarks of Semiconductor Components Industries, LLC (SCILLC). SCILLC reserves the right to make changes without further notice to any products herein. SCILLC makes no warranty, representation or guarantee regarding the suitability of its products for any particular purpose, nor does SCILLC assume any liability arising out of the application or use of any product or circuit, and specifically disclaims any and all liability, including without limitation special, consequential or incidental damages. SCILLC strives to supply high-quality high-reliability products and recommends adopting safety measures when designing equipment to avoid accidents or malfunctions. Such measures include but are not limited to protective circuits and error prevention circuits for safe design, redundant design, and structural design. "Typical" parameters which may be provided in SCILLC data sheets and/or specifications can and do vary in different applications and actual performance may vary over time. All operating parameters, including "Typicals," must be validated for each customer application by customer's technical experts. SCILLC shall not be held liable for any claim or suits with regard to a third party's intellectual property rights which has resulted from the use of the technical information and products mentioned above. SCILLC does not convey any license under its patent rights nor the rights of others. SCILLC products are not designed, intended, or authorized for use as components in systems intended for surgical implant into the body, or other applications intended to support or sustain life, or for any other application in which the failure of the SCILLC product could create a situation where personal injury or death may occur. Should Buyer purchase or use SCILLC products for any such unintended or unauthorized application, Buyer shall indemnify and hold SCILLC and its officers, employees, subsidiaries, affi liates, and distributors harmless against all claims, costs, dama

PUBLICATION ORDERING INFORMATION

LITERATURE FULFILLMENT:

Literature Distribution Center for ON Semiconductor P.O. Box 5163, Denver, Colorado 80217 USA **Phone**: 303-675-2175 or 800-344-3860 Toll Free USA/Canada Fax: 303-675-2176 or 800-344-3867 Toll Free USA/Canada

Email: orderlit@onsemi.com

N. American Technical Support: 800-282-9855 Toll Free USA/Canada.

Europe, Middle East and Africa Technical Support: Phone: 421 33 790 2910

Japan Customer Focus Center Phone: 81-3-5773-3850 ON Semiconductor Website:www.onsemi.com

Order Literature: http://www.onsemi.com/orderlit

For additional information, please contact your local Sales Representative