



ABSOLUTE MAXIMUM RATINGS ($T_{amb} = 25\text{ }^{\circ}\text{C}$, unless otherwise specified)				
PARAMETER	TEST CONDITION	SYMBOL	VALUE	UNIT
INPUT				
Reverse voltage		V_R	6	V
Forward current		I_F	60	mA
Surge current	$t \leq 10\text{ }\mu\text{s}$	I_{FSM}	2.5	A
Power dissipation		P_{diss}	100	mW
OUTPUT				
Collector emitter breakdown voltage		V_{CEO}	70	V
Emitter base breakdown voltage		V_{EBO}	7	V
Collector current		I_C	50	mA
	$t < 1\text{ ms}$	I_C	100	mA
Power dissipation		P_{diss}	150	mW
COUPLER				
Isolation test voltage		V_{ISO}	5300	V_{RMS}
Creepage distance			≥ 7	mm
Clearance distance			≥ 7	mm
Insulation thickness between emitter and detector			≥ 0.4	mm
Comparative tracking index	per DIN IEC 112/VDE 0303, part 1		175	
Isolation resistance	$V_{IO} = 500\text{ V}, T_{amb} = 25\text{ }^{\circ}\text{C}$	R_{IO}	$\geq 10^{12}$	Ω
	$V_{IO} = 500\text{ V}, T_{amb} = 100\text{ }^{\circ}\text{C}$	R_{IO}	$\geq 10^{11}$	Ω
Storage temperature range		T_{stg}	-55 to +150	$^{\circ}\text{C}$
Operating temperature range		T_{amb}	-55 to +100	$^{\circ}\text{C}$
Junction temperature		T_j	100	$^{\circ}\text{C}$
Soldering temperature	max. 10 s, dip soldering: distance to seating plane $\geq 1.5\text{ mm}$	T_{sld}	260	$^{\circ}\text{C}$

Note

- Stresses in excess of the absolute maximum ratings can cause permanent damage to the device. Functional operation of the device is not implied at these or any other conditions in excess of those given in the operational sections of this document. Exposure to absolute maximum ratings for extended periods of the time can adversely affect reliability.

ELECTRICAL CHARACTERISTICS ($T_{amb} = 25\text{ }^{\circ}\text{C}$, unless otherwise specified)							
PARAMETER	TEST CONDITION	PART	SYMBOL	MIN.	TYP.	MAX.	UNIT
INPUT							
Forward voltage	$I_F = 10\text{ mA}$	H11A1	V_F		1.1	1.5	V
		H11A2	V_F		1.1	1.5	V
		H11A3	V_F		1.1	1.5	V
		H11A4	V_F		1.1	1.5	V
		H11A5	V_F		1.1	1.7	V
Reverse current	$V_R = 3\text{ V}$		I_R			10	μA
Capacitance	$V_R = 0\text{ V}, f = 1\text{ MHz}$		C_O		50		pF
OUTPUT							
Collector emitter breakdown voltage	$I_C = 1\text{ mA}, I_F = 0\text{ mA}$		BV_{CEO}	30			V
Emitter collector breakdown voltage	$I_E = 100\text{ }\mu\text{A}, I_F = 0\text{ mA}$		BV_{ECO}	7			V
Collector base breakdown voltage	$I_C = 10\text{ }\mu\text{A}, I_F = 0\text{ mA}$		BV_{CBO}	70			V
Collector emitter leakage current	$V_{CE} = 10\text{ V}, I_F = 0\text{ mA}$		I_{CEO}		5	50	nA
Emitter collector capacitance	$V_{CE} = 0\text{ V}$		C_{CE}		6		pF
COUPLER							
Collector emitter, saturation voltage	$I_{CE} = 0.5\text{ mA}, I_F = 10\text{ mA}$		V_{CEsat}			0.4	V
Capacitance (input-output)			C_{IO}		0.5		pF

Note

- Minimum and maximum values were tested requirements. Typical values are characteristics of the device and are the result of engineering evaluations. Typical values are for information only and are not part of the testing requirements.



CURRENT TRANSFER RATIO							
PARAMETER	TEST CONDITION	PART	SYMBOL	MIN.	TYP.	MAX.	UNIT
I_C/I_F	$V_{CE} = 10\text{ V}, I_F = 10\text{ mA}$	H11A1	CTR_{DC}	50			%
		H11A2	CTR_{DC}	20			%
		H11A3	CTR_{DC}	20			%
		H11A4	CTR_{DC}	10			%
		H11A5	CTR_{DC}	30			%

SWITCHING CHARACTERISTICS						
PARAMETER	TEST CONDITION	SYMBOL	MIN.	TYP.	MAX.	UNIT
Turn-on time	$I_C = 2\text{ mA}, R_L = 100\ \Omega, V_{CE} = 10\text{ V}$	t_{on}		3		μs
Turn-off time		t_{off}		3		μs

TYPICAL CHARACTERISTICS ($T_{amb} = 25\text{ }^\circ\text{C}$, unless otherwise specified)

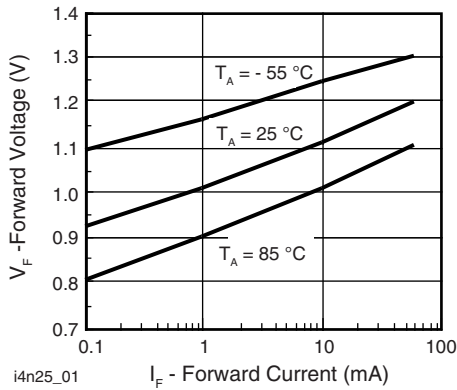


Fig. 1 - Forward Voltage vs. Forward Current

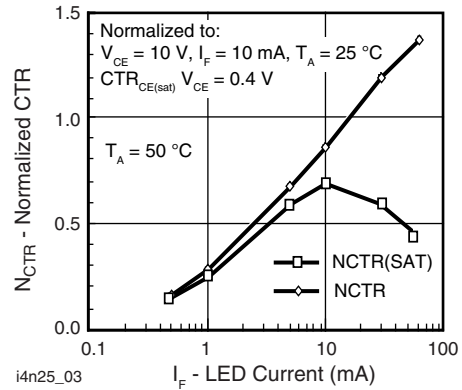


Fig. 3 - Normalized Non-Saturated and Saturated CTR vs. LED Current

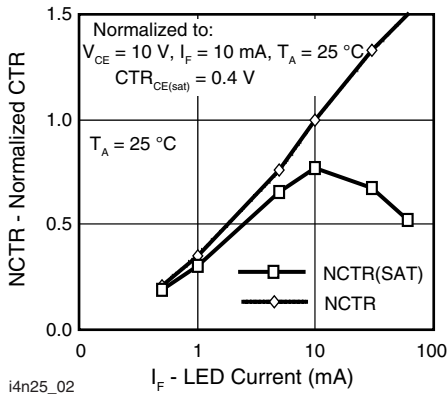


Fig. 2 - Normalized Non-Saturated and Saturated CTR vs. LED Current

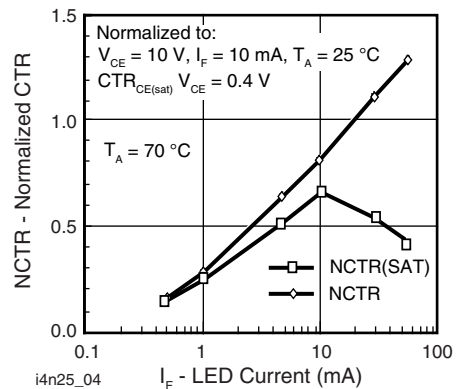


Fig. 4 - Normalized Non-Saturated and Saturated CTR vs. LED Current

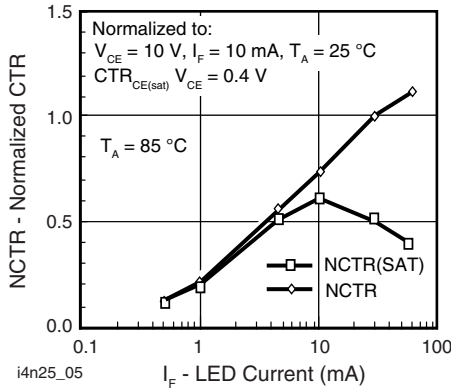


Fig. 5 - Normalized Non-Saturated and Saturated CTR vs. LED Current

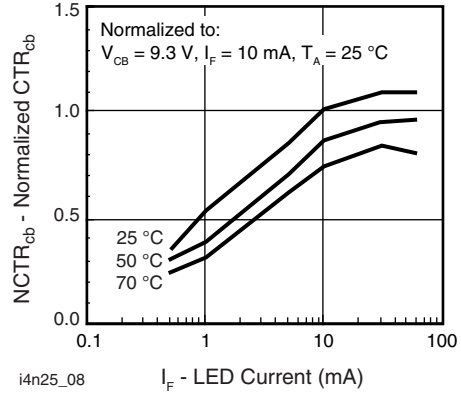


Fig. 8 - Normalized CTR_{cb} vs. LED Current and Temperature

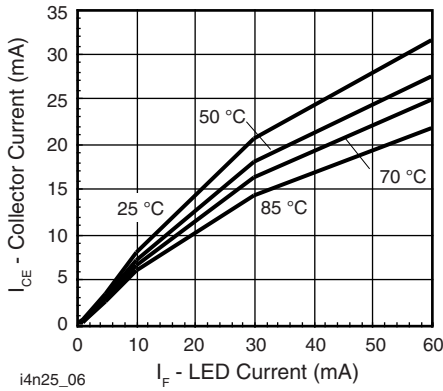


Fig. 6 - Collector Emitter Current vs. Temperature and LED Current

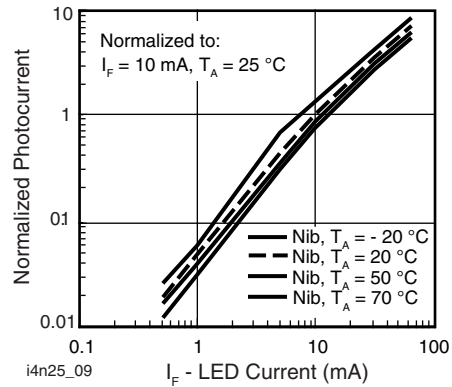


Fig. 9 - Normalized Photocurrent vs. I_F and Temperature

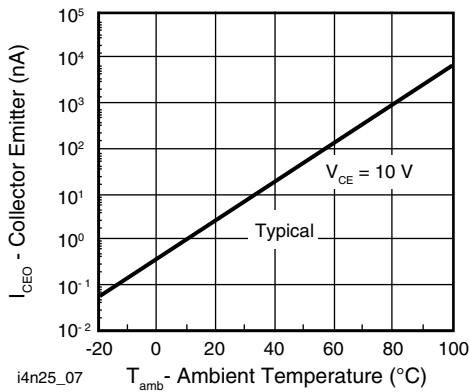


Fig. 7 - Collector Emitter Leakage Current vs. Temperature

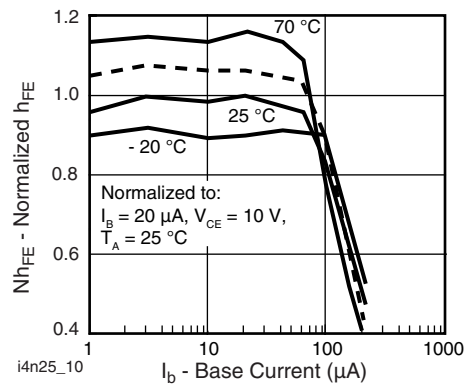


Fig. 10 - Normalized Non-Saturated h_{FE} vs. Base Current and Temperature

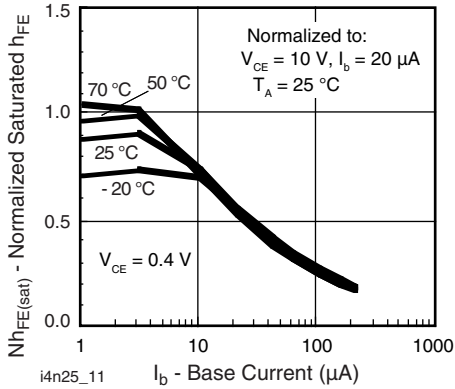
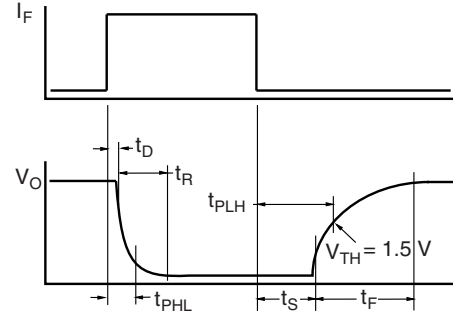
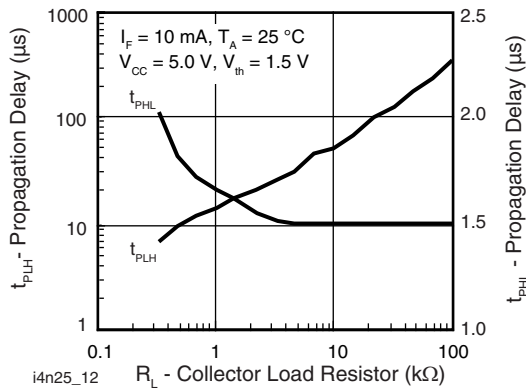


Fig. 11 - Normalized HFE vs. Base Current and Temperature



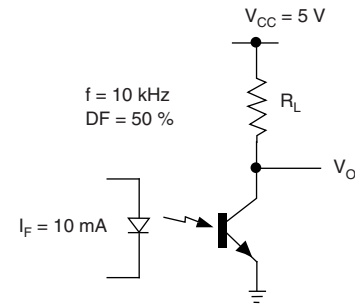
i4n25_13

Fig. 13 - Switching Timing



i4n25_12

Fig. 12 - Propagation Delay vs. Collector Load Resistor



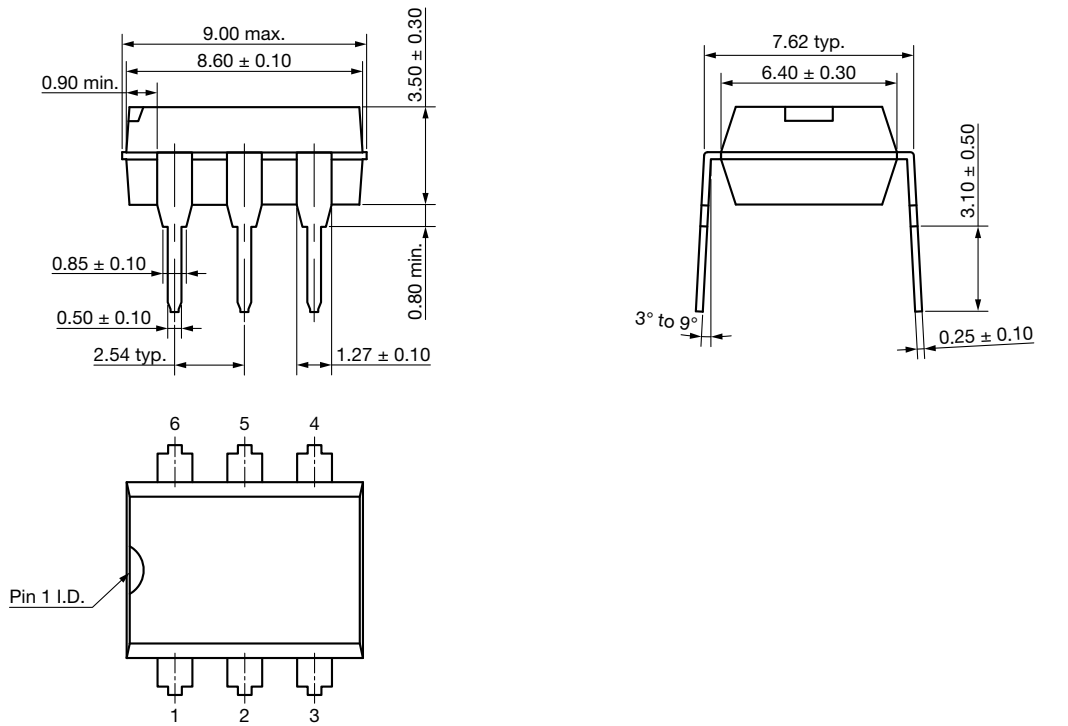
i4n25_14

Fig. 14 - Switching Schematic

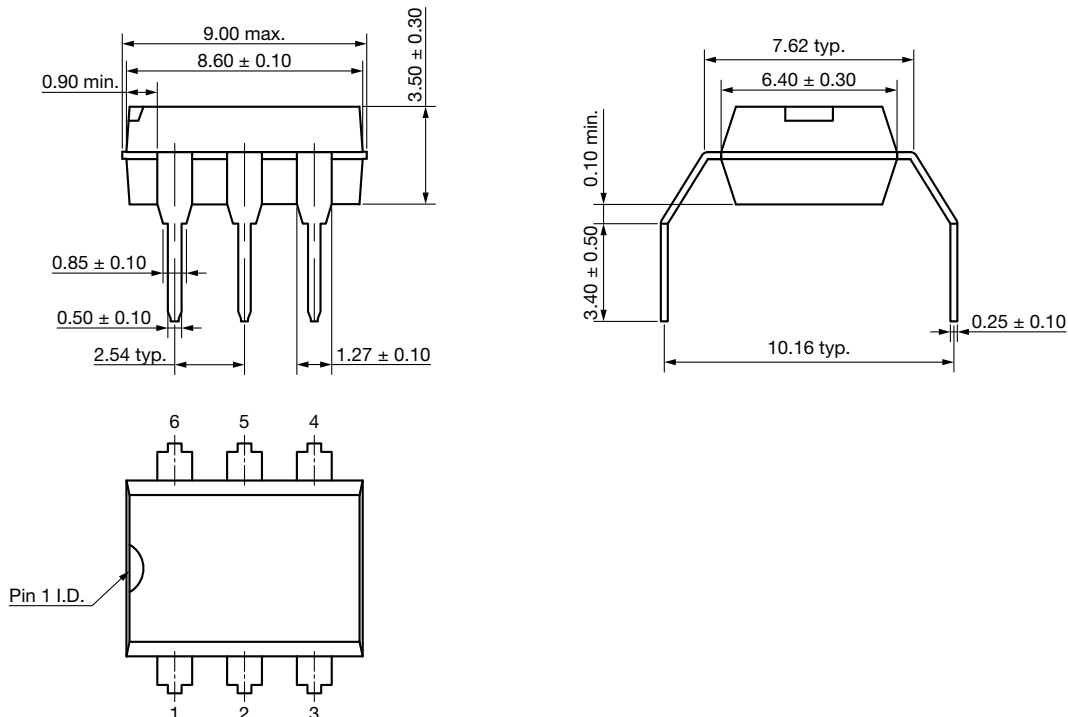


PACKAGE DIMENSIONS in millimeters

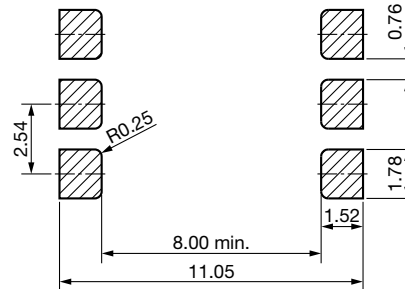
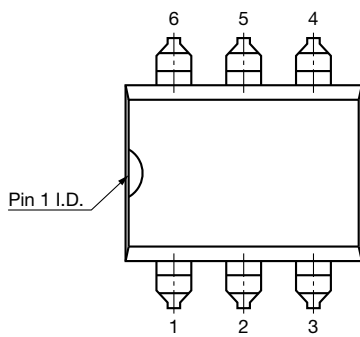
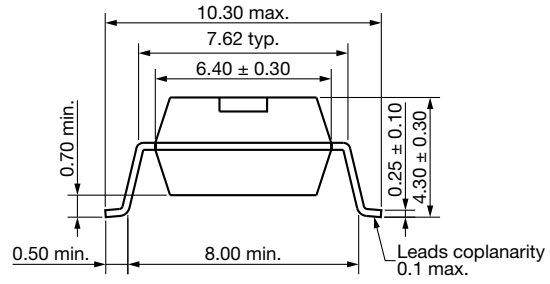
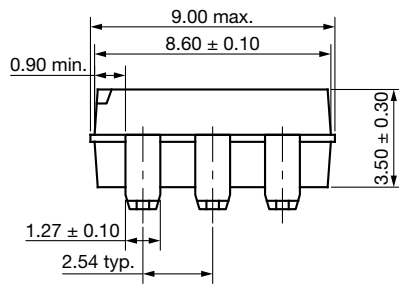
DIP-6



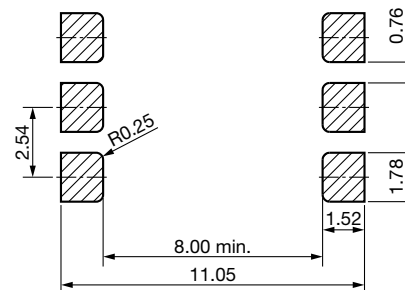
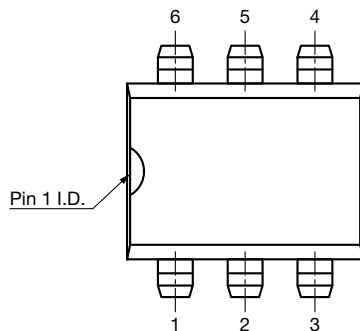
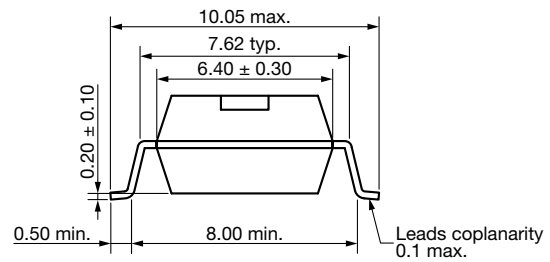
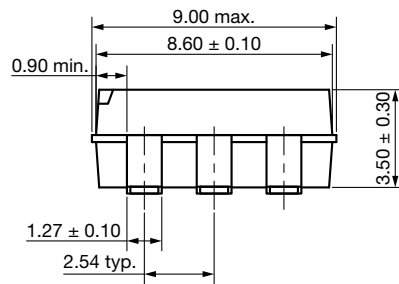
Option 6



Option 7



Option 9





Disclaimer

ALL PRODUCT, PRODUCT SPECIFICATIONS AND DATA ARE SUBJECT TO CHANGE WITHOUT NOTICE TO IMPROVE RELIABILITY, FUNCTION OR DESIGN OR OTHERWISE.

Vishay Intertechnology, Inc., its affiliates, agents, and employees, and all persons acting on its or their behalf (collectively, "Vishay"), disclaim any and all liability for any errors, inaccuracies or incompleteness contained in any datasheet or in any other disclosure relating to any product.

Vishay makes no warranty, representation or guarantee regarding the suitability of the products for any particular purpose or the continuing production of any product. To the maximum extent permitted by applicable law, Vishay disclaims (i) any and all liability arising out of the application or use of any product, (ii) any and all liability, including without limitation special, consequential or incidental damages, and (iii) any and all implied warranties, including warranties of fitness for particular purpose, non-infringement and merchantability.

Statements regarding the suitability of products for certain types of applications are based on Vishay's knowledge of typical requirements that are often placed on Vishay products in generic applications. Such statements are not binding statements about the suitability of products for a particular application. It is the customer's responsibility to validate that a particular product with the properties described in the product specification is suitable for use in a particular application. Parameters provided in datasheets and/or specifications may vary in different applications and performance may vary over time. All operating parameters, including typical parameters, must be validated for each customer application by the customer's technical experts. Product specifications do not expand or otherwise modify Vishay's terms and conditions of purchase, including but not limited to the warranty expressed therein.

Except as expressly indicated in writing, Vishay products are not designed for use in medical, life-saving, or life-sustaining applications or for any other application in which the failure of the Vishay product could result in personal injury or death. Customers using or selling Vishay products not expressly indicated for use in such applications do so at their own risk. Please contact authorized Vishay personnel to obtain written terms and conditions regarding products designed for such applications.

No license, express or implied, by estoppel or otherwise, to any intellectual property rights is granted by this document or by any conduct of Vishay. Product names and markings noted herein may be trademarks of their respective owners.

Material Category Policy

Vishay Intertechnology, Inc. hereby certifies that all its products that are identified as RoHS-Compliant fulfill the definitions and restrictions defined under Directive 2011/65/EU of The European Parliament and of the Council of June 8, 2011 on the restriction of the use of certain hazardous substances in electrical and electronic equipment (EEE) - recast, unless otherwise specified as non-compliant.

Please note that some Vishay documentation may still make reference to RoHS Directive 2002/95/EC. We confirm that all the products identified as being compliant to Directive 2002/95/EC conform to Directive 2011/65/EU.

Vishay Intertechnology, Inc. hereby certifies that all its products that are identified as Halogen-Free follow Halogen-Free requirements as per JEDEC JS709A standards. Please note that some Vishay documentation may still make reference to the IEC 61249-2-21 definition. We confirm that all the products identified as being compliant to IEC 61249-2-21 conform to JEDEC JS709A standards.

Компания «Океан Электроники» предлагает заключение долгосрочных отношений при поставках импортных электронных компонентов на взаимовыгодных условиях!

Наши преимущества:

- Поставка оригинальных импортных электронных компонентов напрямую с производств Америки, Европы и Азии, а так же с крупнейших складов мира;
- Широкая линейка поставок активных и пассивных импортных электронных компонентов (более 30 млн. наименований);
- Поставка сложных, дефицитных, либо снятых с производства позиций;
- Оперативные сроки поставки под заказ (от 5 рабочих дней);
- Экспресс доставка в любую точку России;
- Помощь Конструкторского Отдела и консультации квалифицированных инженеров;
- Техническая поддержка проекта, помощь в подборе аналогов, поставка прототипов;
- Поставка электронных компонентов под контролем ВП;
- Система менеджмента качества сертифицирована по Международному стандарту ISO 9001;
- При необходимости вся продукция военного и аэрокосмического назначения проходит испытания и сертификацию в лаборатории (по согласованию с заказчиком);
- Поставка специализированных компонентов военного и аэрокосмического уровня качества (Xilinx, Altera, Analog Devices, Intersil, Interpoint, Microsemi, Actel, Aeroflex, Peregrine, VPT, Syfer, Eurofarad, Texas Instruments, MS Kennedy, Miteq, Cobham, E2V, MA-COM, Hittite, Mini-Circuits, General Dynamics и др.);

Компания «Океан Электроники» является официальным дистрибьютором и эксклюзивным представителем в России одного из крупнейших производителей разъемов военного и аэрокосмического назначения «JONHON», а так же официальным дистрибьютором и эксклюзивным представителем в России производителя высокотехнологичных и надежных решений для передачи СВЧ сигналов «FORSTAR».



JONHON

«JONHON» (основан в 1970 г.)

Разъемы специального, военного и аэрокосмического назначения:

(Применяются в военной, авиационной, аэрокосмической, морской, железнодорожной, горно- и нефтедобывающей отраслях промышленности)

«FORSTAR» (основан в 1998 г.)

ВЧ соединители, коаксиальные кабели, кабельные сборки и микроволновые компоненты:

(Применяются в телекоммуникациях гражданского и специального назначения, в средствах связи, РЛС, а так же военной, авиационной и аэрокосмической отраслях промышленности).



Телефон: 8 (812) 309-75-97 (многоканальный)

Факс: 8 (812) 320-03-32

Электронная почта: ocean@oceanchips.ru

Web: <http://oceanchips.ru/>

Адрес: 198099, г. Санкт-Петербург, ул. Калинина, д. 2, корп. 4, лит. А