

BASIC CHARACTERISTICS						
PARAMETER	TEST CONDITION	SYMBOL	MIN.	TYP.	MAX.	UNIT
Forward voltage	$I_F = 50 \text{ mA}$	V_F		1		V
Breakdown voltage	$I_R = 100 \text{ }\mu\text{A}, E = 0$	$V_{(BR)}$	32			V
Reverse dark current	$V_R = 10 \text{ V}, E = 0$	I_{ro}		1	10	nA
Diode capacitance	$V_R = 0 \text{ V}, f = 1 \text{ MHz}, E = 0$	C_D		4		pF
	$V_R = 5 \text{ V}, f = 1 \text{ MHz}, E = 0$	C_D		1.3		pF
Open circuit voltage	$E_e = 1 \text{ mW/cm}^2, \lambda = 950 \text{ nm}$	V_o		350		mV
Temperature coefficient of V_o	$E_e = 1 \text{ mW/cm}^2, \lambda = 950 \text{ nm}$	TK_{V_o}		-2.6		mV/K
Short circuit current	$E_e = 1 \text{ mW/cm}^2, \lambda = 950 \text{ nm}$	I_k		11		μA
Temperature coefficient of I_k	$E_e = 1 \text{ mW/cm}^2, \lambda = 950 \text{ nm}$	TK_{I_k}		0.1		%/K
Reverse light current	$E_e = 1 \text{ mW/cm}^2, \lambda = 950 \text{ nm}, V_R = 5 \text{ V}$	I_{ra}	5	12		μA
Angle of half sensitivity		ϕ		± 15		deg
Wavelength of peak sensitivity		λ_p		940		nm
Range of spectral bandwidth		$\lambda_{0.5}$		750 to 1050		nm
Rise time	$V_R = 10 \text{ V}, R_L = 1 \text{ k}\Omega, \lambda = 820 \text{ nm}$	t_r		100		ns
Fall time	$V_R = 10 \text{ V}, R_L = 1 \text{ k}\Omega, \lambda = 820 \text{ nm}$	t_f		100		ns

Note

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

BASIC CHARACTERISTICS

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

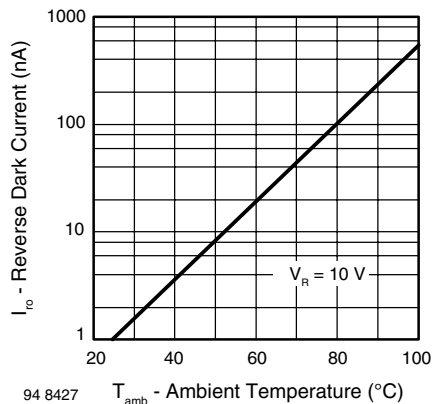


Fig. 1 - Reverse Dark Current vs. Ambient Temperature

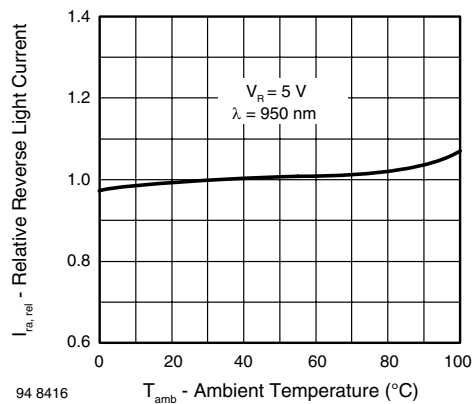


Fig. 2 - Relative Reverse Light Current vs. Ambient Temperature

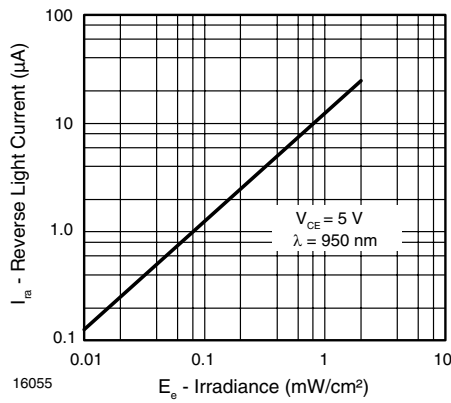


Fig. 3 - Reverse Light Current vs. Irradiance

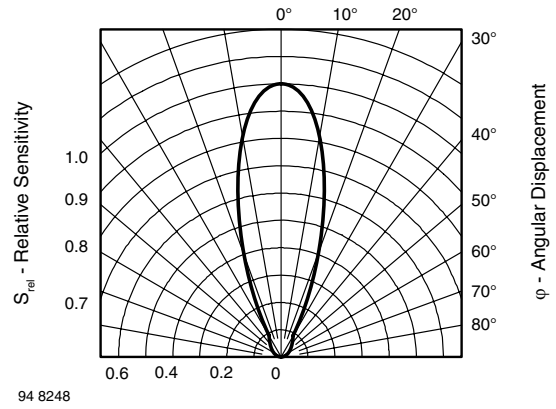


Fig. 6 - Relative Radiant Intensity vs. Angular Displacement

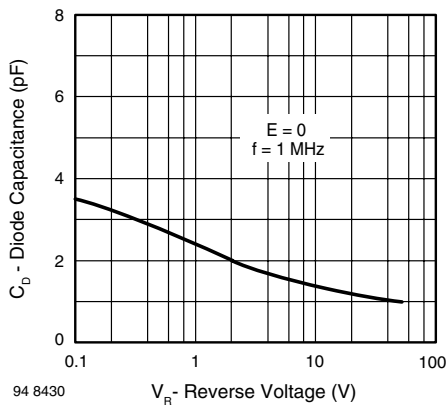


Fig. 4 - Diode Capacitance vs. Reverse Voltage

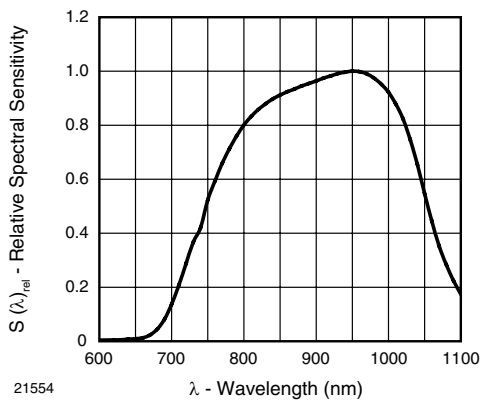


Fig. 5 - Relative Spectral Sensitivity vs. Wavelength

REFLOW SOLDER PROFILE

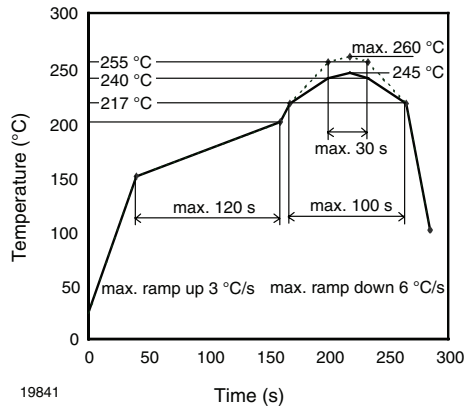


Fig. 7 - Lead (Pb)-free Reflow Solder Profile acc. J-STD-020D

DRYPACK

Devices are packed in moisture barrier bags (MBB) to prevent the products from moisture absorption during transportation and storage. Each bag contains a desiccant.

FLOOR LIFE

Floor life (time between soldering and removing from MBB) must not exceed the time indicated on MBB label:

Floor life: 4 weeks

Conditions: $T_{amb} < 30\text{ }^{\circ}\text{C}$, $RH < 60\%$

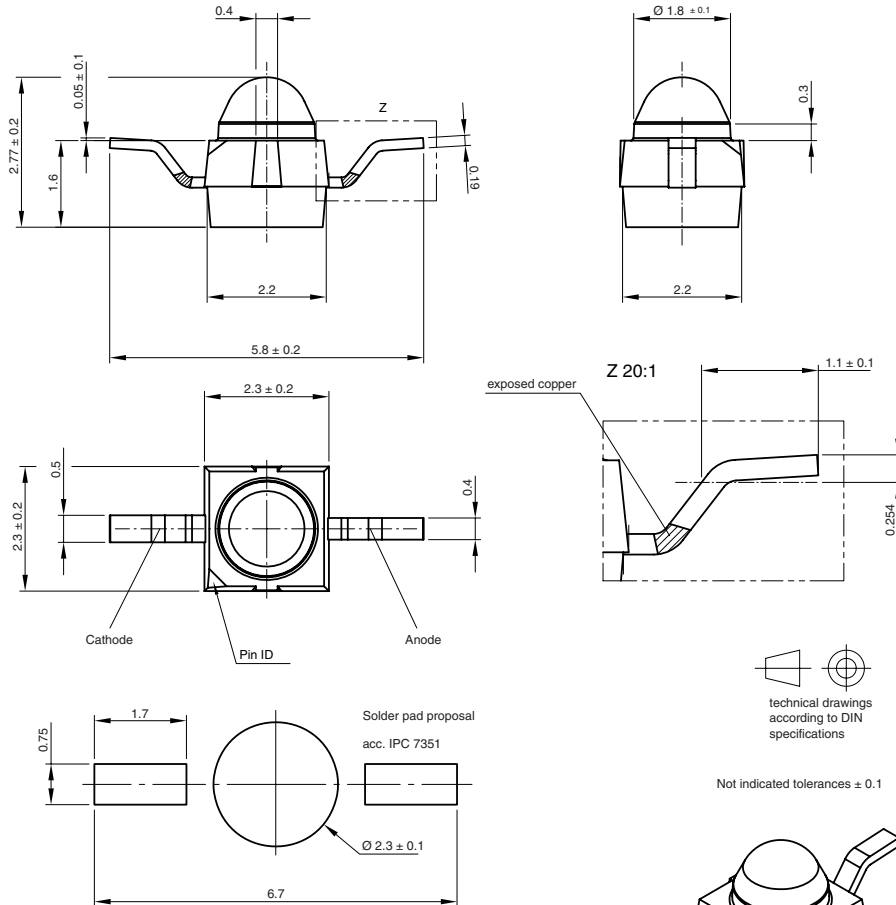
Moisture sensitivity level 2a, acc. to J-STD-020.

DRYING

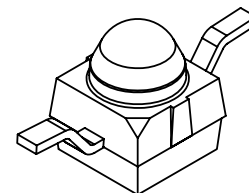
In case of moisture absorption devices should be baked before soldering. Conditions see J-STD-020 or label.

Devices taped on reel dry using recommended conditions 192 h at $40\text{ }^{\circ}\text{C}$ (+ $5\text{ }^{\circ}\text{C}$), $RH < 5\%$.

PACKAGE DIMENSIONS in millimeters: VEMD2000



Drawing-No.: 6.544-5391.02-4
Issue: 1; 26.09.08
21517



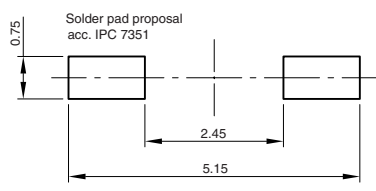
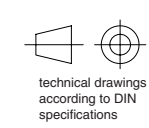
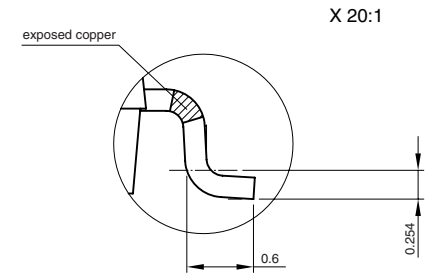
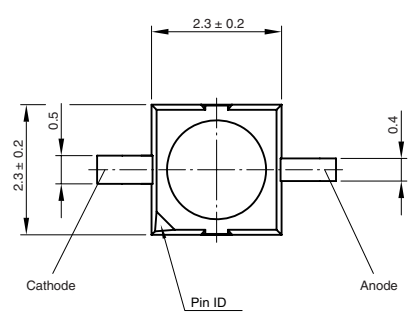
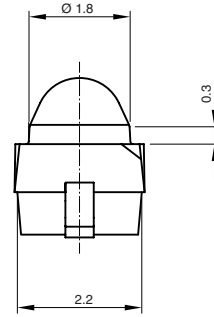
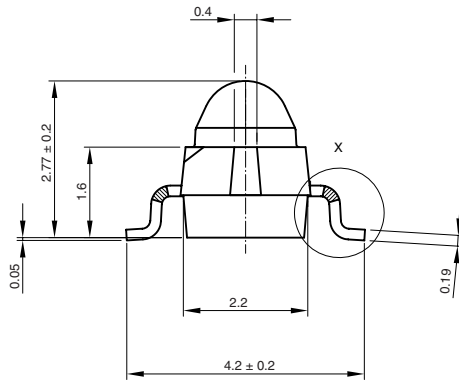


VEMD2000X01, VEMD2020X01

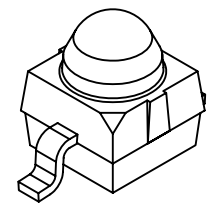
Silicon PIN Photodiode

Vishay Semiconductors

PACKAGE DIMENSIONS in millimeters: VEMD2020



Not indicated tolerances ± 0.1



Drawing-No.: 6.544-5383.02-4
Issue: 3; 26.09.08
21488

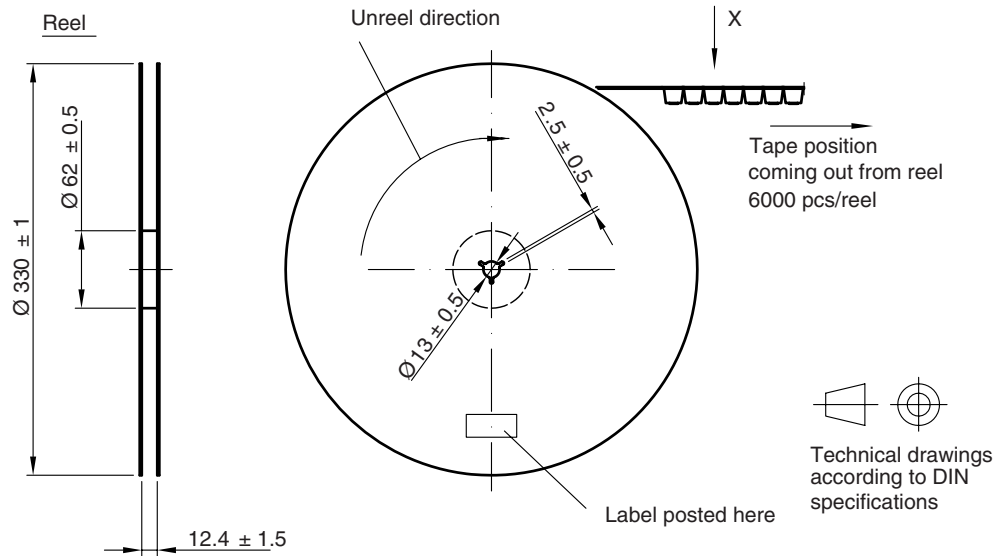
VEMD2000X01, VEMD2020X01

Vishay Semiconductors

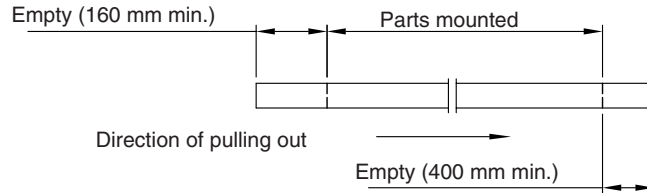
Silicon PIN Photodiode



TAPING AND REEL DIMENSIONS in millimeters: VEMD2000

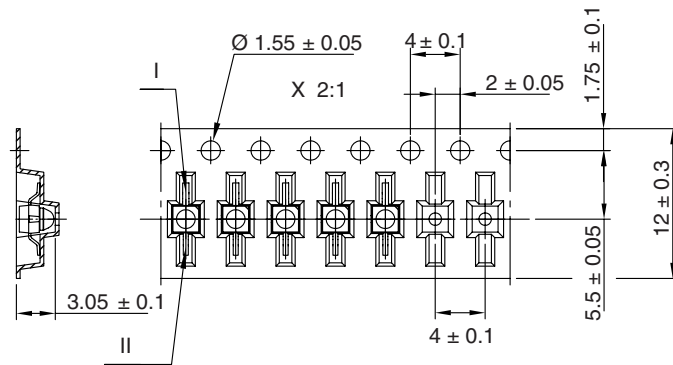


Leader and trailer tape:



Terminal position in tape

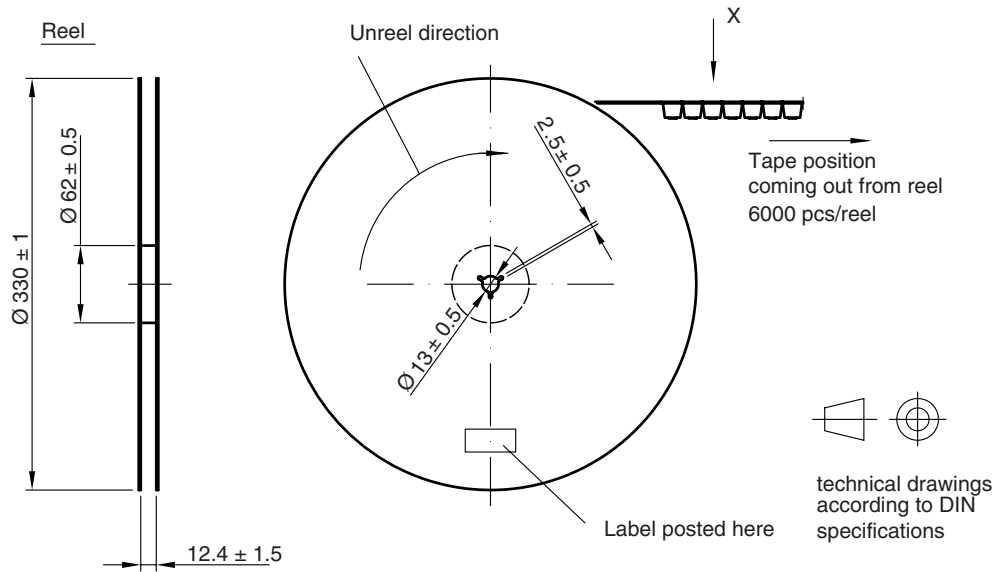
Device	Lead I	Lead II
VEMT2000	Collector	Emitter
VEMT2500		
VEMD2000	Cathode	Anode
VSMB2000		



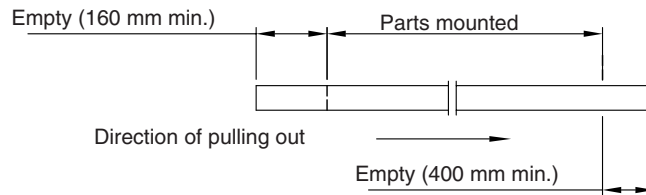
Drawing-No.: 9.800-5100.01-4
 Issue: X; 29.04.09
 21572



TAPING AND REEL DIMENSIONS in millimeters: VEMD2020

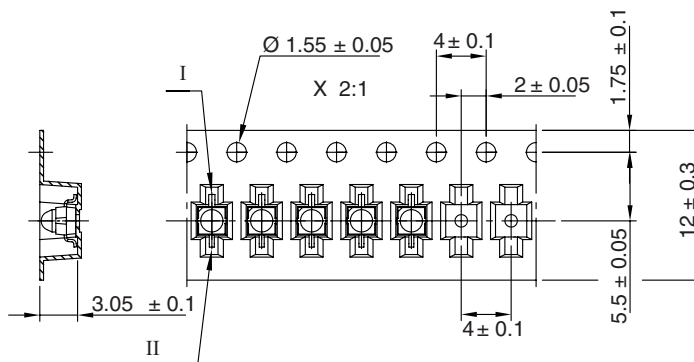


Leader and trailer tape:



Terminal position in tape

Device	Lead I	Lead II
VEMT2020	Collector	Emitter
VEMT2520	Collector	Emitter
VSMB2020	Cathode	Anode
VEMD2020	Cathode	Anode



Drawing-No.: 9.800-5091.01-4

Issue: X; 29.04.09

21571



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.

Mouser Electronics

Authorized Distributor

Click to View Pricing, Inventory, Delivery & Lifecycle Information:

Vishay:

[VEMD2000X01](#) [VEMD2020X01](#)