



Matrix Leadframe Dual Gage Introduction

DESCRIPTION OF CHANGE: Vishay Semiconductors announces the change of D-PAK's lead-frame, from Single Row to Matrix Dual Gauge Lead-frame. This change will impact the form of the device leaving a small copper exposure area on the lead.

CLASSIFICATION OF CHANGE: Assembly Process/Structure

REASON FOR CHANGE: Increase of Manufacturing Capacity.

EXPECTED INFLUENCE ON QUALITY/RELIABILITY/PERFORMANCE: There will be no effect on quality, reliability, electrical and thermal performance

PRODUCT CATEGORY: Fred diodes in D-PAK package

PART NUMBERS/SERIES/FAMILIES AFFECTED:

Family	Package	Part number affected
FRED	D-PAK	VS-10CWH02FN-M3
FRED	D-PAK	VS-10CWH02FNTRL-M3
FRED	D-PAK	VS-10CWH02FNTR-M3
FRED	D-PAK	VS-10CWH02FNTRR-M3
FRED	D-PAK	VS-12EWH06FN-M3
FRED	D-PAK	VS-12EWH06FNTRL-M3
FRED	D-PAK	VS-12EWH06FNTR-M3
FRED	D-PAK	VS-12EWH06FNTRR-M3
FRED	D-PAK	VS-15AWL06FN-M3
FRED	D-PAK	VS-15AWL06FNTRL-M3
FRED	D-PAK	VS-15AWL06FNTR-M3
FRED	D-PAK	VS-15AWL06FNTRR-M3
FRED	D-PAK	VS-15EWH06FN-M3
FRED	D-PAK	VS-15EWH06FNTRL-M3
FRED	D-PAK	VS-15EWH06FNTR-M3
FRED	D-PAK	VS-15EWH06FNTRR-M3
FRED	D-PAK	VS-15EWL06FN-M3
FRED	D-PAK	VS-15EWL06FNTRL-M3
FRED	D-PAK	VS-15EWL06FNTR-M3
FRED	D-PAK	VS-15EWL06FNTRR-M3
FRED	D-PAK	VS-15EWX06FN-M3
FRED	D-PAK	VS-15EWX06FNTRL-M3
FRED	D-PAK	VS-15EWX06FNTR-M3
FRED	D-PAK	VS-15EWX06FNTRR-M3
FRED	D-PAK	VS-4EWH02FN-M3
FRED	D-PAK	VS-4EWH02FNTRL-M3

Family	Package	Part number affected
FRED	D-PAK	VS-4EWH02FNTR-M3
FRED	D-PAK	VS-4EWH02FNTRR-M3
FRED	D-PAK	VS-5EWH06FN-M3
FRED	D-PAK	VS-5EWH06FNTRL-M3
FRED	D-PAK	VS-5EWH06FNTR-M3
FRED	D-PAK	VS-5EWH06FNTRR-M3
FRED	D-PAK	VS-5EWL06FN-M3
FRED	D-PAK	VS-5EWL06FNTRL-M3
FRED	D-PAK	VS-5EWL06FNTR-M3
FRED	D-PAK	VS-5EWL06FNTRR-M3
FRED	D-PAK	VS-5EWX06FN-M3
FRED	D-PAK	VS-5EWX06FNTRL-M3
FRED	D-PAK	VS-5EWX06FNTR-M3
FRED	D-PAK	VS-5EWX06FNTRR-M3
FRED	D-PAK	VS-6CWH02FN-M3
FRED	D-PAK	VS-6CWH02FNTRL-M3
FRED	D-PAK	VS-6CWH02FNTR-M3
FRED	D-PAK	VS-6CWH02FNTRR-M3
FRED	D-PAK	VS-6EWH06FN-M3
FRED	D-PAK	VS-6EWH06FNTRL-M3
FRED	D-PAK	VS-6EWH06FNTR-M3
FRED	D-PAK	VS-6EWH06FNTRR-M3
FRED	D-PAK	VS-6EWL06FN-M3
FRED	D-PAK	VS-6EWL06FNTRL-M3
FRED	D-PAK	VS-6EWL06FNTR-M3
FRED	D-PAK	VS-6EWL06FNTRR-M3
FRED	D-PAK	VS-6EWX06FN-M3
FRED	D-PAK	VS-6EWX06FNTRL-M3
FRED	D-PAK	VS-6EWX06FNTR-M3
FRED	D-PAK	VS-6EWX06FNTRR-M3
FRED	D-PAK	VS-8CWH02FN-M3
FRED	D-PAK	VS-8CWH02FNTRL-M3
FRED	D-PAK	VS-8CWH02FNTR-M3
FRED	D-PAK	VS-8CWH02FNTRR-M3
FRED	D-PAK	VS-8EWH02FN-M3
FRED	D-PAK	VS-8EWH02FNTRL-M3
FRED	D-PAK	VS-8EWH02FNTR-M3
FRED	D-PAK	VS-8EWH02FNTRR-M3
FRED	D-PAK	VS-8EWH06FN-M3

Vishay Intertechnology, Inc.

Corporate Headquarters 63 Lincoln Highway, Malvern, PA 19355-2143 U.S.A. Phone (610) 644-1300 Fax (610) 296-0657 www.vishay.com

ONE OF THE WORLD'S LARGEST MANUFACTURERS OF DISCRETE SEMICONDUCTORS AND PASSIVE COMPONENT

Family	Package	Part number affected
FRED	D-PAK	VS-8EWH06FNTRL-M3
FRED	D-PAK	VS-8EWH06FNTR-M3
FRED	D-PAK	VS-8EWH06FNTRR-M3
FRED	D-PAK	VS-8EWL06FN-M3
FRED	D-PAK	VS-8EWL06FNTRL-M3
FRED	D-PAK	VS-8EWL06FNTR-M3
FRED	D-PAK	VS-8EWL06FNTRR-M3
FRED	D-PAK	VS-8EWX06FN-M3
FRED	D-PAK	VS-8EWX06FNTRL-M3
FRED	D-PAK	VS-8EWX06FNTR-M3
FRED	D-PAK	VS-8EWX06FNTRR-M3
FRED	D-PAK	VS-MURD620CT-M3
FRED	D-PAK	VS-MURD620CTTRL-M3
FRED	D-PAK	VS-MURD620CTTR-M3
FRED	D-PAK	VS-MURD620CTTRR-M3

VISHAY BRAND(s): Vishay Semiconductors

TIME SCHEDULE: After **November 2, 2015** Vishay may start to implement the above changes on new production

SAMPLE AVAILABILITY: On customer request.

PRODUCT IDENTIFICATION: N/A

QUALIFICATION DATA: Qualification data is presented on page 4 of this PCN

ADDITIONAL DATA: Comparison of POD drawing, dimensions and picture is presented on page 5 of this PCN

This PCN is considered approved, without further notification, unless we receive specific customer concerns before October 30, 2015 or as specified by contract.

ISSUED BY: G. Marengo
Vishay Diodes Product Marketing
e-mail: Giovanni.Marengo@Vishay.com

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For further information, please contact your regional Vishay office.

CONTACT INFORMATION:

The Americas

Vishay Semiconductors
 100 Motor Parkway, Suite
 101E
 Hauppauge, NY11788 USA
 Phone : 631 300 3816
 Fax : 631 300 3843
Diodes-Americas@vishay.com

Europe

Vishay Semiconductors
 Theresienstrasse 2
 D-74072 Heilbronn, Germany
 Phone: + 49 7131 67 3364 (3365)
 Fax: + 49 7131 67 2938
Diodes-Europe@vishay.com

Asia

Vishay Semiconductors
 15D, Sun Tong Infoport Plaza
 55 Huai Hai West Road
 Shanghai, Cina
 Phone: + 86 138 1787 2112
 Fax: + 86 21 5258 7979
Diodes-Asia@vishay.com

Qual Data: MATRIX LEADFRAME

STRESS	CONDITIONS	TEST POINTS	SAMPLES	FAIL
HTRB	Tjmax @100% rated voltage 1000hrs	0 168 500 1000	7 x 77	0/539
TC	-55°C/150°C 1000 cycles	0 250 500 1000	7 x 77	0/539
UHASt	130°C 85%RH 96hrs	0 48 96	7 x 77	0/539
H3TRB	85°C 85%HR @80% Vr 1000hrs	0 168 500 1000	7 x 77	0/539
IOL	DT=100°C 1000Hrs	0 500 1000	7 x 77	0/539

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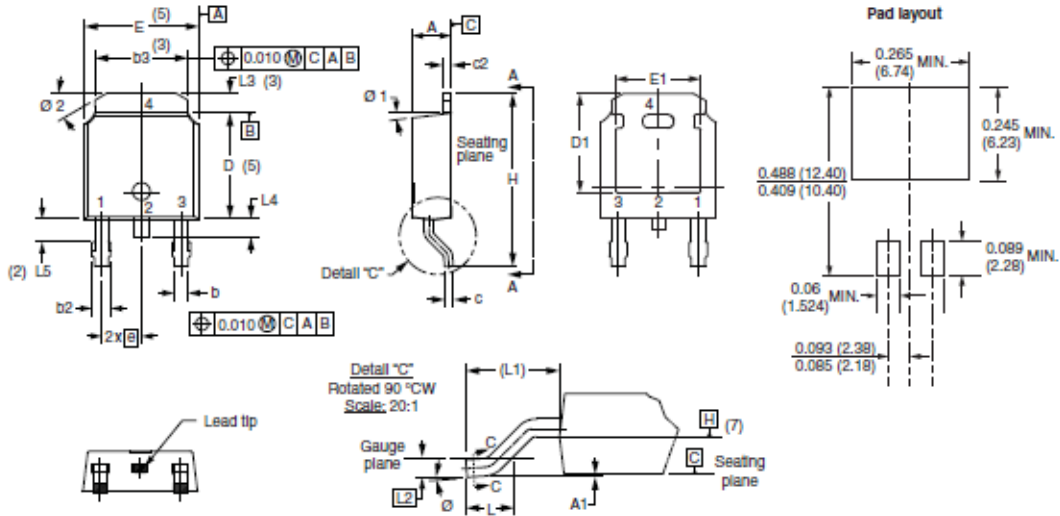
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OUTLINE STANDARD vs NEW MATRIX LEADFRAME

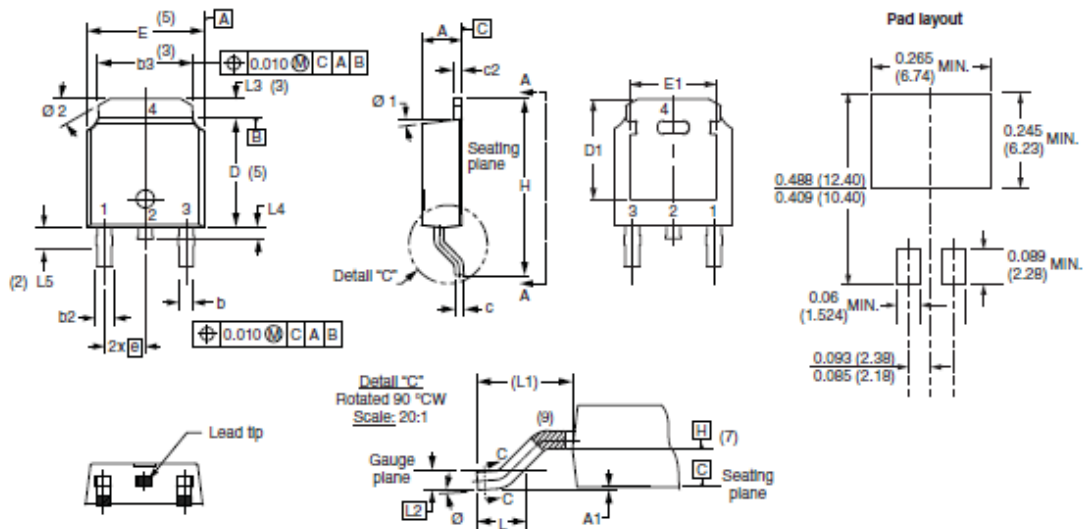
a) Standard:

DIMENSIONS in millimeters and inches



b) Matrix:

DIMENSIONS in millimeters and inches



DIMENSIONS STANDARD vs NEW MATRIX LEADFRAME

a) Standard:

SYMBOL	MILLIMETERS		INCHES		NOTES	SYMBOL	MILLIMETERS		INCHES		NOTES
	MIN.	MAX.	MIN.	MAX.			MIN.	MAX.	MIN.	MAX.	
A	2.18	2.39	0.086	0.094		e	2.29 BSC		0.090 BSC		
A1	-	0.13	-	0.005		H	9.40	10.41	0.370	0.410	
b	0.64	0.89	0.025	0.035		L	1.40	1.78	0.055	0.070	
b2	0.76	1.14	0.030	0.045		L1	2.74 BSC		0.108 REF.		
b3	4.95	5.46	0.195	0.215	3	L2	0.51 BSC		0.020 BSC		
c	0.46	0.61	0.018	0.024		L3	0.89	1.27	0.035	0.050	3
c2	0.46	0.89	0.018	0.035		L4	-	1.02	-	0.040	
D	5.97	6.22	0.235	0.245	5	L5	1.14	1.52	0.045	0.060	2
D1	5.21	-	0.205	-	3	∅	0°	10°	0°	10°	
E	6.35	6.73	0.250	0.265	5	∅1	0°	15°	0°	15°	
E1	4.32	-	0.170	-	3	∅2	25°	35°	25°	35°	

b) Matrix:

SYMBOL	MILLIMETERS		INCHES		NOTES	SYMBOL	MILLIMETERS		INCHES		NOTES
	MIN.	MAX.	MIN.	MAX.			MIN.	MAX.	MIN.	MAX.	
A	2.18	2.39	0.086	0.094		e	2.29 BSC		0.090 BSC		
A1	-	0.13	-	0.005		H	9.40	10.41	0.370	0.410	
b	0.64	0.89	0.025	0.035		L	1.40	1.78	0.055	0.070	
b2	0.76	1.14	0.030	0.045		L1	2.74 BSC		0.108 REF.		
b3	4.95	5.46	0.195	0.215	3	L2	0.51 BSC		0.020 BSC		
c	0.46	0.61	0.018	0.024		L3	0.89	1.27	0.035	0.050	3
c2	0.46	0.89	0.018	0.035		L4	-	1.02	-	0.040	
D	5.97	6.22	0.235	0.245	5	L5	1.14	1.52	0.045	0.060	2
D1	5.21	-	0.205	-	3	∅	0°	10°	0°	10°	
E	6.35	6.73	0.250	0.265	5	∅1	0°	15°	0°	15°	
E1	4.32	-	0.170	-	3	∅2	25°	35°	25°	35°	

Notes

(1) Dimensioning and tolerancing as per ASME Y14.5M-1994

(2) Lead dimension uncontrolled in L5

(3) Dimension D1, E1, L3 and b3 establish a minimum mounting surface for thermal pad

(4) Section C - C dimension apply to the flat section of the lead between 0.13 and 0.25 mm (0.005 and 0.10") from the lead tip

(5) Dimension D, and E do not include mold flash. Mold flash shall not exceed 0.127 mm (0.005") per side. These dimensions are measured at the outermost extremes of the plastic body

(6) Dimension b1 and c1 applied to base metal only

(7) Datum A and B to be determined at datum plane H

(8) Outline conforms to JEDEC® outline TO-252AA

(9) Dashed area on power leads are copper exposed zones

APPEARANCE:

