

## Product Summary

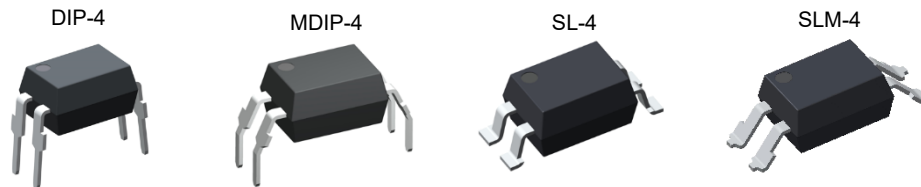
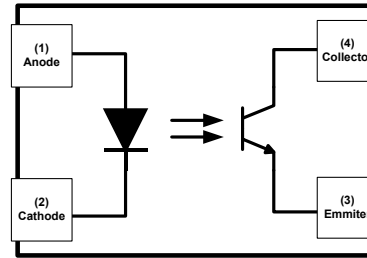
BV <sub>CEO</sub> (V)	CTR (Min)	Isolation Voltage (V <sub>RMS</sub> )	Operating Temperature (°C)
35	50%	5000	-55 to +110

## Mechanical Data

- Package: DIP-4, MDIP-4, SL-4, SLM-4
- Package Material: Molded Plastic, "Green" Mold Compound. UL Flammability Classification 94V-0
- Moisture Sensitivity: Level 1 per J-STD-020
- Terminals: Finish – Matte Tin Plated Leads, Solderable per MIL-STD-202, Method 208
- Polarity Indicator: Dots for Pin 1 Identification
- Weight: 0.216 grams (Approximate)

## Features

- Current Transfer Ratio (CTR: min. 80% at I<sub>F</sub> = 5mA, V<sub>CE</sub> = 5V)
- High Input-Output Isolation Voltage (V<sub>ISP</sub> = 5,000V<sub>RMS</sub>)
- Safety Approval  
UL1577  
CQC 4943.1-2022  
VDE EN IEC 60747-5-5
- Totally Lead-Free & Fully RoHS Compliant (Notes 1 & 2)**
- Halogen and Antimony Free. "Green" Device (Note 3)**
- For automotive applications requiring specific change control (i.e. parts qualified to AEC-Q100/101/104/200, PPAP capable, and manufactured in IATF 16949 certified facilities), please [contact us](https://www.diodes.com/quality/product-definitions/) or your local Diodes representative.**  
<https://www.diodes.com/quality/product-definitions/>



## Ordering Information (Notes 4 & 5)

Orderable Part Number	Package	CTR (%)	Operating Temperature (°C)	RoHS	MSL Level	Packing	
						Qty.	Carrier
DPC817D-A-TU	DIP-4	80 to 160	-55 to +110	Yes	Level 1	100pcs	Tube
DPC817D-B-TU	DIP-4	130 to 260	-55 to +110	Yes	Level 1	100pcs	Tube
DPC817D-C-TU	DIP-4	200 to 400	-55 to +110	Yes	Level 1	100pcs	Tube
DPC817D-X-TU	DIP-4	100 to 200	-55 to +110	Yes	Level 1	100pcs	Tube
DPC817D-Y-TU	DIP-4	150 to 300	-55 to +110	Yes	Level 1	100pcs	Tube
DPC817W-A-TU	MDIP-4	80 to 160	-55 to +110	Yes	Level 1	100pcs	Tube
DPC817W-B-TU	MDIP-4	130 to 260	-55 to +110	Yes	Level 1	100pcs	Tube
DPC817W-C-TU	MDIP-4	200 to 400	-55 to +110	Yes	Level 1	100pcs	Tube
DPC817W-X-TU	MDIP-4	100 to 200	-55 to +110	Yes	Level 1	100pcs	Tube
DPC817W-Y-TU	MDIP-4	150 to 300	-55 to +110	Yes	Level 1	100pcs	Tube

- Notes:
- No purposely added lead. Fully EU Directive 2002/95/EC (RoHS), 2011/65/EU (RoHS 2) & 2015/863/EU (RoHS 3) compliant.
  - See <https://www.diodes.com/quality/lead-free/> for more information about Diodes Incorporated's definitions of Halogen- and Antimony-free, "Green" and Lead-free.
  - Halogen- and Antimony-free "Green" products are defined as those which contain <900ppm bromine, <900ppm chlorine (<1500ppm total Br + Cl) and <1000ppm antimony compounds.
  - For packaging details, go to our website at <https://www.diodes.com/design/support/packaging/diodes-packaging/>.
  - A, B, C, X and Y represent CTR ranks.

**Ordering Information** (Notes 4 & 5) (continued)

Orderable Part Number	Package	CTR(%)	Operating Temperature (°C)	RoHS	MSL Level	Packing	
						Qty.	Carrier
DPC817D-A-TU-V (VDE parts)	DIP-4	80 to 160	-55 to +110	Yes	Level 1	100pcs	Tube
DPC817D-B-TU-V (VDE parts)	DIP-4	130 to 260	-55 to +110	Yes	Level 1	100pcs	Tube
DPC817D-C-TU-V (VDE parts)	DIP-4	200 to 400	-55 to +110	Yes	Level 1	100pcs	Tube
DPC817D-X-TU-V (VDE parts)	DIP-4	100 to 200	-55 to +110	Yes	Level 1	100pcs	Tube
DPC817D-Y-TU-V (VDE parts)	DIP-4	150 to 300	-55 to +110	Yes	Level 1	100pcs	Tube
DPC817W-A-TU-V (VDE parts)	MDIP-4	80 to 160	-55 to +110	Yes	Level 1	100pcs	Tube
DPC817W-B-TU-V (VDE parts)	MDIP-4	130 to 260	-55 to +110	Yes	Level 1	100pcs	Tube
DPC817W-C-TU-V (VDE parts)	MDIP-4	200 to 400	-55 to +110	Yes	Level 1	100pcs	Tube
DPC817W-X-TU-V (VDE parts)	MDIP-4	100 to 200	-55 to +110	Yes	Level 1	100pcs	Tube
DPC817W-Y-TU-V (VDE parts)	MDIP-4	150 to 300	-55 to +110	Yes	Level 1	100pcs	Tube
DPC817S-A-TR	SL-4	80 to 160	-55 to +110	Yes	Level 1	2,000pcs	13" Reel
DPC817S-B-TR	SL-4	130 to 260	-55 to +110	Yes	Level 1	2,000pcs	13" Reel
DPC817S-C-TR	SL-4	200 to 400	-55 to +110	Yes	Level 1	2,000pcs	13" Reel
DPC817S-X-TR	SL-4	100 to 200	-55 to +110	Yes	Level 1	2,000pcs	13" Reel
DPC817S-Y-TR	SL-4	150 to 300	-55 to +110	Yes	Level 1	2,000pcs	13" Reel
DPC817L-A-TR1	SLM-4	80 to 160	-55 to +110	Yes	Level 1	2,000pcs	13" Reel
DPC817L-B-TR1	SLM-4	130 to 260	-55 to +110	Yes	Level 1	2,000pcs	13" Reel
DPC817L-C-TR1	SLM-4	200 to 400	-55 to +110	Yes	Level 1	2,000pcs	13" Reel
DPC817L-X-TR1	SLM-4	100 to 200	-55 to +110	Yes	Level 1	2,000pcs	13" Reel
DPC817L-Y-TR1	SLM-4	150 to 300	-55 to +110	Yes	Level 1	2,000pcs	13" Reel
DPC817S-A-TR-V (VDE parts)	SL-4	80 to 160	-55 to +110	Yes	Level 1	2,000pcs	13" Reel
DPC817S-B-TR-V (VDE parts)	SL-4	130 to 260	-55 to +110	Yes	Level 1	2,000pcs	13" Reel
DPC817S-C-TR-V (VDE parts)	SL-4	200 to 400	-55 to +110	Yes	Level 1	2,000pcs	13" Reel
DPC817S-X-TR-V (VDE parts)	SL-4	100 to 200	-55 to +110	Yes	Level 1	2,000pcs	13" Reel
DPC817S-Y-TR-V (VDE parts)	SL-4	150 to 300	-55 to +110	Yes	Level 1	2,000pcs	13" Reel
DPC817L-A-TR1-V (VDE parts)	SLM-4	80 to 160	-55 to +110	Yes	Level 1	2,000pcs	13" Reel
DPC817L-B-TR1-V (VDE parts)	SLM-4	130 to 260	-55 to +110	Yes	Level 1	2,000pcs	13" Reel
DPC817L-C-TR1-V (VDE parts)	SLM-4	200 to 400	-55 to +110	Yes	Level 1	2,000pcs	13" Reel
DPC817L-X-TR1-V (VDE parts)	SLM-4	100 to 200	-55 to +110	Yes	Level 1	2,000pcs	13" Reel
DPC817L-Y-TR1-V (VDE parts)	SLM-4	150 to 300	-55 to +110	Yes	Level 1	2,000pcs	13" Reel

Notes: 4. For packaging details, go to our website at <https://www.diodes.com/design/support/packaging/diodes-packaging/>.  
5. A, B, C, X and Y represent CTR ranks.

**Marking Information**


DII = Manufacturer's Code Marking  
817 = Product Type Marking Code  
Z = CTR Rank Code  
V = VDE Safety Mark Option  
Y = Last Digit of Year (ex: 6 = 2026)  
WW = Week Code (01 to 53)  
F = Factory Code

**Maximum Ratings** (@  $T_A = +25^\circ\text{C}$ , unless otherwise specified.)

Characteristic		Symbol	Rating	Unit
Input	Forward Current	$I_F$	60	mA
	Reverse Voltage	$V_R$	6	V
	Power Dissipation	$P_D$	100	mW
	Peak Forward Current ( $<1\mu\text{s}$ Pulse Width, 300pps)	$I_{FP}$	1	A
Output	Collector – Emitter Voltage	$V_{CEO}$	35	V
	Emitter – Collector Voltage	$V_{ECO}$	6	V
	Collector Current	$I_C$	50	mA
	Collector Power Dissipation	$P_C$	150	mW
Total Power Dissipation		$P_{TOT}$	200	mW
Isolation Voltage		$V_{ISO}$	5000	$V_{RMS}$
Operating Temperature		$T_{OPR}$	-55 to +110	$^\circ\text{C}$
Storage Temperature		$T_{STG}$	-55 to +125	$^\circ\text{C}$
Soldering Temperature		$T_{SOL}$	+260	$^\circ\text{C}$

**Electrical Characteristics**

Characteristic		Test Conditions	Symbol	Min	Typ	Max	Unit
Input	Forward Voltage	$I_F = 20\text{mA}$	$V_F$	—	1.25	1.5	V
	Reverse Current	$V_R = 4\text{V}$	$I_R$	—	—	10	$\mu\text{A}$
	Terminal Capacitance	$V = 0, f = 1\text{kHz}$	$C_T$	—	30	—	pF
Output	Collector – Emitter Current	$V_{CE} = 20\text{V}, I_F = 0$	$I_{CEO}$	—	—	50	nA
	Collector – Emitter Breakdown Voltage	$I_C = 0.1\text{mA}, I_F = 0$	$BV_{CEO}$	35	—	—	V
	Emitter – Collector Breakdown Voltage	$I_E = 0.1\text{mA}, I_F = 0$	$BV_{ECO}$	6	—	—	V
Transfer Characteristics	Collector Current	$I_F = 5\text{mA}, V_{CE} = 5\text{V}$	$I_C$	2.5	—	30	mA
	Current Transfer Ratio	$I_F = 5\text{mA}, V_{CE} = 5\text{V}$	$C_{TR}$	50	—	600	%
	Collector – Emitter Saturation Voltage	$I_F = 20\text{mA}, I_C = 1\text{mA}$	$V_{CE(SAT)}$	—	0.1	0.2	V
	Isolation Resistance	DC500V, 40% to 60% R.H.	$R_{ISO}$	$5 \times 10^{10}$	$1 \times 10^{11}$	—	$\Omega$
	Floating Capacitance	$V = 0, f = 1\text{MHz}$	$C_F$	—	0.6	1	pF
	Cutoff Frequency	$V_{CE} = 5\text{V}, R_L = 100\Omega$ $I_C = 2\text{mA}, -3\text{dB}$	$f_C$	—	80	—	kHz
	Response Time (Rise)	$V_{CE} = 2\text{V}, I_C = 2\text{mA}$	$t_R$	—	—	18	$\mu\text{s}$
Response Time (Fall)	$R_L = 100\Omega$	$t_F$	—	—	18	$\mu\text{s}$	

**Rank Table of Current Transfer Ratio** (Note 6)

Characteristic	Test Condition	Symbol	Min	Max	Unit
CTR Rank	$I_F = 5\text{mA}, V_{CE} = 5\text{V}$ $T_A = +25^\circ\text{C}$	A	80	160	%
		B	130	260	%
		C	200	400	%
		X	100	200	%
		Y	150	300	%

 Note: 6.  $CTR = I_C / I_F \times 100\%$

**Characteristics Curves**

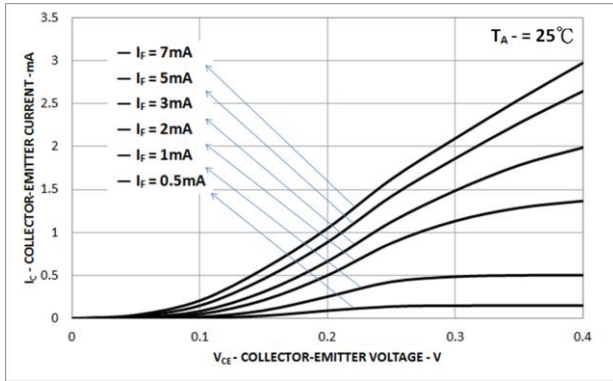


Fig.1 Collector-Emitter Saturation Voltage vs. Forward Current

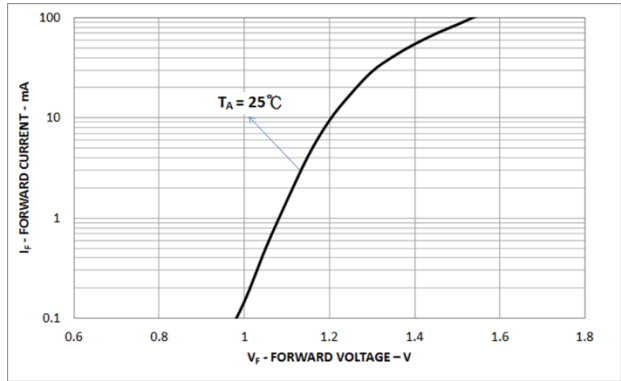


Fig.2 Forward Current vs. Forward Voltage

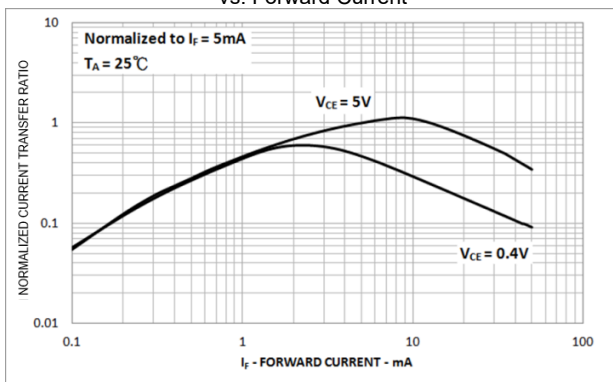


Fig.3 Current Transfer vs. Forward Current

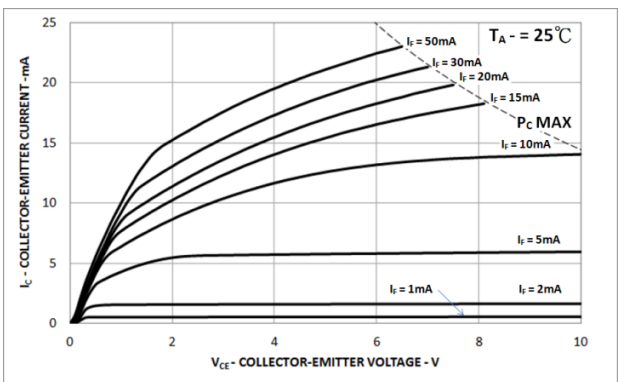


Fig.4 Collector Current vs. Collector-Emitter Voltage

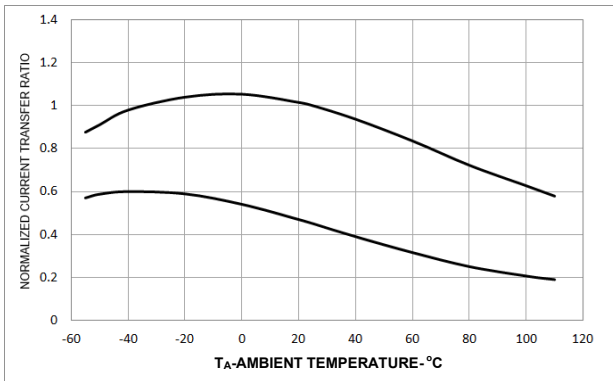


Fig.5 Relative Current Transfer Ratio vs. Ambient Temperature

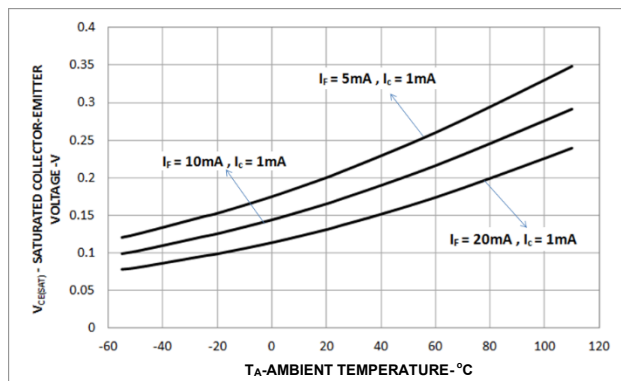


Fig.6 Collector-Emitters Saturation Voltage vs. Ambient Temperature

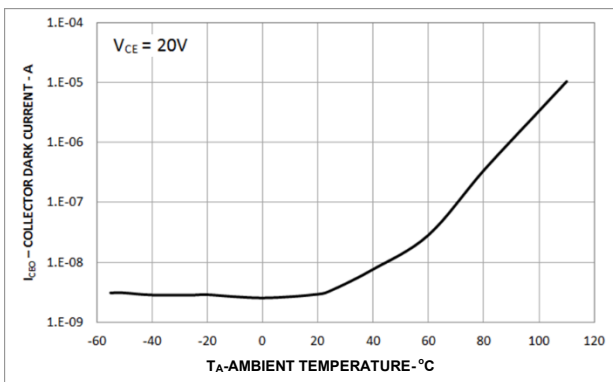


Fig.7 Collector Dark Current vs. Ambient Temperature

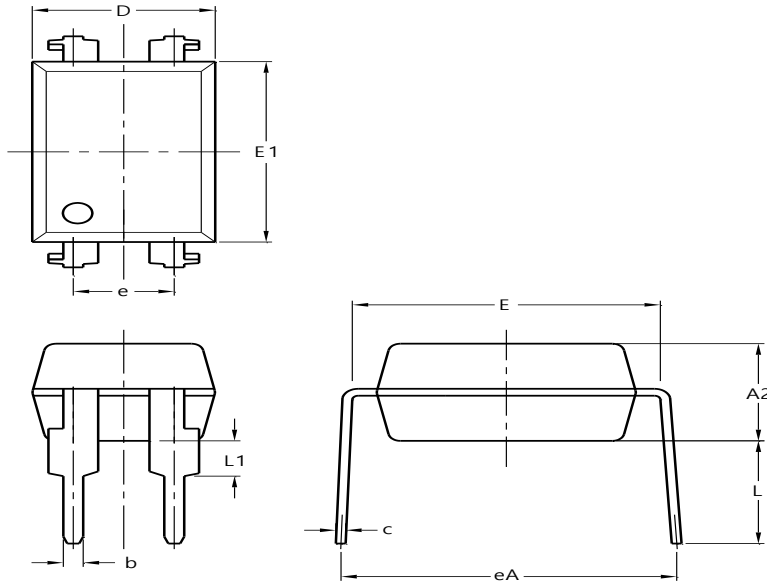


Fig.8 Response Time vs. Load Resistance

**Package Outline Dimensions**

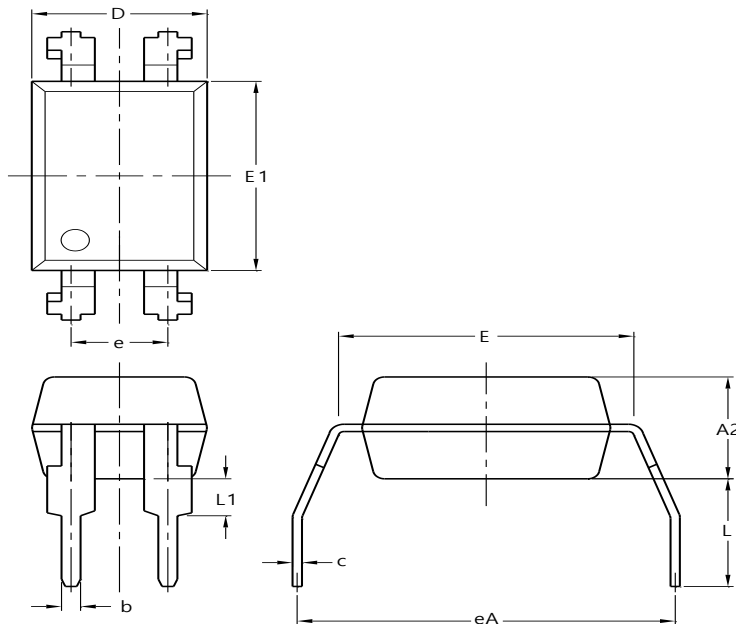
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**DIP-4**



DIP-4			
Dim	Min	Max	Typ
<b>A2</b>	3.20	3.80	3.50
<b>b</b>	0.40	0.60	0.50
<b>c</b>	0.15	0.35	0.25
<b>D</b>	4.30	4.90	4.60
<b>E</b>	7.32	7.92	7.62
<b>E1</b>	6.20	6.80	6.50
<b>eA</b>	8.07	9.07	8.57
<b>e</b>	2.29	2.79	2.54
<b>L</b>	3.40	4.00	3.70
<b>L1</b>	0.67	1.27	0.97
<b>All Dimensions in mm</b>			

**MDIP-4**

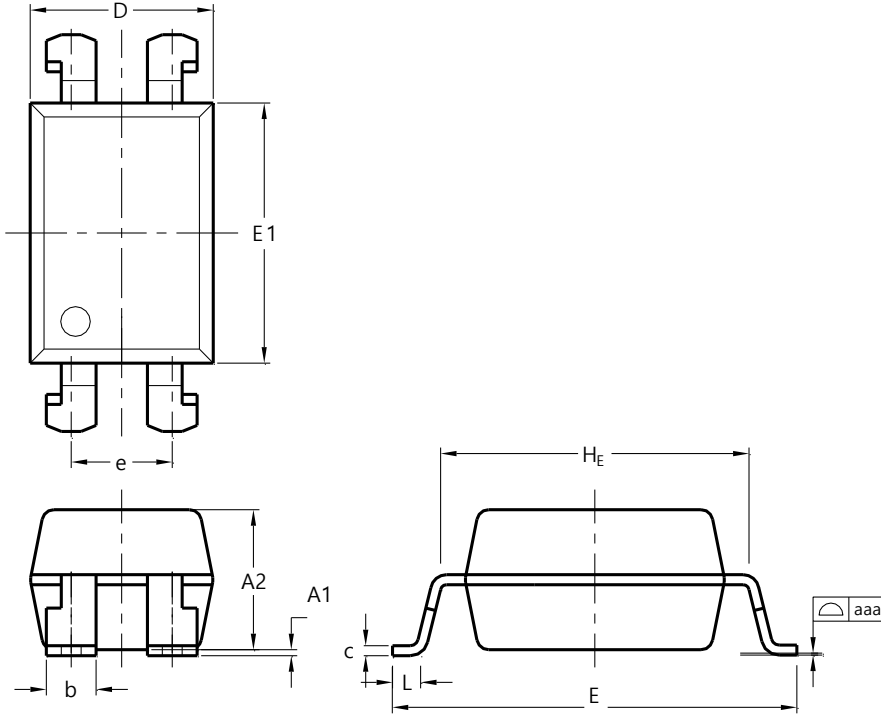


MDIP-4			
Dim	Min	Max	Typ
<b>A2</b>	3.20	3.80	3.50
<b>b</b>	0.40	0.60	0.50
<b>c</b>	0.15	0.35	0.25
<b>D</b>	4.30	4.90	4.60
<b>E</b>	7.32	7.92	7.62
<b>E1</b>	6.20	6.80	6.50
<b>eA</b>	9.66	10.66	10.16
<b>e</b>	2.29	2.79	2.54
<b>L</b>	3.40	4.00	3.70
<b>L1</b>	0.67	1.27	0.97
<b>All Dimensions in mm</b>			

**Package Outline Dimensions** (continued)

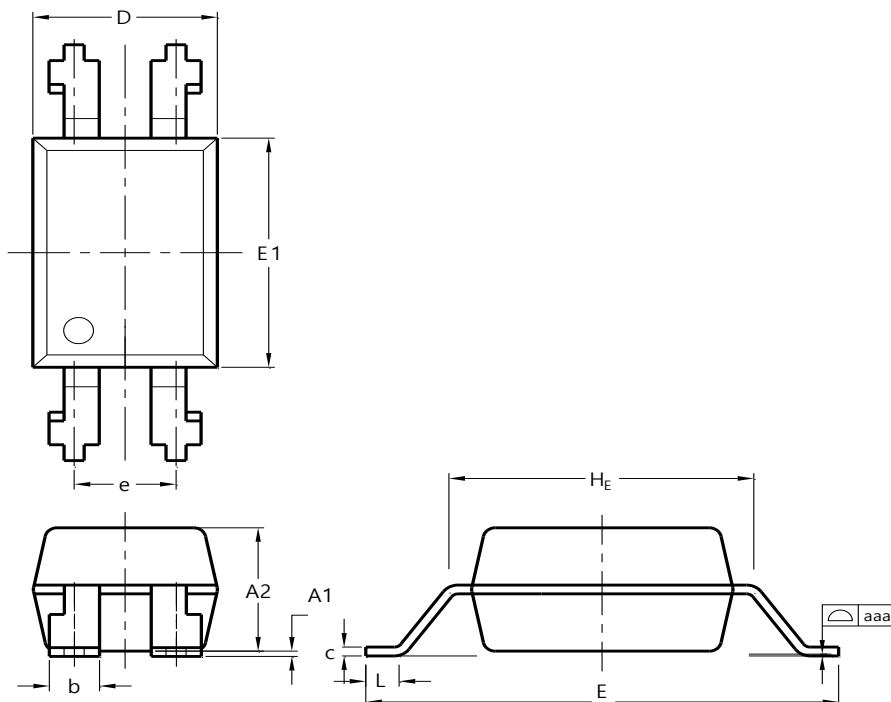
Please see <http://www.diodes.com/package-outlines.html> for the latest version.

**SL-4**



SL-4			
Dim	Min	Max	Typ
A1	0.00	0.30	0.15
A2	3.20	3.80	3.50
b	1.15	1.35	1.25
c	0.15	0.35	0.25
D	4.30	4.90	4.60
E	9.86	10.46	10.16
E1	6.20	6.80	6.50
e	2.29	2.79	2.54
H <sub>E</sub>	7.32	7.92	7.62
L	0.60	--	--
aaa	--	0.10	--
All Dimensions in mm			

**SLM-4**

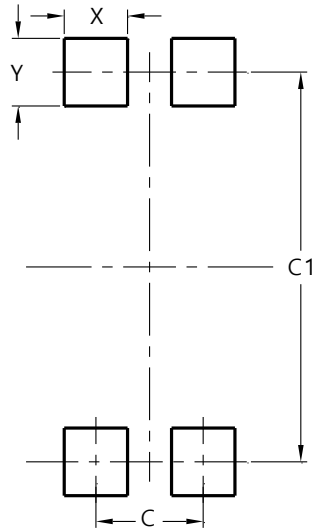


SLM-4			
Dim	Min	Max	Typ
A1	0.00	0.30	0.15
A2	3.20	3.80	3.50
b	1.15	1.35	1.25
c	0.15	0.35	0.25
D	4.30	4.90	4.60
E	11.50	12.10	11.88
E1	6.20	6.80	6.50
e	2.29	2.79	2.54
H <sub>E</sub>	7.32	7.92	7.62
L	0.60	--	--
aaa	--	0.10	--
All Dimensions in mm			

**Suggested Pad Layout**

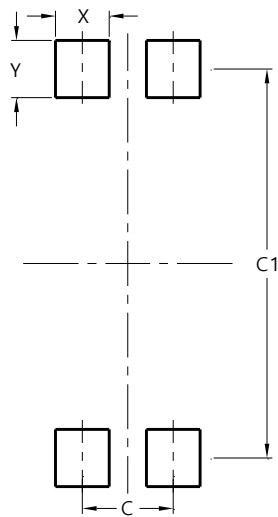
Please see <http://www.diodes.com/package-outlines.html> for the latest version.

**SL-4**



Dimensions	Value (in mm)
<b>C</b>	2.54
<b>C1</b>	9.22
<b>X</b>	1.50
<b>Y</b>	1.60

**SLM-4**



Dimensions	Value (in mm)
<b>C</b>	2.54
<b>C1</b>	10.86
<b>X</b>	1.50
<b>Y</b>	1.60

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