

Ordering Information

Device	Package Options		
	TO-252 (D-PAK)	TO-92	TO-243AA (SOT-89)
CL1	CL1K4-G	CL1N3-G	CL1N8-G

-G indicates package is RoHS compliant ('Green')



Absolute Maximum Ratings

Parameter	Value
Operating voltage, V_{A-B}	100V
Operating junction temperature, T_J	0°C to +125°C
Storage temperature, T_S	-55°C to +150°C

Absolute Maximum Ratings are those values beyond which damage to the device may occur. Functional operation under these conditions is not implied. Continuous operation of the device at the absolute rating level may affect device reliability. All voltages are referenced to device ground.

Thermal Characteristics

Package	Power Dissipation @ $T_A = 25^\circ\text{C}$ (w)	θ_{JC} (°C/W)	θ_{JA} (°C/W)
TO-252	2.0*	6.0	50*
TO-92	0.73	125	170
TO-243AA	1.3*	15	78*

* Mounted on FR4 board; 25mm x 25mm x 1.57mm

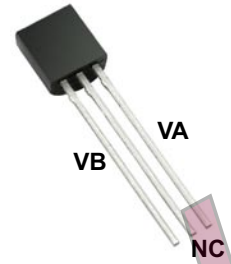
Electrical Characteristics ($T_A = 25^\circ\text{C}$ unless otherwise specified)

Sym	Parameter	Min	Typ	Max	Units	Conditions
V_{A-B}	Maximum operating voltage	-	-	90	V	---
I_{A-B}	Current regulation	17.1	18.0	18.9	mA	$V_{A-B} = 5.0\text{V}$
		19.0	20.0	21.0		$V_{A-B} = 45\text{V}$
		19.0	22.0	24.2		$V_{A-B} = 90\text{V}$
$\Delta I_{A-B}/\Delta T$	I_{A-B} temperature coefficient	-	-8.5	-	$\mu\text{A}/^\circ\text{C}$	$V_{A-B} = 45\text{V}$, $T_J = 0^\circ\text{C}$ to 100°C
T_J	Operating junction temperature	-40	-	125	$^\circ\text{C}$	---
R_{A-B}	AC resistance	-	17	-	k Ω	$V_{A-B} = 5.0\text{V}$ to 90V

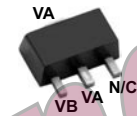
Pin Configurations



TO-252 (D-PAK) (K4)



TO-92 (N3)



TO-243AA (SOT-89) (N8)

Product Marking

Si YYWW
CL1K4
LLLLLLL

YY = Year Sealed
WW = Week Sealed
L = Lot Number
_____ = "Green" Packaging

TO-252 (D-PAK) (K4)

SiCL
1
YYWW

YY = Year Sealed
WW = Week Sealed
_____ = "Green" Packaging

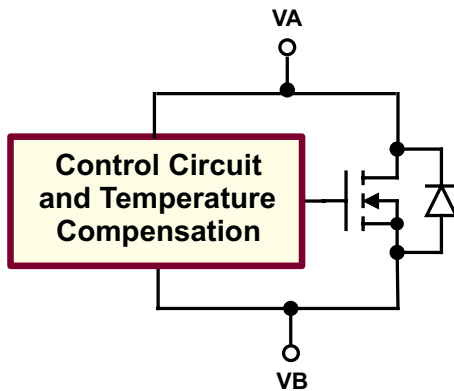
TO-92 (N3)

CL1W

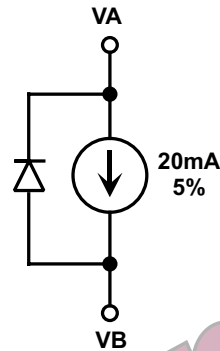
W = Code for week sealed
_____ = "Green" Packaging

TO-243AA (SOT-89) (N8)

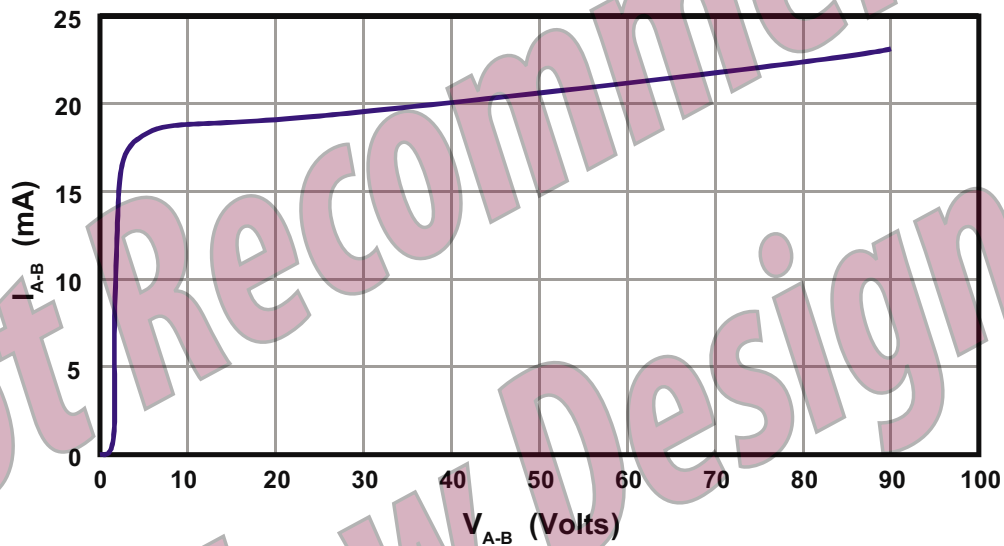
Functional Block Diagram



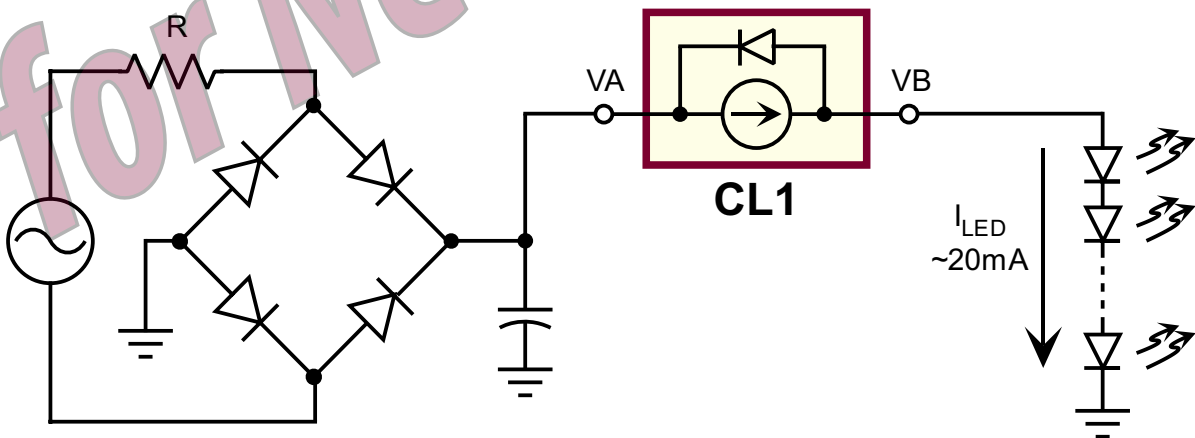
Equivalent Block Diagram



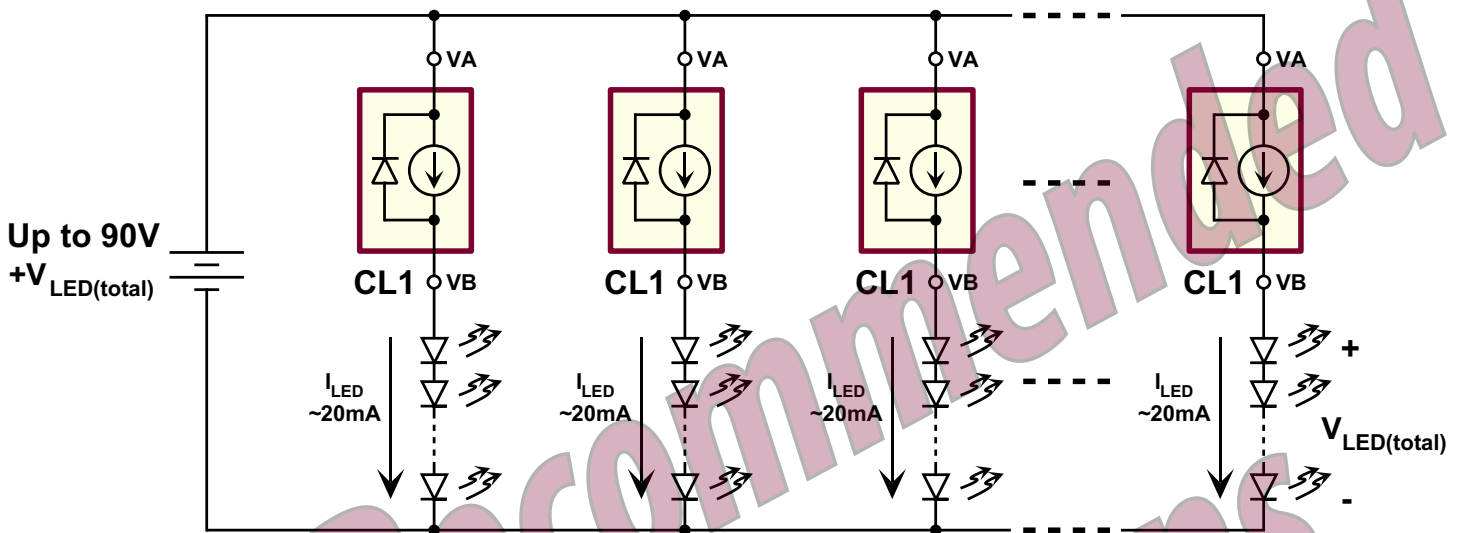
Output Current vs Voltage



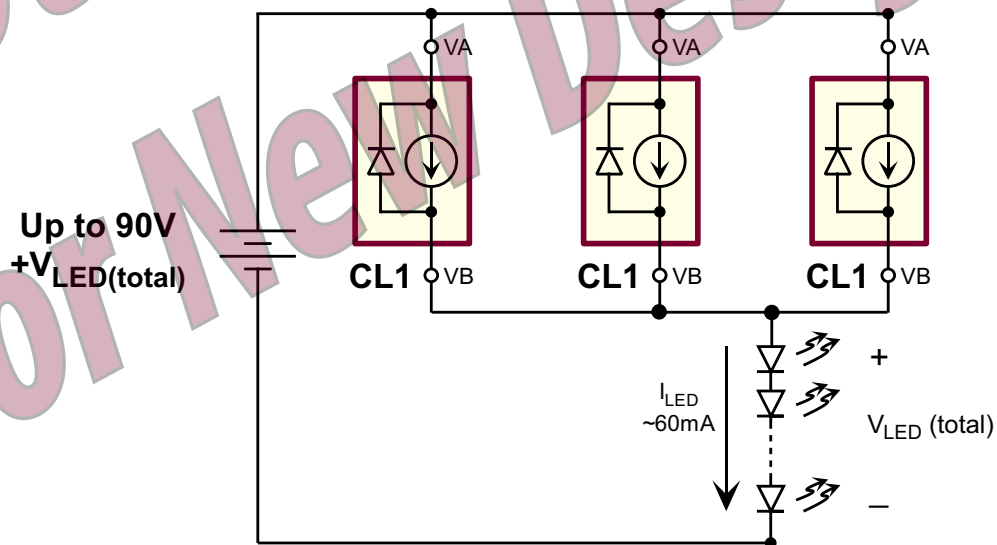
CL1 for 120V Off-Line LED Driver



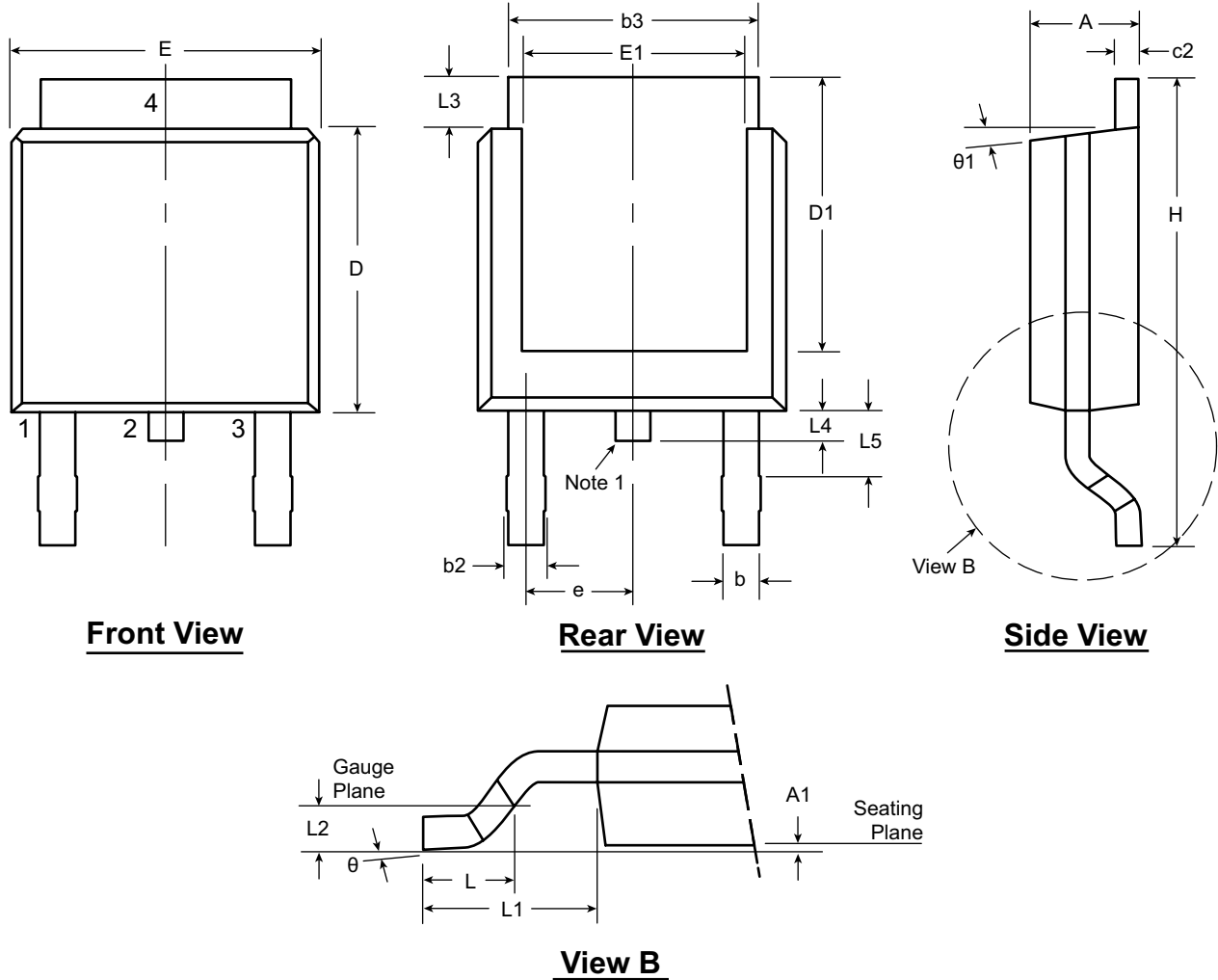
CL1 for Multiple LED Strings



CL1 for 120V Off-Line LED Driver



3-Lead TO-252 D-PAK Package Outline (K4)



Note:

1. Although 4 terminal locations are shown, only 3 are functional. Lead number 2 was removed.

Symbol		A	A1	b	b2	b3	c2	D	D1	E	E1	e	H	L	L1	L2	L3	L4	L5	θ	θ1
Dimension (inches)	MIN	.086	.000*	.025	.030	.195	.018	.235	.205	.250	.170	.090 BSC	.370	.055	.108 REF	.020 BSC	.035	.025*	.045	0°	0°
	NOM	-	-	-	-	-	-	.240	-	-	-		-	.060			-	-	-	-	-
	MAX	.094	.005	.035	.045	.215	.035	.245	.217*	.265	.182*		.410	.070			.050	.040	.060	10°	15°

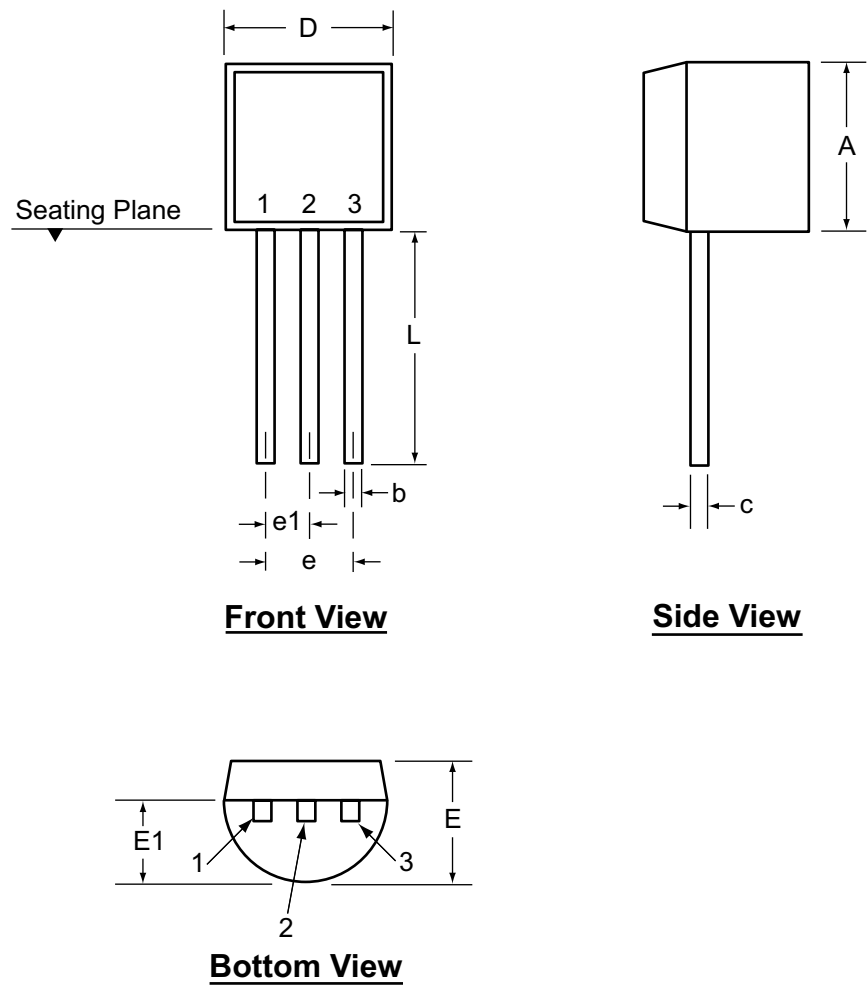
JEDEC Registration TO-252, Variation AA, Issue E, June 2004.

* This dimension is not specified in the JEDEC drawing.

Drawings not to scale.

Supertex Doc. #: DSPD-3TO252K4, Version E041309.

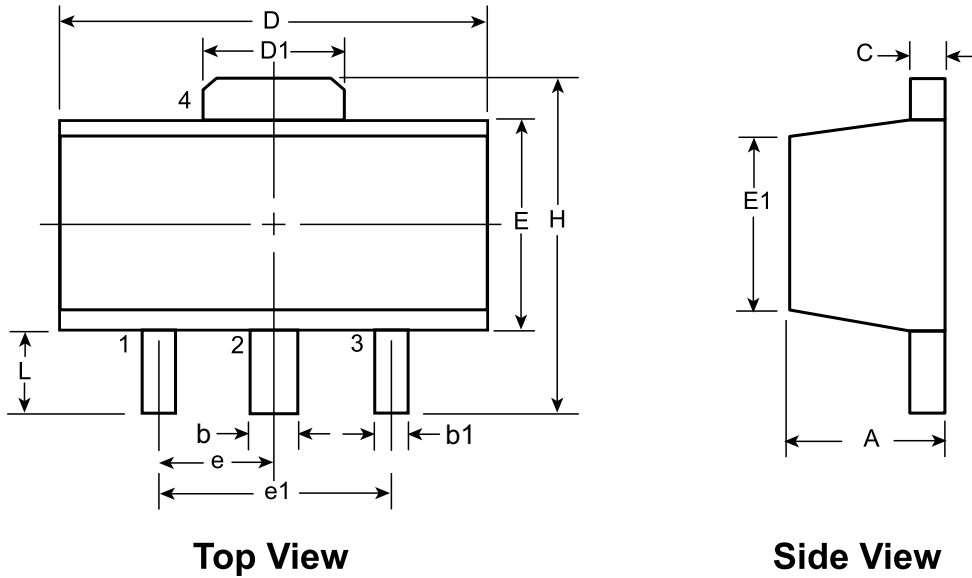
3-Lead TO-92 Package Outline (N3)



Symbol		A	b	c	D	E	E1	e	e1	L
Dimensions (inches)	MIN	.170	.014 [†]	.014 [†]	.175	.125	.080	.095	.045	.500
	NOM	-	-	-	-	-	-	-	-	-
	MAX	.210	.022 [†]	.022 [†]	.205	.165	.105	.105	.055	.610*

JEDEC Registration TO-92.
 * This dimension is not specified in the JEDEC drawing.
 † This dimension differs from the JEDEC drawing.
Drawings not to scale.
Supertex Doc.#: DSPD-3TO92N3, Version E041009.

3-Lead TO-243AA (SOT-89) Package Outline (N8)



Symbol		A	b	b1	C	D	D1	E	E1	e	e1	H	L
Dimensions (mm)	MIN	1.40	0.44	0.36	0.35	4.40	1.62	2.29	2.00 [†]	1.50 BSC	3.00 BSC	3.94	0.89
	NOM	-	-	-	-	-	-	-	-			-	-
	MAX	1.60	0.56	0.48	0.44	4.60	1.83	2.60	2.29			4.25	1.20

JEDEC Registration TO-243, Variation AA, Issue C, July 1986.

[†] This dimension differs from the JEDEC drawing

Drawings not to scale.

Supertex Doc. #: DSPD-3TO243AAN8, Version E051509.

(The package drawings in this data sheet may not reflect the most current specifications. For the latest package outline information go to <http://www.supertex.com/packaging.html>.)

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