



Product Specification

XBLW TL062

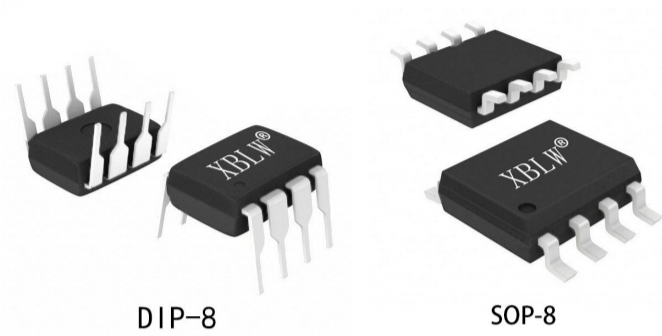
Low Power JFET Dual Operational Amplifiers

WEB | www.xinboleic.com



Descriptions

Consisted of high voltage J-FET and bipolar transistors, the TL062 is a high speed J-FET dual- channel operational amplifier, featured with high slew rate, low input offset and bias current and low offset voltage temperature rate. The TL062 provides DIP8 and SOP8 package forms.



Feature

- Lower Power Consumption
- Wide Common-Mode And Differential Voltage Ranges
- Low Input Bias And Offset Currents
- Output Short-Circuit Protection
- High Input Impedance
- High Slew Rate
- High Gain-Bandwidth up to 4MHz

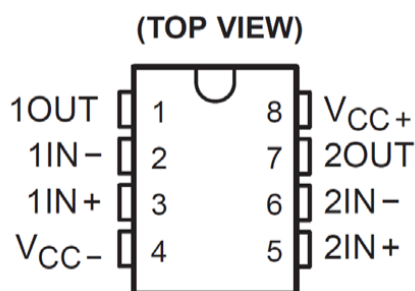
Applications

- Battery test equipment
- Pro audio mixers
- Single phase online UPS
- Solar energy: string and central inverter
- Three phase UPS
- Motor drives: AC and servo drive control and power stage modules

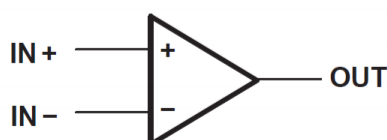
Ordering Information

Product Model	Package Type	Marking	Packing	Packing Qty
XBLW TL062CN	DIP-8	TL062CN	Tube	2000pcs/Box
XBLW TL062CDTR	SOP-8	TL062C	Tape	2500pcs/Reel

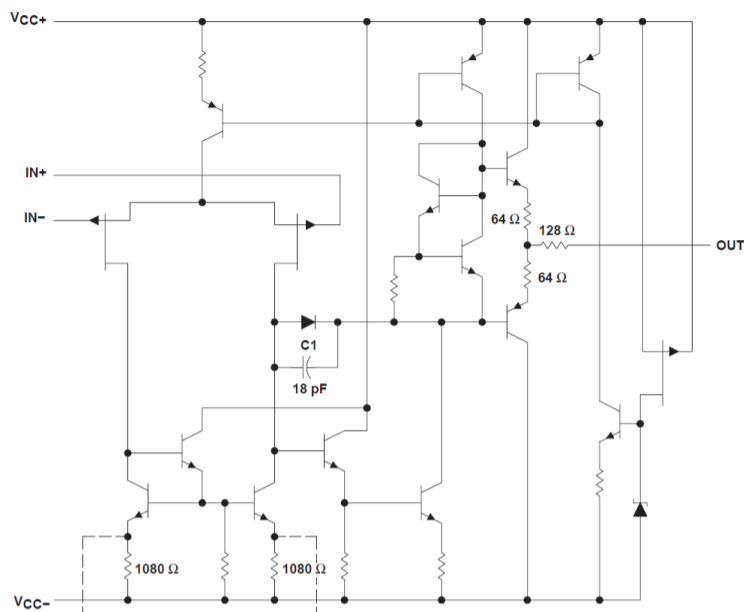
Pins Diagram



Symbol



INTERNAL DIAGRAM



Absolute Maximum Ratings

Symbol	Description	Parameter	Unit
V_{CC}	Supply Voltage	± 18	V
V_i	Input Voltage	± 14	V
V_{id}	Differential Input Voltage	± 28	V
T_{oper}	Operating Temperature Range	0~70	°C
T_{stg}	Storage Temperature Range	-65~+150	°C

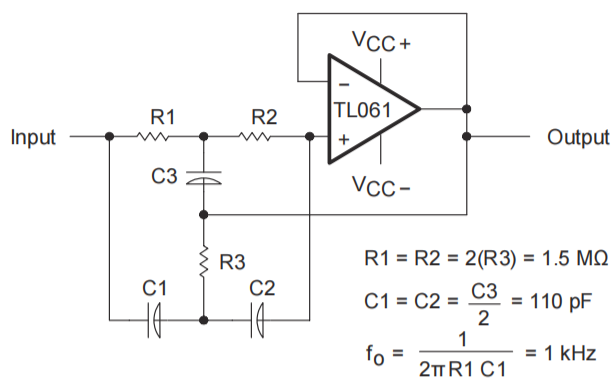
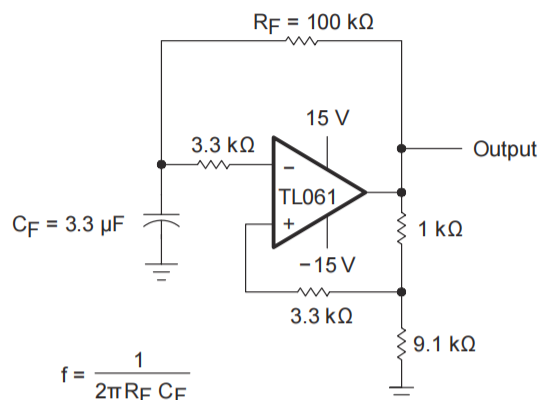
Electrical Parameter Characteristics

($V_{CC}=\pm 15$, $T_{amp}=25^\circ\text{C}$, Unless otherwise specified)

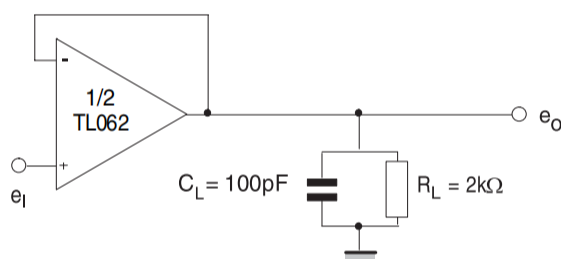
Symbol	Parameter Name	Test Conditions	Parameter			Unit
			Min.	Typ.	Max.	
V_{IO}	Input Offset Voltage	$V_o=0V$		3	15	mV
I_{IO}	Input Offset Current	$V_o=0V$			1.5	pA
I_{ib}	Input Bias Current	$V_o=0V$			2.5	nA
V_{icr}	Input Common Mode Voltage Range		-12	± 11	15	V
V_{OM}	Maximum Peak Output Voltage Swing	$R_L = 10\text{ k}\Omega$ $R_L \geq 2\text{ k}\Omega$	± 12 ± 10	± 13.5 ± 12.5		V
A_{VD}	Large-signal differential voltage amplification	$R_L \geq 2\text{ k}\Omega$, $V_o = \pm 10\text{ V}$	80	95		dB
GB	Gain Bandwidth			3		MHz
CMRR	Common Mode Rejection Ratio		70	85		dB
kSVR	Supply Voltage Rejection Ratio	$V_{CC} = \pm 15\text{ V to } \pm 9\text{ V}$, $V_o=0V$	70	86		dB
I_{CC}	Static Supply Current (eachmplifier)			1.4	2.8	mA
SR	Slew Rate	$V_i = 10\text{ V}$	8	13		V/us
t_R	Rise time			0.05		us

Typical Application (Including One Amplifier)

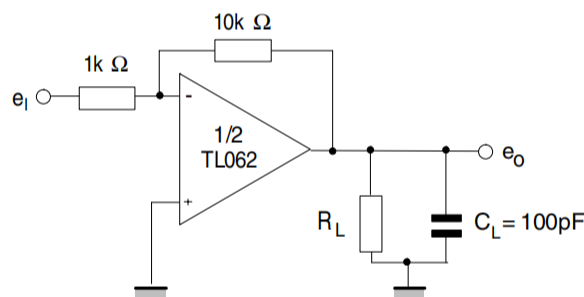
Typical lines



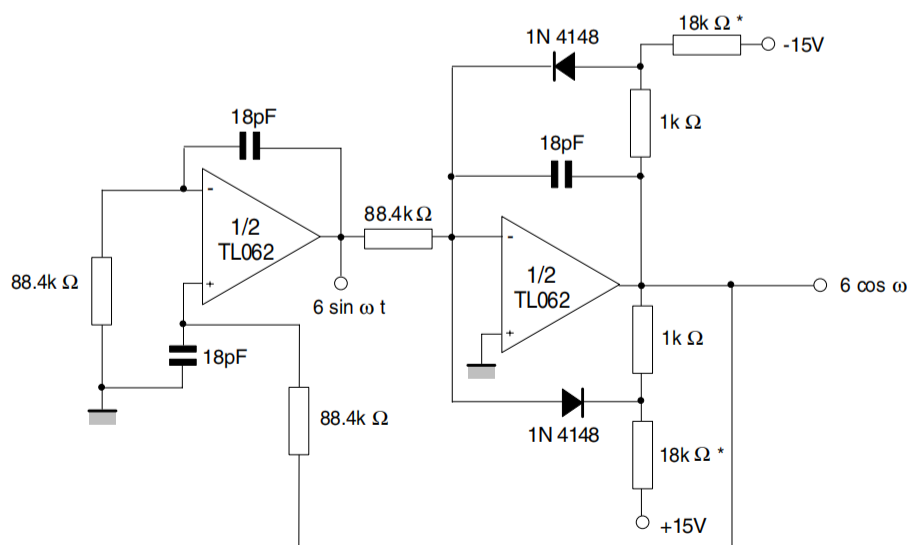
0.5-Hz Square-Wave Oscillator



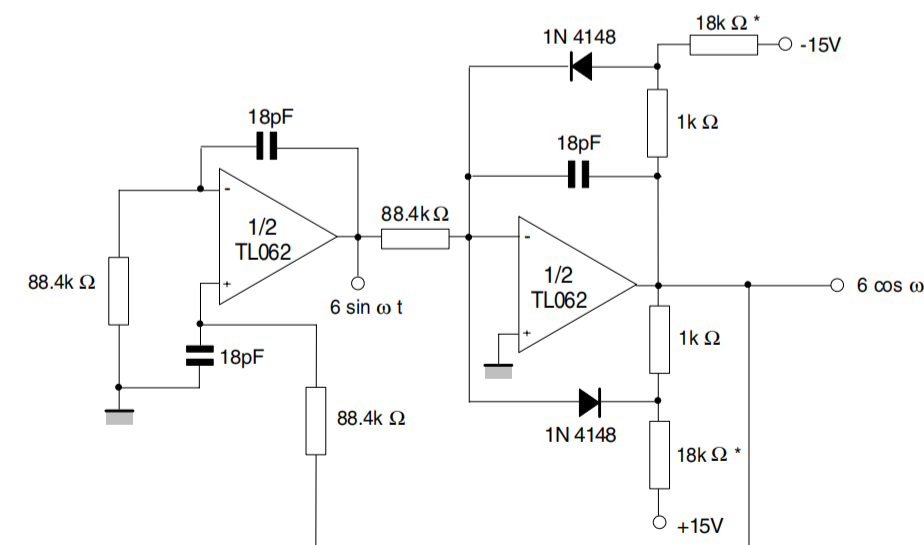
High-Q Notch Filter



Voltage follower

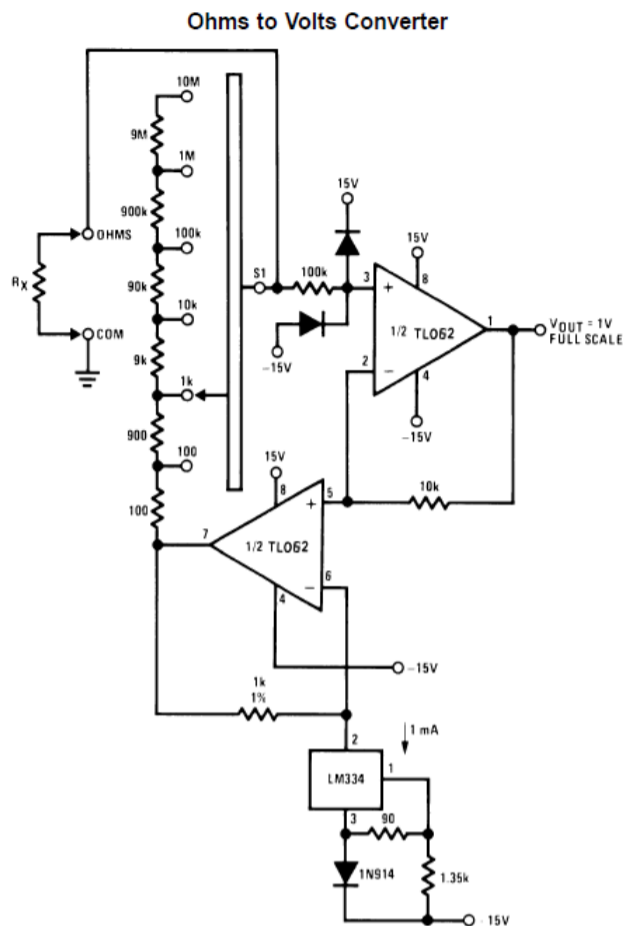


Gain-of-10 inverting amplifier



* These resistor values may be adjusted for a symmetrical output

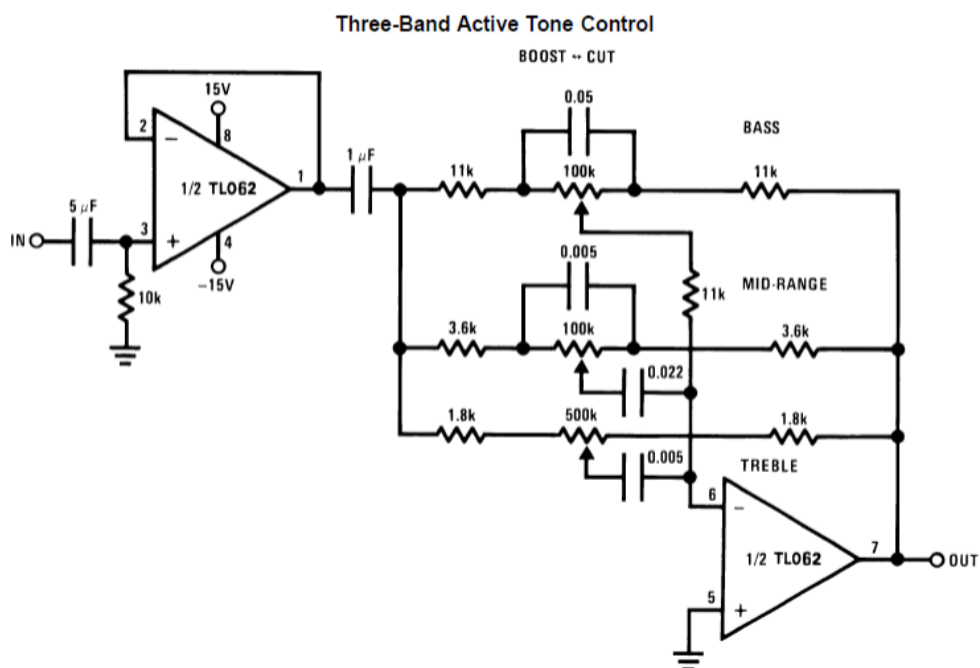
100kHz quadruple oscillator



$$V_O = \frac{1V}{R_{LADDER}} \times R_X$$

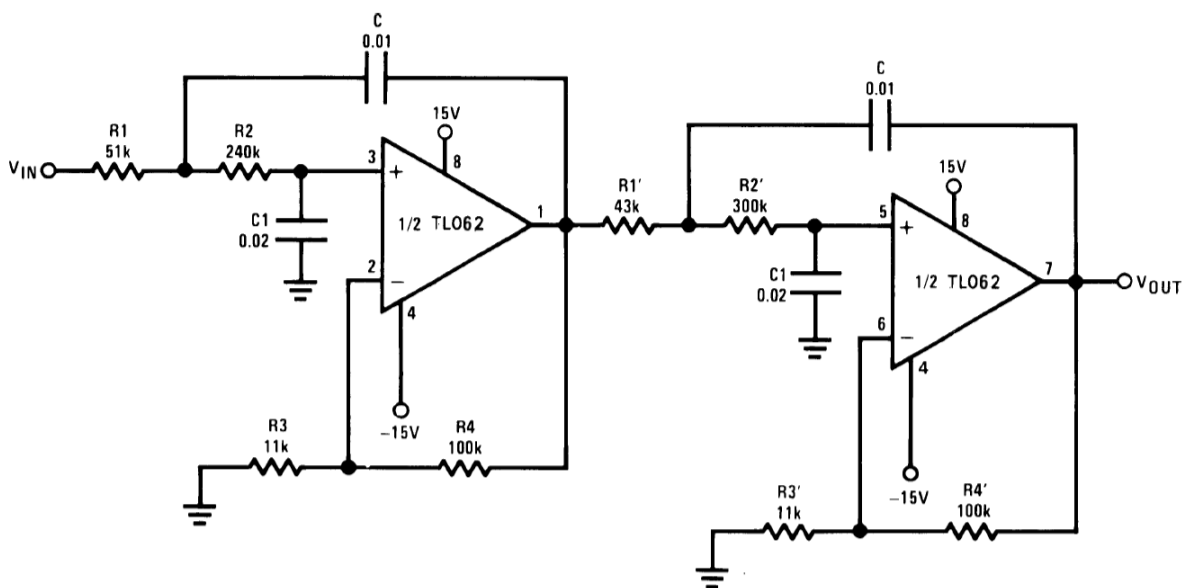
Where R_{LADDER} is the resistance from switch S1 pole to pin 7 of the TL062CN

Resistance-to-Voltage Conversion



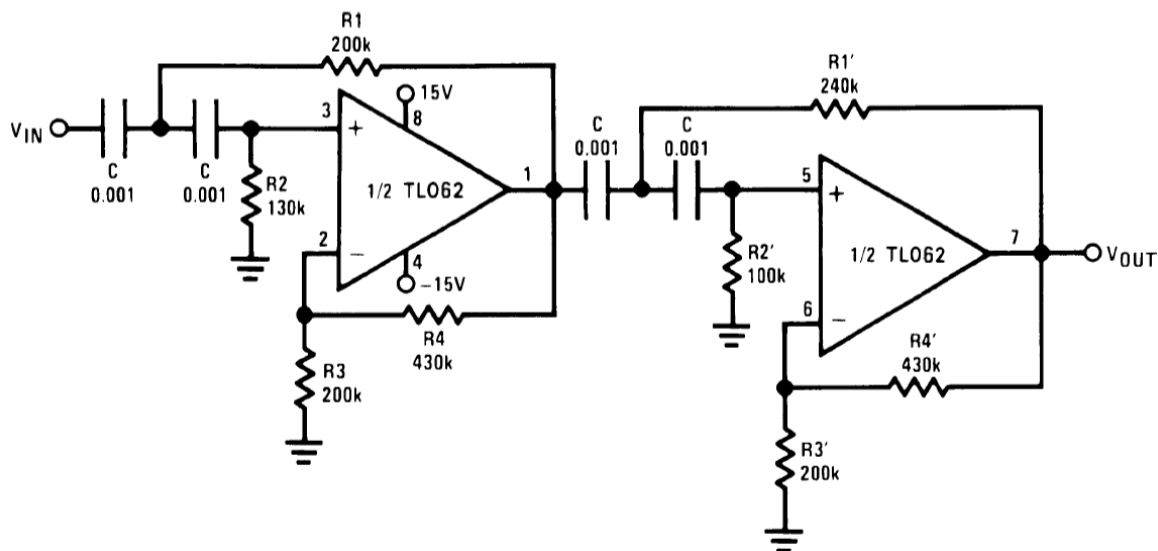
Three-Band Active Tone Control

Fourth Order Low Pass Butterworth Filter



Fourth-order Low Pass Butterworth Filter

Fourth Order High Pass Butterworth Filter



- Corner frequency (f_c) = $\sqrt{\frac{1}{R_1 R_2 C^2}} \cdot \frac{1}{2\pi} = \sqrt{\frac{1}{R_1' R_2' C^2}} \cdot \frac{1}{2\pi}$

- Passband gain (H_0) = $(1 + R_4/R_3) (1 + R_4'/R_3')$

- First stage $Q = 1.31$

- Second stage $Q = 0.541$

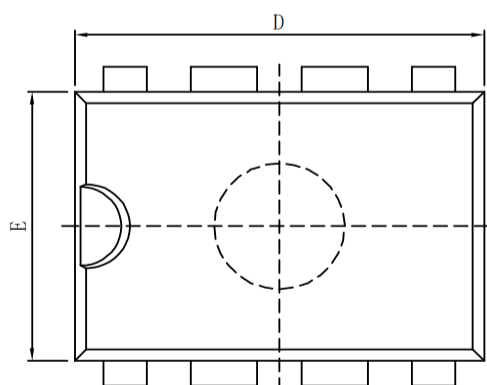
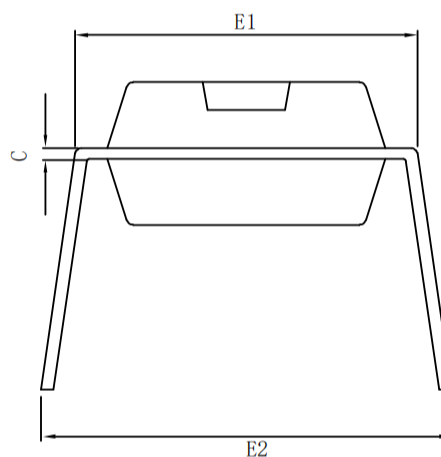
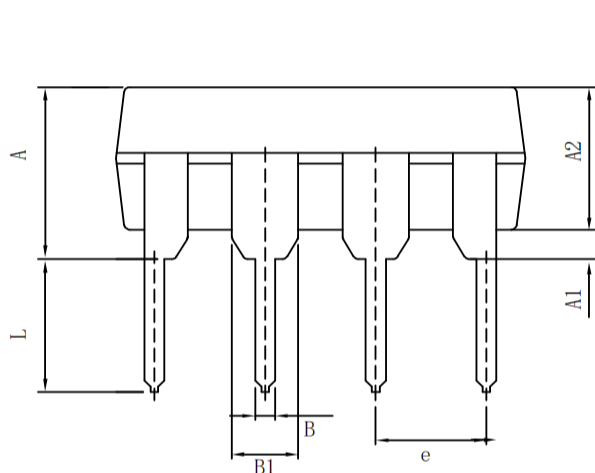
- Circuit shown uses closest 5% tolerance resistor values for a filter with a corner frequency of 1 kHz and a passband gain of 10

Fourth Order High Pass Butterworth Filter

Package Information

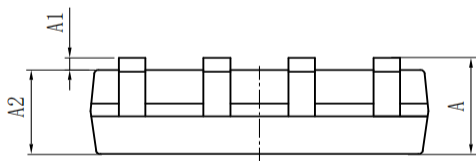
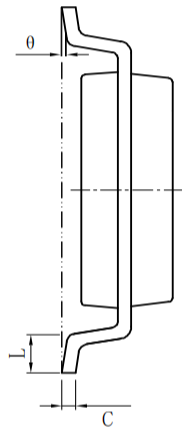
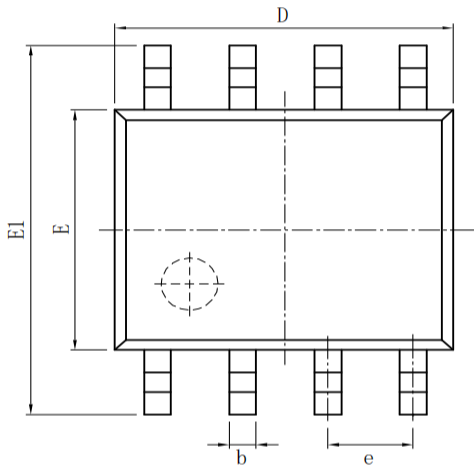
• DIP-8

Symbol	Size	Dimensions In Millimeters		Symbol	Size	Dimensions In Inches	
		Min (mm)	Max (mm)			Min (in)	Max (in)
A		3.710	4.310	A		0.146	0.170
A1		0.510		A1		0.020	
A2		3.200	3.600	A2		0.126	0.142
B		0.380	0.570	B		0.015	0.022
B1		1.524 (BSC)		B1		0.060 (BSC)	
C		0.204	0.360	C		0.008	0.014
D		9.000	9.400	D		0.354	0.370
E		6.200	6.600	E		0.244	0.260
E1		7.320	7.920	E1		0.288	0.312
e		2.540 (BSC)		e		0.100 (BSC)	
L		3.000	3.600	L		0.118	0.142
E2		8.400	9.000	E2		0.331	0.354



• SOP-8

Size Symbol	Dimensions In Millimeters		Size Symbol	Dimensions In Inches	
	Min (mm)	Max (mm)		Min (in)	Max (in)
A	1.350	1.750	A	0.053	0.069
A1	0.100	0.250	A1	0.004	0.010
A2	1.350	1.550	A2	0.053	0.061
b	0.330	0.510	b	0.013	0.020
c	0.170	0.250	c	0.006	0.010
D	4.700	5.100	D	0.185	0.200
E	3.800	4.000	E	0.150	0.157
E1	5.800	6.200	E1	0.228	0.224
e	1.270 (BSC)		e	0.050 (BSC)	
L	0.400	1.270	L	0.016	0.050
θ	0°	8°	θ	0°	8°



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