

# ELM45L58xA Bipolar Dual operational amplifier

<https://www.elm-tech.com>

## ■General description

ELM45L58xA is a dual bipolar op-amp using 4558 type circuit structure with improved low voltage operation and low power consumption. 1.0Vp-p output voltage swing is possible at  $\pm 1.5V$  power supply operation. Power current is 1.5mA(typ.). Maximun operating voltage is  $\pm 8V$ . GB product is 3MHz same as typical 4558 op-amp.

ELM45L58 is assembled in SOP-8 and TSOT-28 small packages for small footprint.

## ■Features

- 4558 Compatible operational amplifier
- Low voltage operation : 16V to 3V( $\pm 8V$  to  $\pm 1.5V$ )
- Constant current operation : Typ.1.5mA
- Unity gain bandwidth : Typ.3MHz
- Package : SOP-8, TSOT-28

## ■Application

- Battery-operated portable devices
- Measurement equipment
- Low voltage analog circuit

## ■Maximum absolute ratings

Parameter	Symbol	Limit	Unit
Power supply voltage	Vcc	18	V
Input voltage	Vin	18	V
Differential input voltage	Vid	$\pm 18$	V
Power dissipation	Pd	300	mW
Operation temperature	Top	-40 to +85	°C
Storage temperature	Tstg	-55 to +125	°C

## ■Selection guide

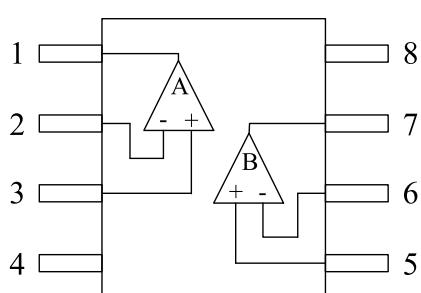
ELM45L58xA-x

Symbol		
a	Package	D : SOP-8 L : TSOT-28
b	Product version	A
c	Taping direction	S : Refer to PKG file N : Refer to PKG file

ELM45L58 x A - x  
↑ ↑ ↑  
a b c

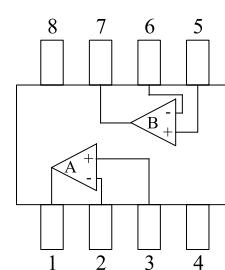
## ■Pin configuration

SOP-8(TOP VIEW)



Pin No.	Pin name
1	OUTA
2	IN-A
3	IN+A
4	GND
5	IN+B
6	IN-B
7	OUTB
8	VCC

TSOT-28(TOP VIEW)



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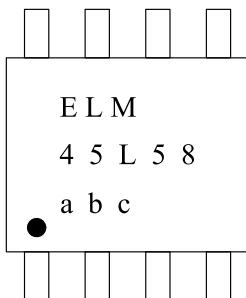
## ■Electrical characteristics

V<sub>CC</sub>=+5V, GND=-5V, Top=25°C

Parameter	Symbol	Condition	Min.	Typ.	Max.	Unit
Input offset voltage	V <sub>IO</sub>	R <sub>S</sub> ≤10kΩ		0.5	5.0	mV
Input offset current	I <sub>IO</sub>			5	100	nA
Input bias current	I <sub>IB</sub>			15	250	nA
Voltage gain	A <sub>V</sub>		80	100		dB
Common-mode input voltage range	V <sub>CMR</sub>		±4			V
Maximum output voltage swing	V <sub>OM</sub>	R <sub>L</sub> ≥10kΩ	±4			V
Current consumption	I <sub>CC</sub>	V <sub>OUT</sub> =0V(No load)		1.5	2.5	mA
Slew rate	SR	R <sub>L</sub> =2kΩ		1		V/μs
Input noise voltage	V <sub>NI</sub>	R <sub>S</sub> =1kΩ, f=30Hz to 30kHz		1.4		μVRms
Unity gain bandwidth	GBW			3		MHz

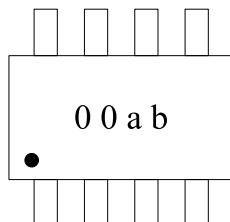
## ■Marking

SOP-8



Parameter	Mark	Content
a	End number of the Anno Domini	Year code
b	A: Jan ..... H: Aug J: Sep ..... M: Dec	Month
c	0 to 9	Lot No.

TSOT-28



Parameter	Mark	Content
a, b	0 to 9 & A to Z (I, O, X excepted)	Lot No.

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## ■Typical characteristics

