

ELM45L58xA Bipolar Dual operational amplifier

<http://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.). Maximum 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	± 18	V
Power dissipation	Pd	300	mW
Operation temperature	Top	-40 to +85	$^{\circ}C$
Storage temperature	Tstg	-55 to +125	$^{\circ}C$

■ Selection guide

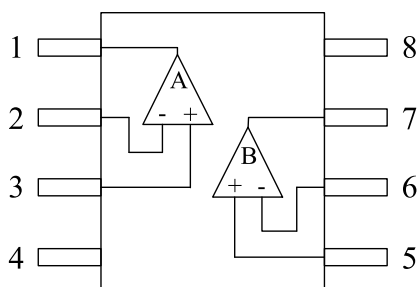
ELM45L58xA-x

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
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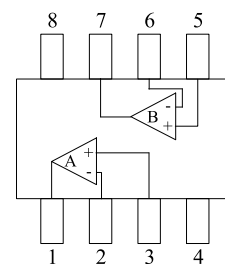
■ Pin configuration

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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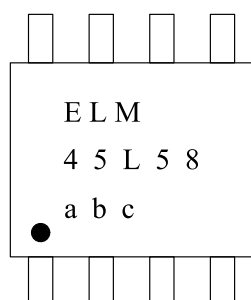
■Electrical characteristics

$V_{cc}=+5V$, $GND=-5V$, $T_{op}=25^{\circ}C$

Parameter	Symbol	Condition	Min.	Typ.	Max.	Unit
Input offset voltage	V_{io}	$R_S \leq 10k\Omega$		0.5	5.0	mV
Input offset current	I_{io}			5	100	nA
Input bias current	I_{ib}			15	250	nA
Voltage gain	A_v		80	100		dB
Common-mode input voltage range	V_{cmr}		± 4			V
Maximum output voltage swing	V_{om}	$R_L \geq 10k\Omega$	± 4			V
Current consumption	I_{cc}	$V_{out}=0V$ (No load)		1.5	2.5	mA
Slew rate	SR	$R_L=2k\Omega$		1		V/ μs
Input noise voltage	V_{ni}	$R_S=1k\Omega$, $f=30Hz$ to $30kHz$		1.4		μV_{rms}
Unity gain bandwidth	GBW			3		MHz

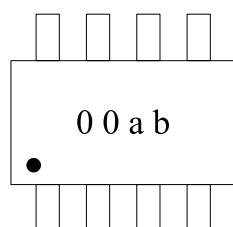
■Marking

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

