

HA17458 Series

Dual Operational Amplifier

REJ03D0680-0100
(Previous: ADE-204-040)
Rev.1.00
Jun 15, 2005

Description

HA17458 is dual operational amplifiers which provides internal phase compensation and high performance. It can be applied widely to measuring control equipment and to general use.

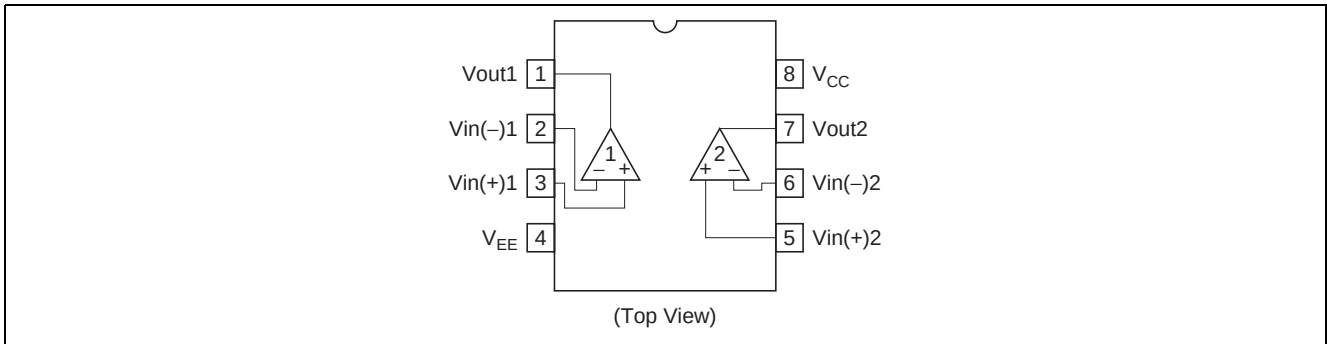
Features

- High voltage gain: 100dB (Typ)
- Wide output amplitude: $\pm 13\text{V}$ (Typ) [at $R_L \geq 2\text{k}\Omega$]
- Protected from output shortcircuit
- Internal phase compensation

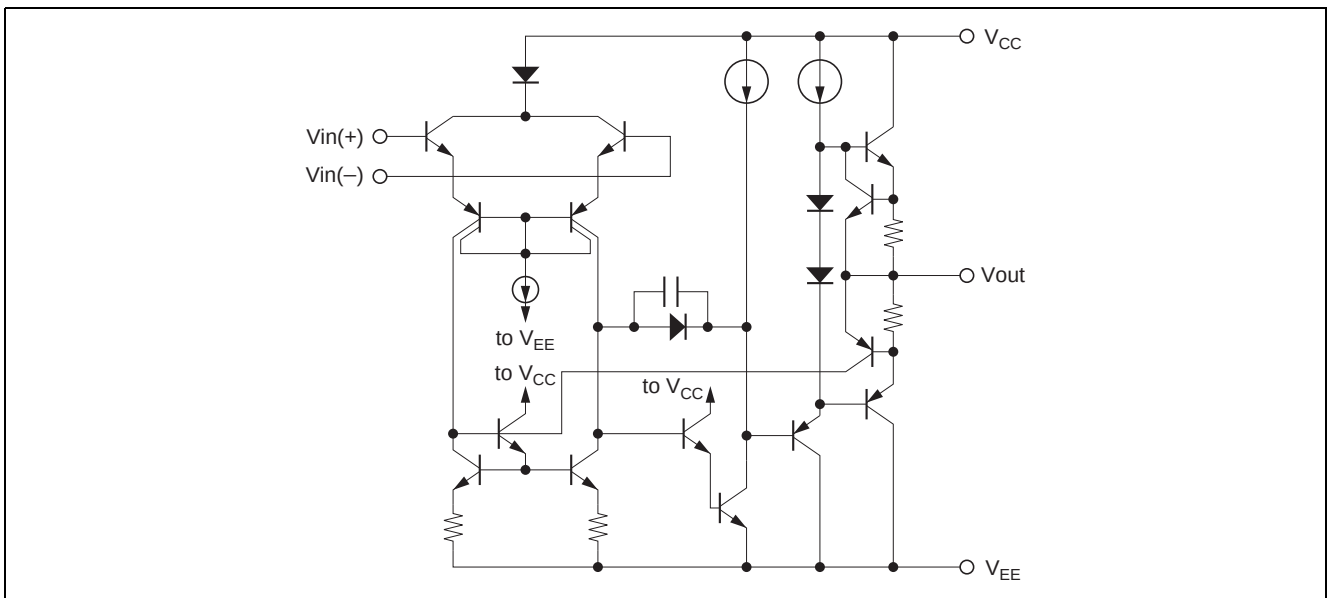
Ordering Information

Type No.	Application	Package Code (Previous Code)
HA17485FP	Industrial use	PRSP0008DE-B (FP-8DGV)
HA17458F	Commercial use	PRSP0008DE-B (FP-8DGV)
HA17458	Commercial use	PRDP0008AF-A (DP-8B)
HA17458PS	Industrial use	PRDP0008AF-A (DP-8B)

Pin Arrangement



Circuit Schematic (1/2)



Absolute Maximum Ratings

(Ta = 25°C)

Item	Symbol	Ratings				Unit
		HA17458	HA17458PS	HA17458F	HA17458FP	
Supply voltage	V _{CC}	+18	+18	+18	+18	V
	V _{EE}	-18	-18	-18	-18	V
Input voltage	V _{IN} * ³	±15	±15	±15	±15	V
Differential input voltage	V _{IN(diff)}	±30	±30	±30	±30	V
Power dissipation	P _T	670* ¹	670* ¹	385* ²	385* ²	mW
Operating temperature	T _{opr}	-20 to +75	-20 to +75	-20 to +75	-20 to +75	°C
Storage temperature	T _{stg}	-55 to +125	-55 to +125	-55 to +125	-55 to +125	°C

Notes: 1. These are the allowable values up to Ta = 45 °C. Derate by 8.3mW/°C above that temperature.

2. These are the allowable values up to Ta = 31 °C mounting on 30% wiring density glass epoxy board. Derate by 7.14mW/°C above that temperature.

3. If the supply voltage is less than ±15V, input voltage should be less than supply voltage.

Electrical Characteristics 1

(V_{CC} = -V_{EE} = 15V, Ta = 25°C)

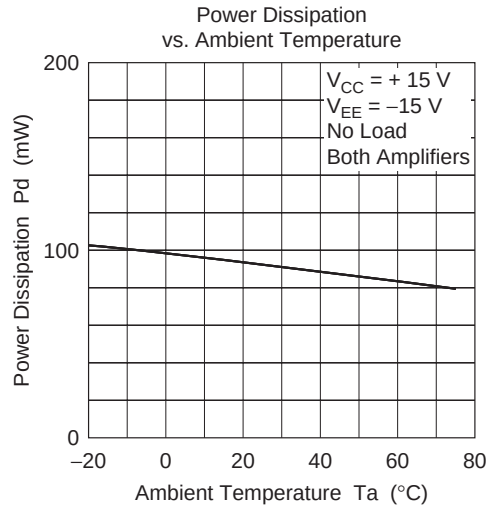
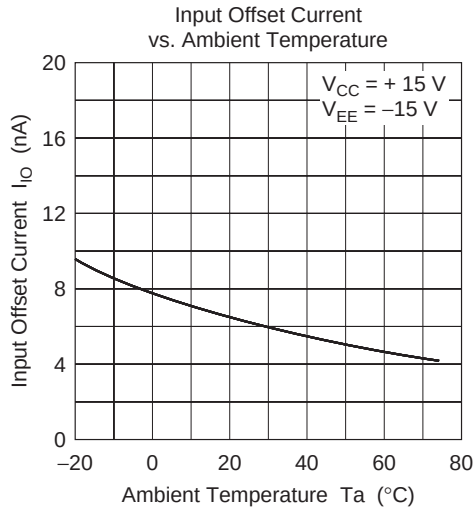
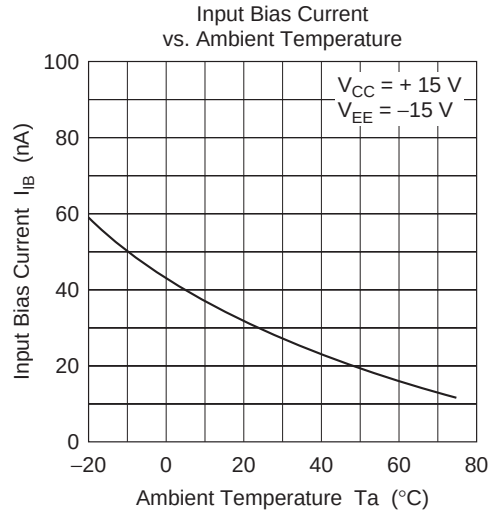
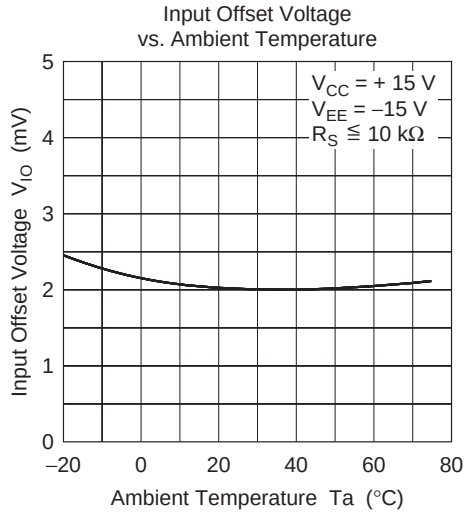
Item	Symbol	Min	Typ	Max	Unit	Test conditions
Input offset voltage	V _{IO}	—	2.0	6.0	mV	R _S ≤ 10kΩ
Input offset current	I _{IO}	—	6	200	nA	
Input bias current	I _{IB}	—	30	500	nA	
Line regulation	ΔV _{IO} /ΔV _{CC}	—	30	150	μV/V	R _S ≤ 10kΩ
	ΔV _{IO} /ΔV _{EE}	—	30	150	μV/V	R _S ≤ 10kΩ
Voltage gain	A _{VD}	86	100	—	dB	R _L ≥ 2kΩ, V _{out} = ±10V
Common mode rejection ratio	CMR	70	90	—	dB	R _S ≤ 10kΩ
Common mode input voltage range	V _{CM}	±12	±13	—	V	
Peak-to-peak output voltage	V _{op-p}	±12	±14	—	V	R _L = 10kΩ
Power dissipation	P _d	—	90	200	mW	No load, 2 channel
Slew rate	SR	—	0.6	—	V/μs	A _{VD} = 1
Input resistance	R _{in}	0.3	1.0	—	MΩ	
Input capacitance	C _{in}	—	6.0	—	pF	
Output resistance	R _{out}	—	75	—	Ω	

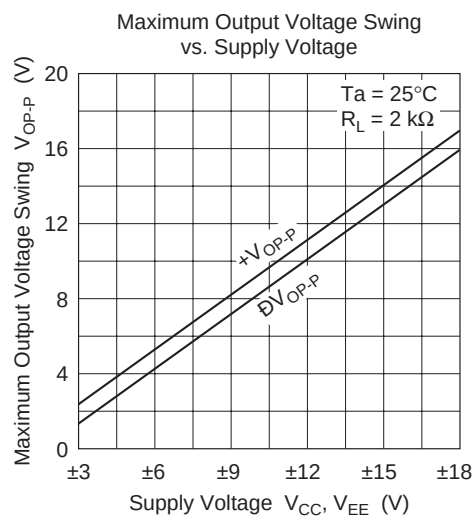
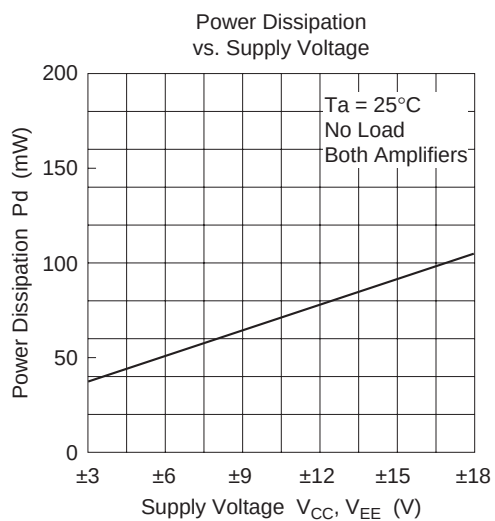
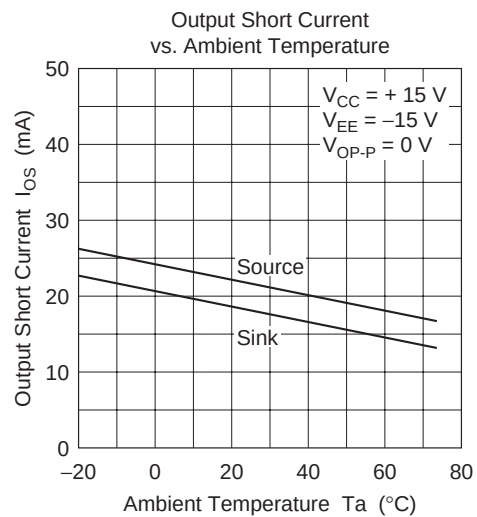
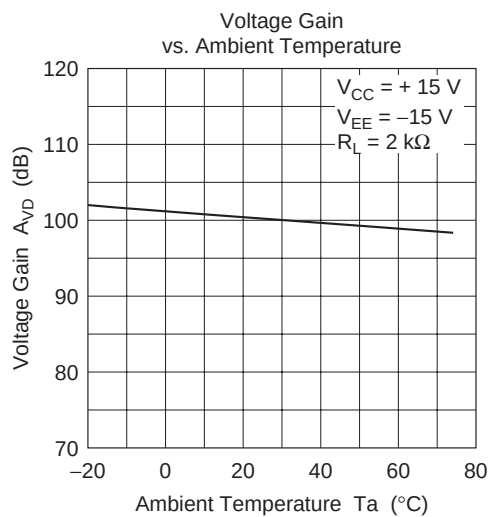
Electrical Characteristics 2

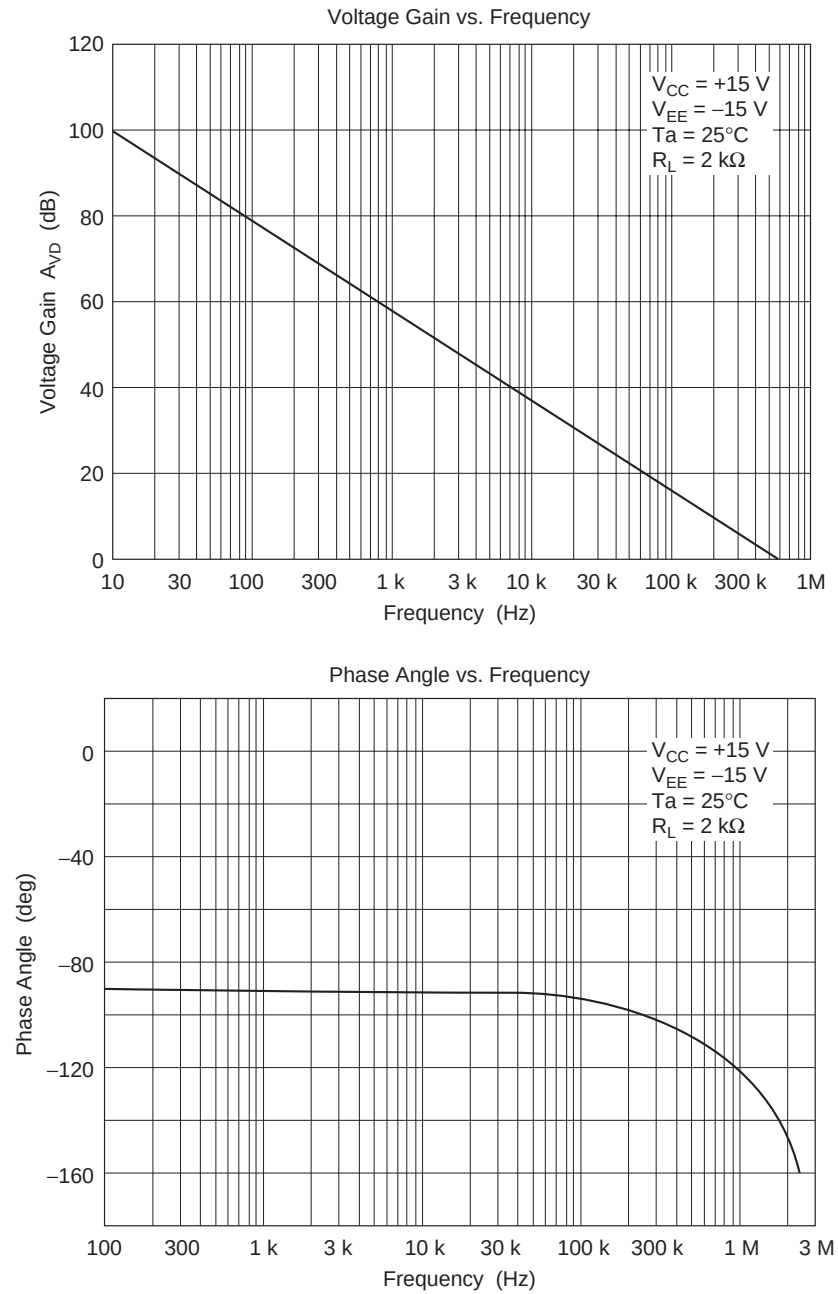
(V_{CC} = -V_{EE} = 15V, Ta = -20 to +75°C)

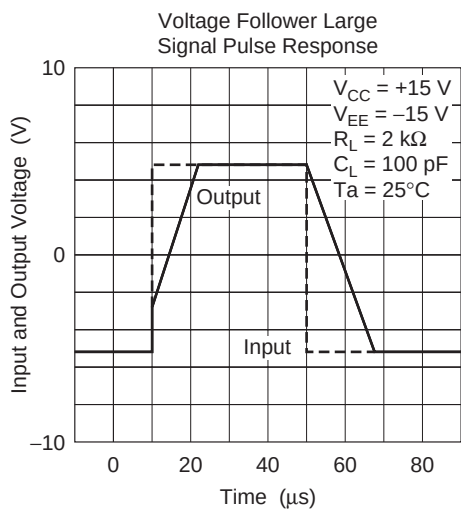
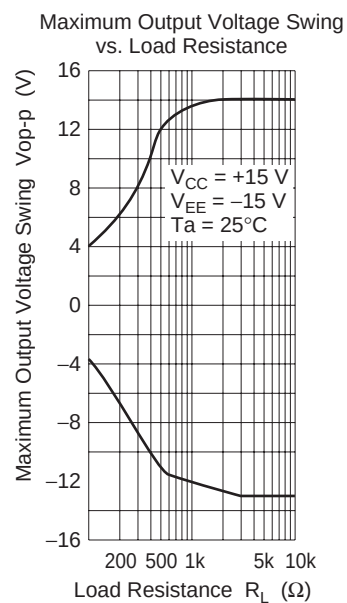
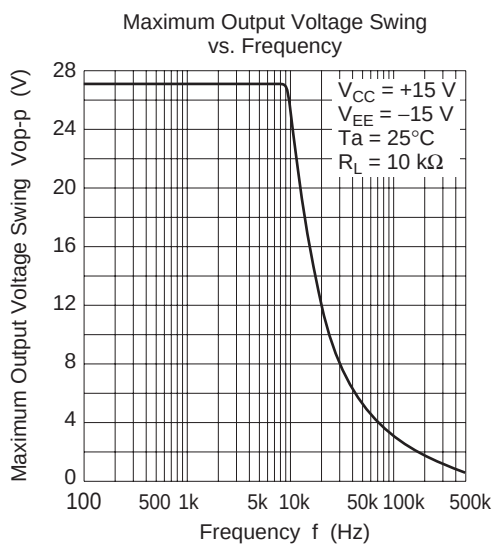
Item	Symbol	Min	Typ	Max	Unit	Test conditions
Input offset voltage	V _{IO}	—	—	9.0	mV	R _S ≤ 10kΩ
Input offset current	I _{IO}	—	—	400	nA	
Input bias current	I _{IB}	—	—	1100	nA	
Voltage gain	A _{VD}	80	—	—	dB	R _L ≥ 2kΩ, V _{out} = ±10V
Peak-to-peak output voltage	V _{op-p}	±10	±13	—	V	R _L = 2kΩ

Characteristic Curves

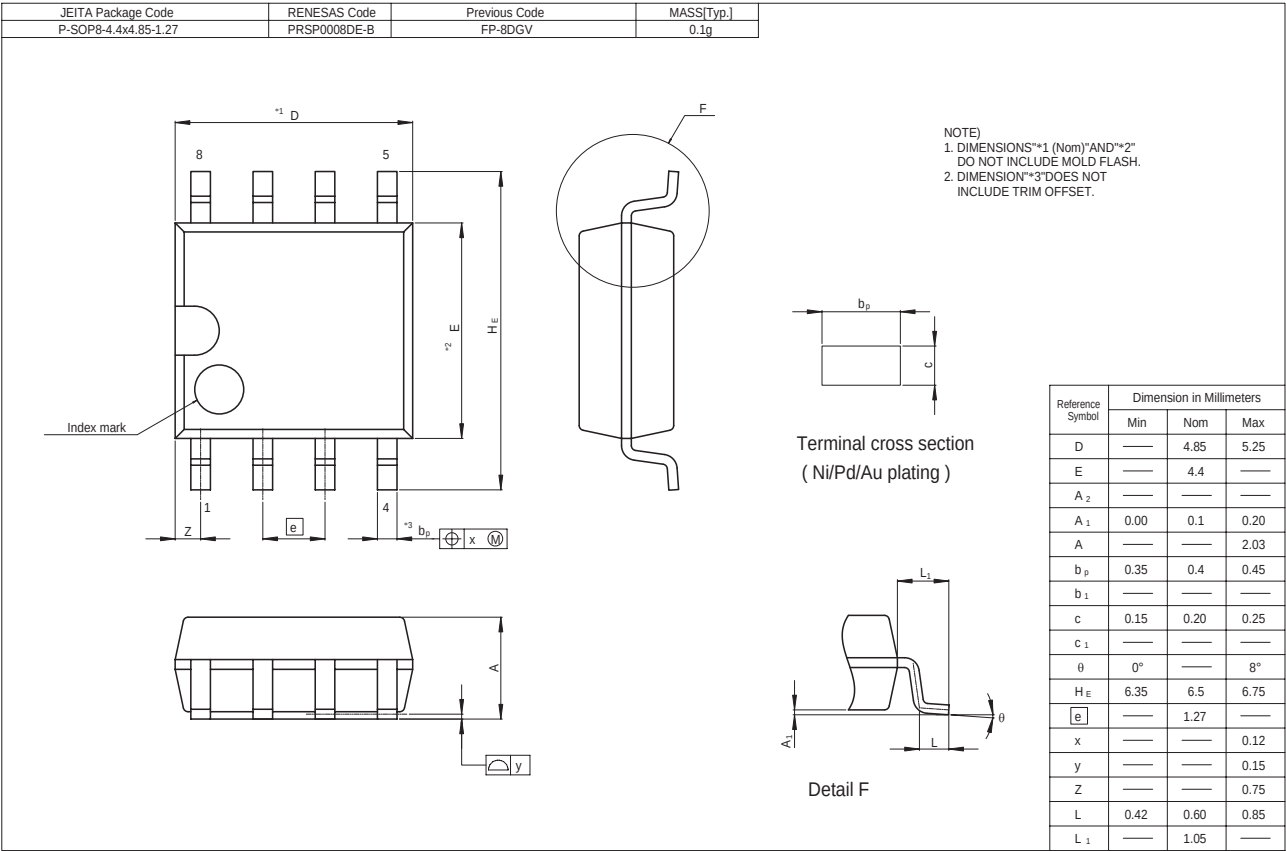
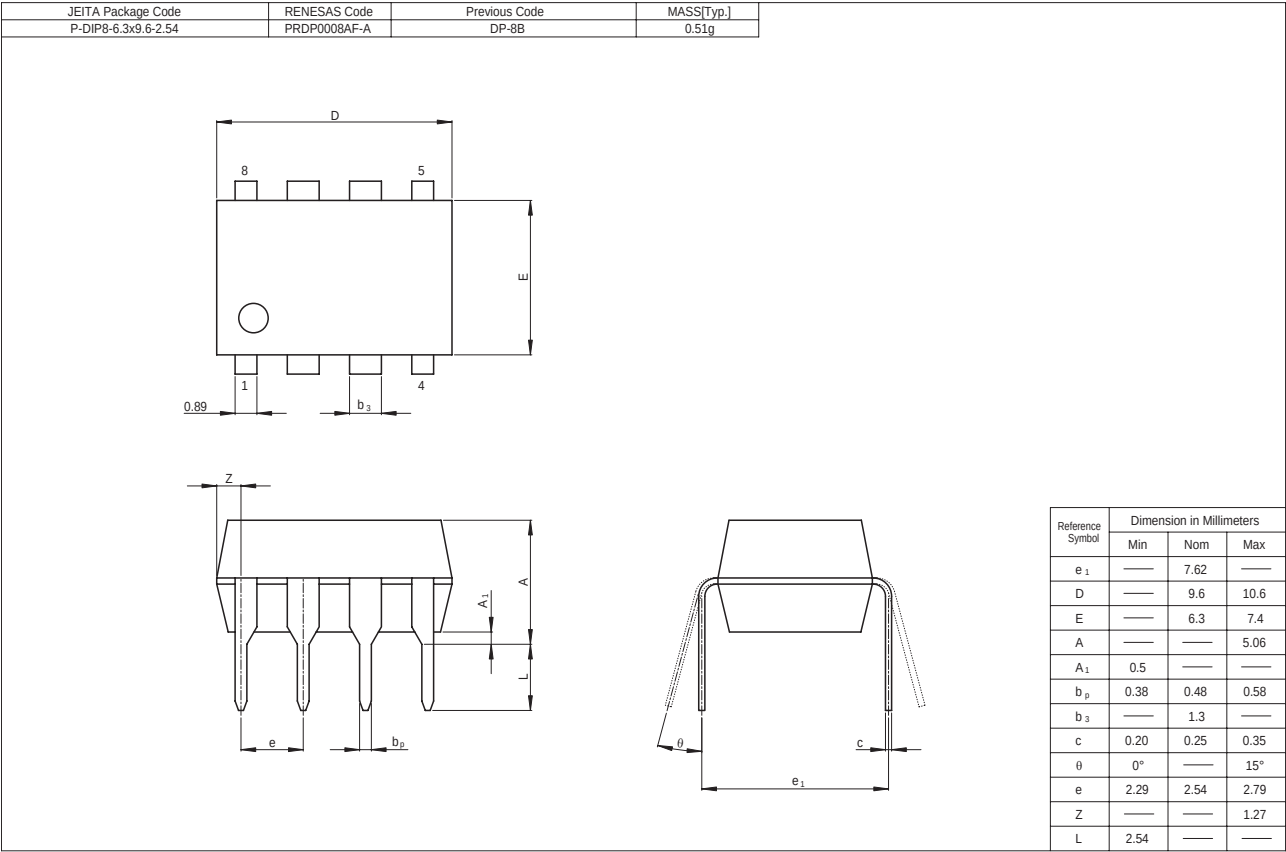








Package Dimensions



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