

DUAL OPERATIONAL AMPLIFIER

■ GENERAL DESCRIPTION

NJM4580C is the dual operational amplifier, specially designed for improving the tone control, which is suitable for the audio application.

Featuring noiseless, higher gain bandwidth, high output current and low distortion ratio, and it is most suitable not only for acoustic electronic parts of audio pre-amp and active filter, but also for the industrial measurement tools. It is also suitable for the head phone amp at higher output current, and further more, it can be applied for the handy type set operational amplifier of general purpose in application of low voltage single supply type which is properly biased of the low voltage source.

■ FEATURES

- Operating Voltage $\pm 2V$ to $\pm 18V$
- Low Input Noise Voltage $5nV/\sqrt{Hz}$ typ. at $f=1kHz$
- Gain Bandwidth Product $15MHz$ typ.
- Low Distortion 0.0005% typ.
- Slew Rate $5V/\mu s$ typ.
- Bipolar Technology
- Package Outline SOP8, SSOP8
- Internal ESD protection
Human body model (HBM) $\pm 2000V$ typ.

■ PACKAGE OUTLINE

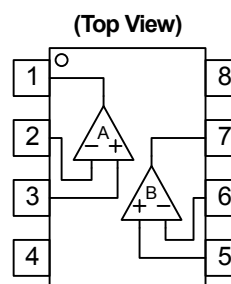


NJM4580CG
(SOP8)



NJM4580CV
(SSOP8)

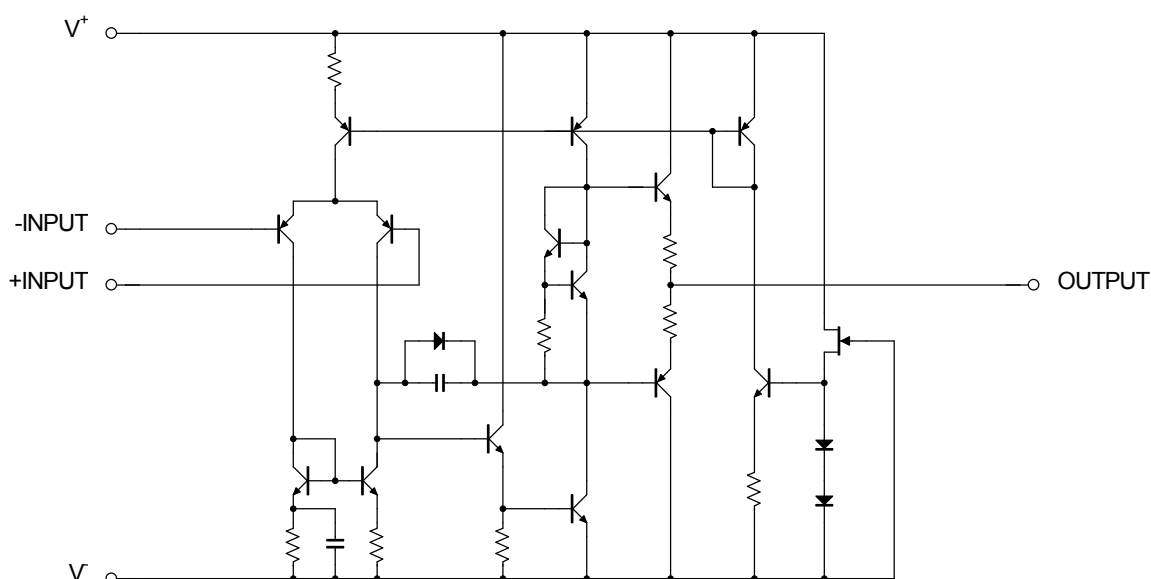
■ PIN CONFIGURATION



NJM4580CG
NJM4580CV

PIN FUNCTION
 1.A OUTPUT
 2.A -INPUT
 3.A +INPUT
 4.V⁻
 5.B +INPUT
 6.B -INPUT
 7.B OUTPUT
 8.V⁺

■ EQUIVALENT CIRCUIT (1/2 Shown)



NJM4580C

■ ABSOLUTE MAXIMUM RATINGS (Ta=25°C, unless otherwise noted.)

PARAMETER	SYMBOL	RATING	UNIT
Supply Voltage	V^+ / V^-	±18	V
Differential Input Voltage (Note1) (Note2)	V_{ID}	±36	V
Input Voltage (Note2)	V_{IC}	±18	V
Power Dissipation	P_D	SOP : 550 (Note3) 820 (Note4) SSOP : 350 (Note3) 440 (Note4)	mW
Operating Temperature Range	T_{opr}	-40~+85	°C
Storage Temperature Range	T_{stg}	-65~+125	°C

(Note1) Differential voltage is the voltage difference between +INPUT and -INPUT.

(Note2) For supply voltage less than ±15V, the absolute maximum rating is equal to the supply voltage.

The normal operation will establish when any input is within the Common Mode Input Voltage Range of electrical characteristics.

(Note3) EIA/JEDEC STANDARD Test board (76.2 x 114.3 x 1.6mm, 2layers, FR-4) mounting

(Note4) EIA/JEDEC STANDARD Test board (76.2 x 114.3 x 1.6mm, 4layers, FR-4) mounting

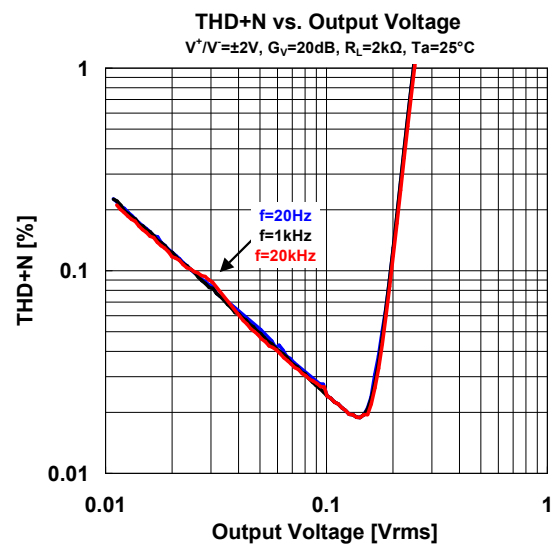
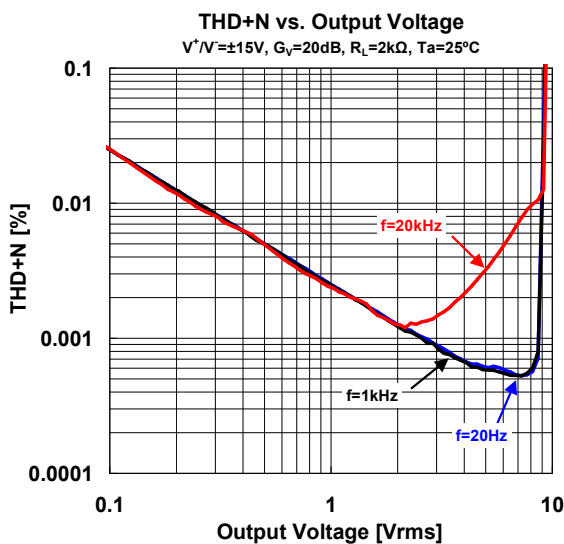
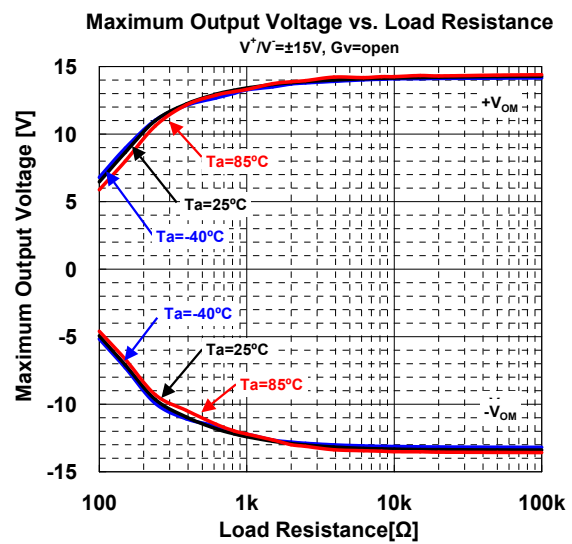
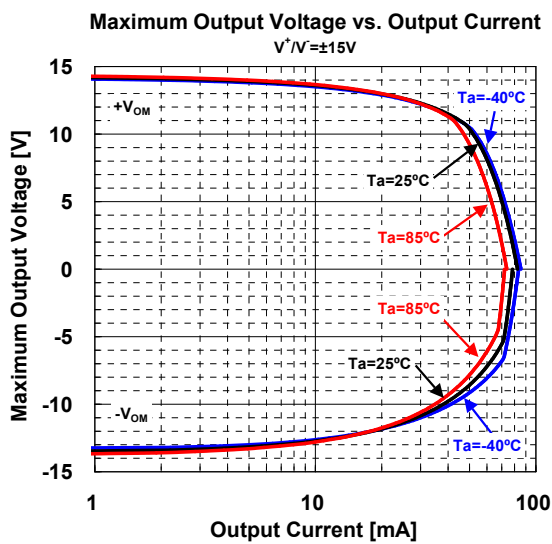
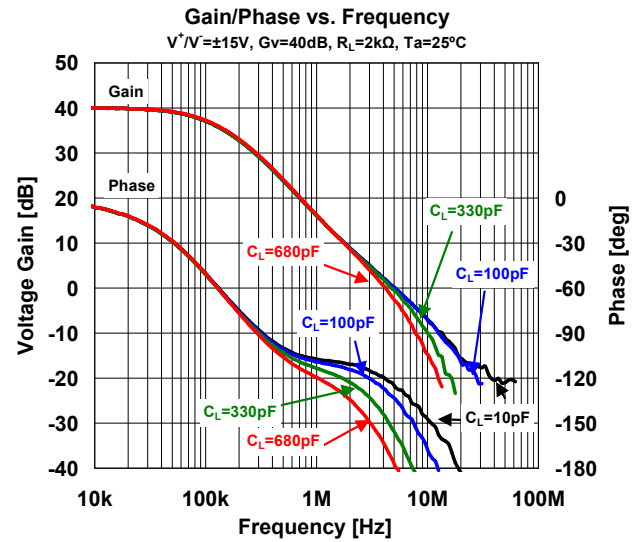
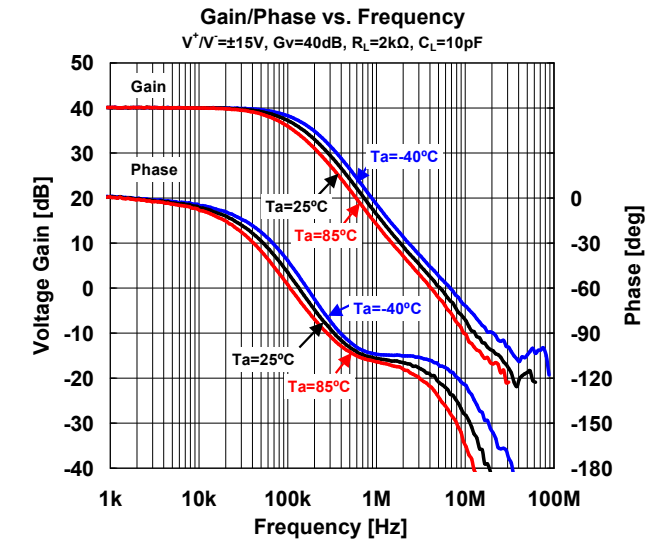
■ RECOMMENDED OPERATING CONDITIONS (Ta=25°C)

PARAMETER	SYMBOL	CONDITION	MIN.	TYP.	MAX.	UNIT
Supply Voltage	V^+ / V^-		±2	-	±18	V

■ ELECTRICAL CHARACTERISTICS ($V^+ / V^- = \pm 15V$, Ta=25°C, unless otherwise noted.)

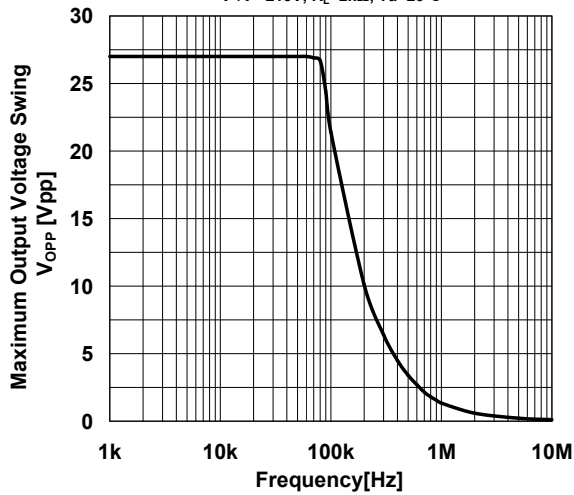
PARAMETER	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Input Offset Voltage	V_{IO}	$R_S \leq 10k\Omega$	-	0.3	3	mV
Input Offset Current	I_{IO}		-	5	200	nA
Input Bias Current	I_B		-	100	500	nA
Input Resistance	R_{IN}		-	0.5	-	MΩ
Large Signal Voltage Gain	A_V	$R_L \geq 2k\Omega$, $V_O = \pm 10V$	90	110	-	dB
Maximum Output Voltage	V_{OM}	$R_L \geq 2k\Omega$	±12	±13.5	-	V
Common Mode Input Voltage Range	V_{ICM}		±12	±13.5	-	V
Common Mode Rejection Ratio	CMR	$R_S \leq 10k\Omega$	80	110	-	dB
Supply Voltage Rejection Ratio	SVR	$R_S \leq 10k\Omega$	80	110	-	dB
Supply Current	I_{CC}		-	6	9	mA
Slew Rate	SR	$R_L \geq 2k\Omega$	-	5	-	V/μs
Gain Bandwidth Product	GBP	f=10kHz	-	15	-	MHz
Total Harmonic Distortion	THD	$A_V = 20dB$, $V_O = 5V$, $R_L = 2k\Omega$, f=1kHz	-	0.0005	-	%
Equivalent Input Noise Voltage1	V_{NI}	RIAA, $R_S = 2.2k\Omega$, 30kHz LPF	-	0.8	-	μVrms
Equivalent Input Noise Voltage2	e_n	f=1kHz	-	5	-	nV/√Hz

TYPICAL CHARACTERISTICS

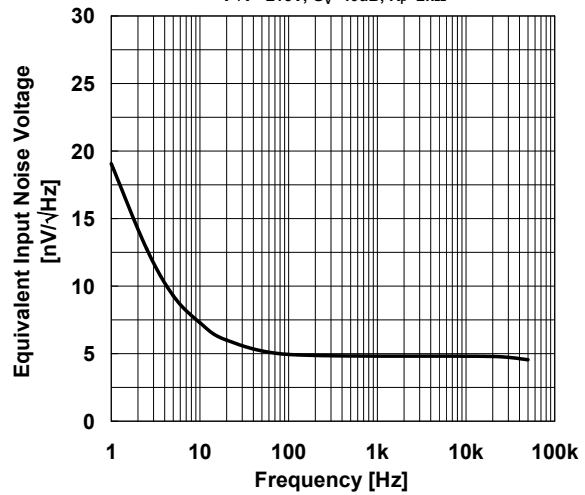


■ TYPICAL CHARACTERISTICS

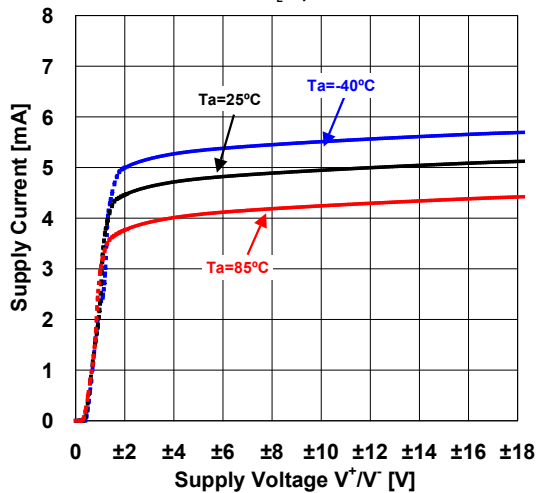
Maximum Output Voltage Swing vs. Frequency
 $V^+/V^- = \pm 15V$, $R_L = 2k\Omega$, $T_a = 25^\circ C$



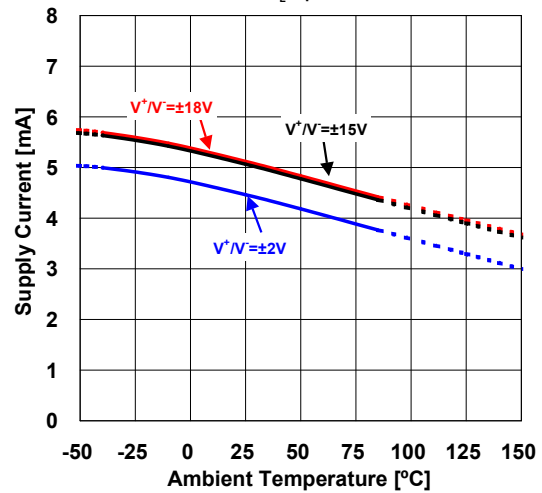
Voltage Noise vs. Frequency
 $V^+/V^- = \pm 15V$, $G_V = 40dB$, $R_F = 2k\Omega$



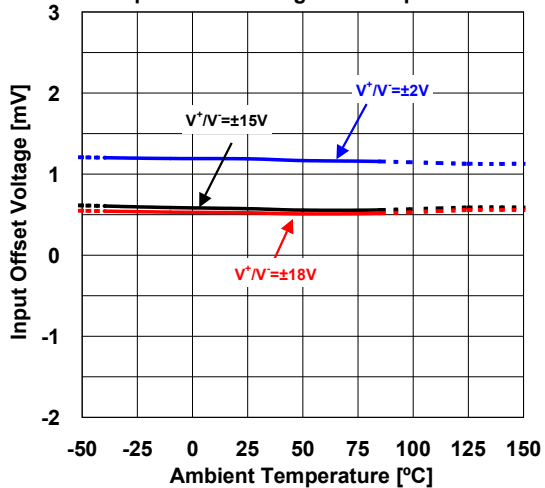
Supply Current vs. Supply Voltage
 $R_L = open$



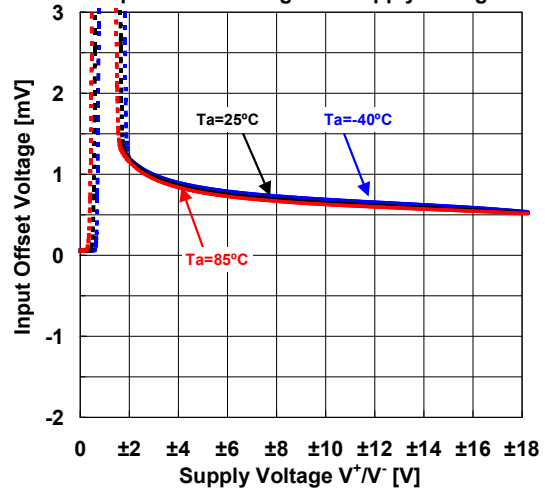
Supply Current vs. Temperature
 $R_L = open$



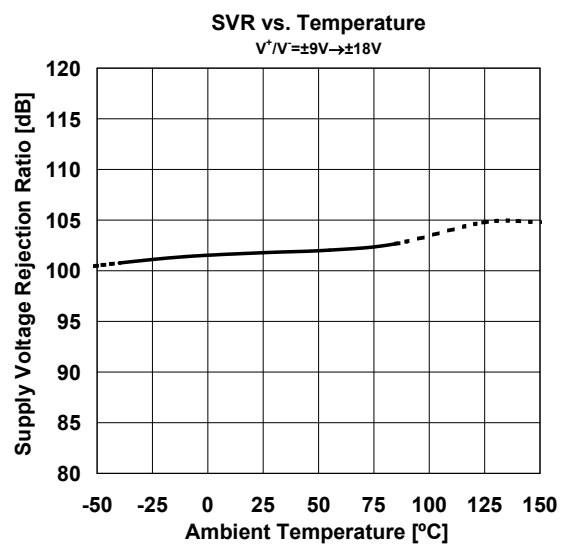
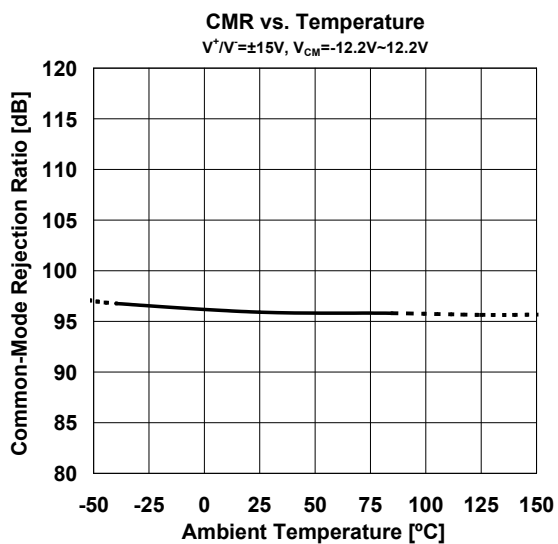
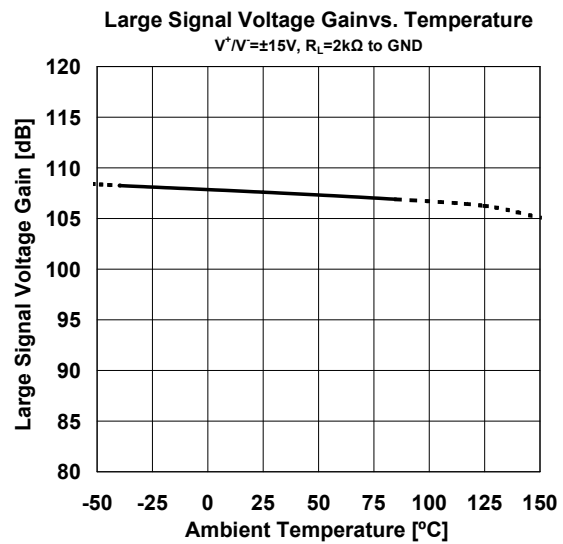
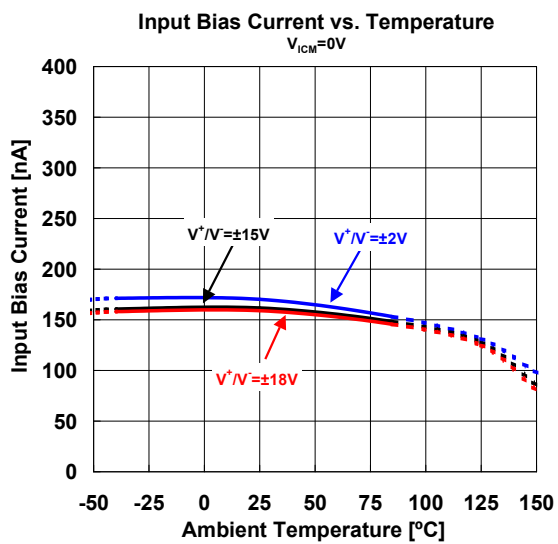
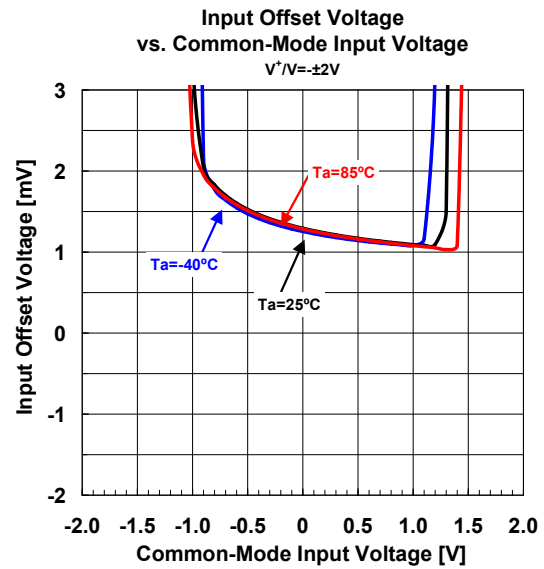
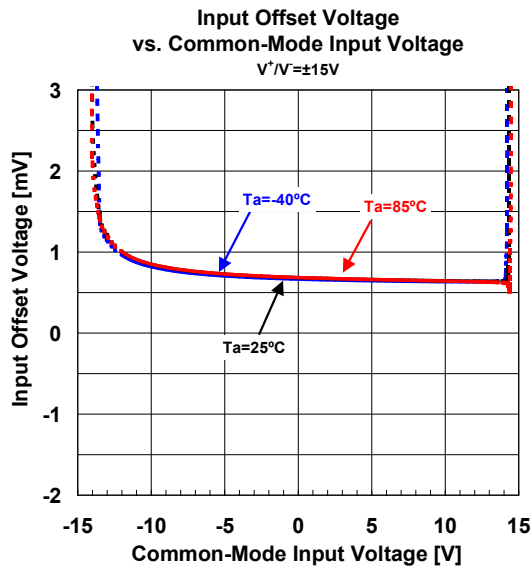
Input Offset Voltage vs. Temperature



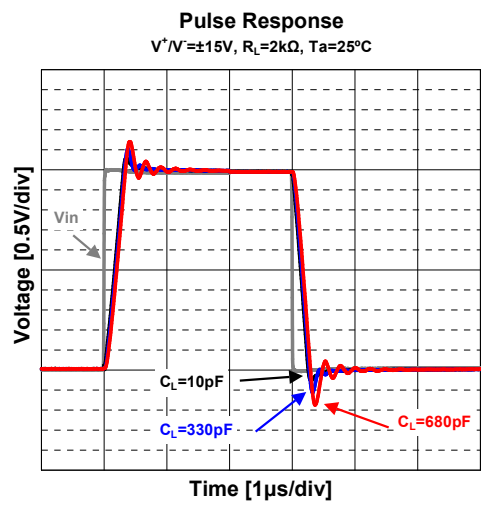
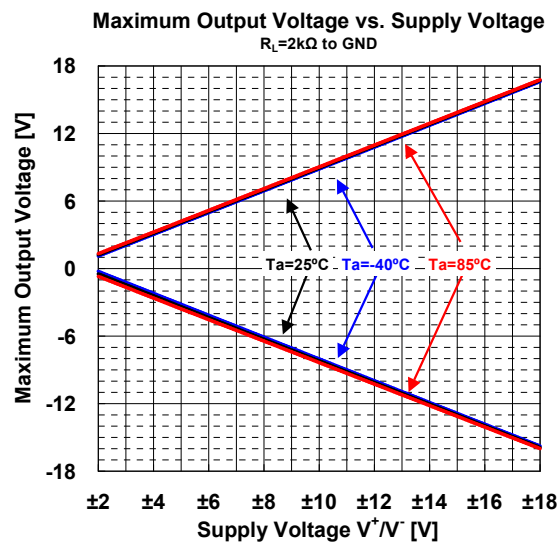
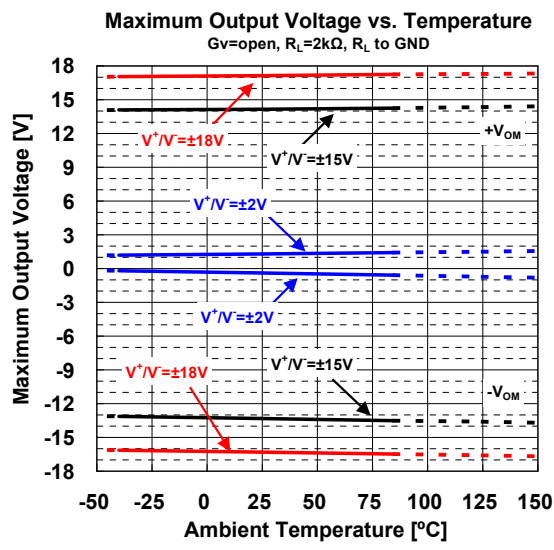
Input Offset Voltage vs. Supply Voltage



■ TYPICAL CHARACTERISTICS

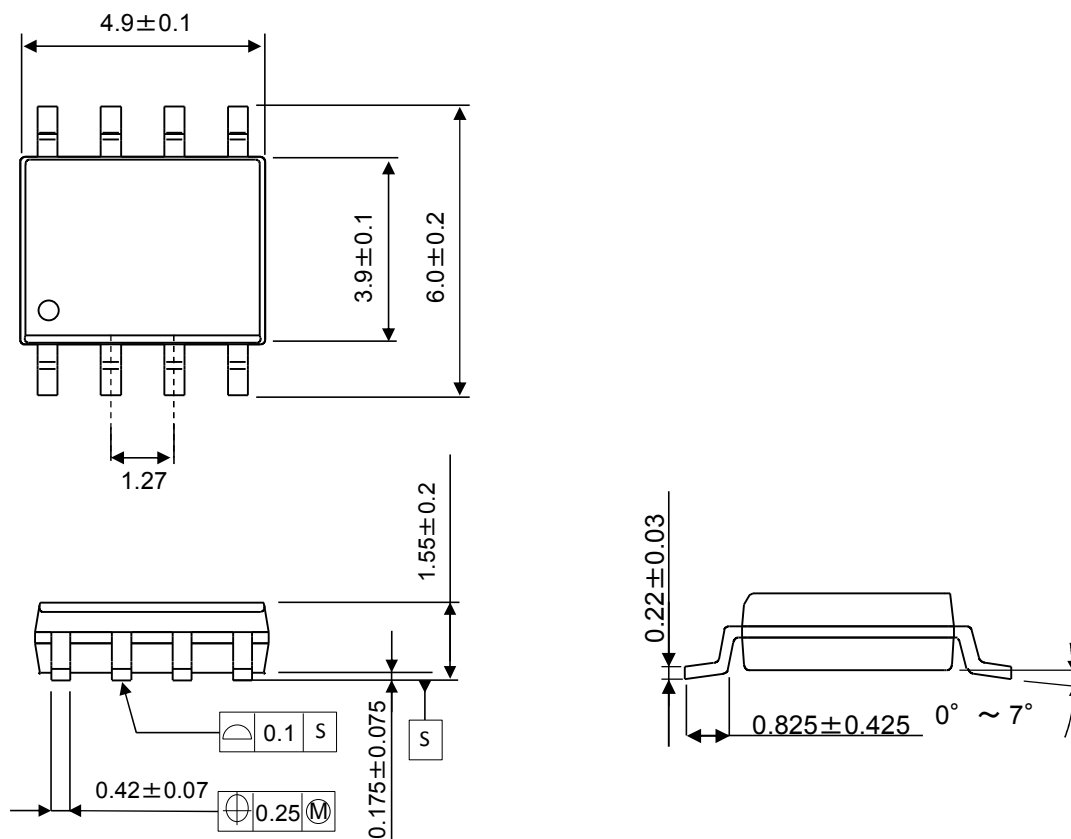


■ TYPICAL CHARACTERISTICS

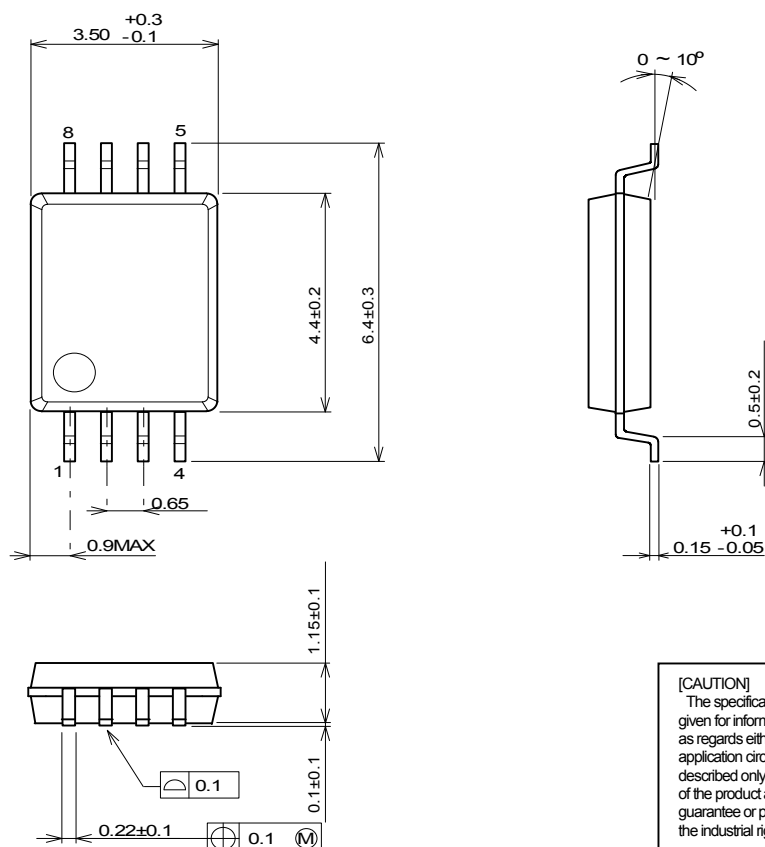


■PACKAGE OUTLINE UNIT : mm

SOP8



SSOP8



[CAUTION]

The specifications on this databook are only given for information, without any guarantee as regards either mistakes or omissions. The application circuits in this databook are described only to show representative usages of the product and not intended for the guarantee or permission of any right including the industrial rights.

Mouser Electronics

Authorized Distributor

Click to View Pricing, Inventory, Delivery & Lifecycle Information:

[NJR:](#)

[NJM4580CV-TE2](#) [NJM4580CG-TE2](#)

Компания «Life Electronics» занимается поставками электронных компонентов импортного и отечественного производства от производителей и со складов крупных дистрибьюторов Европы, Америки и Азии.

С конца 2013 года компания активно расширяет линейку поставок компонентов по направлению коаксиальный кабель, кварцевые генераторы и конденсаторы (керамические, пленочные, электролитические), за счёт заключения дистрибьюторских договоров

Мы предлагаем:

- Конкурентоспособные цены и скидки постоянным клиентам.
- Специальные условия для постоянных клиентов.
- Подбор аналогов.
- Поставку компонентов в любых объемах, удовлетворяющих вашим потребностям.
- Приемлемые сроки поставки, возможна ускоренная поставка.
- Доставку товара в любую точку России и стран СНГ.
- Комплексную поставку.
- Работу по проектам и поставку образцов.
- Формирование склада под заказчика.
- Сертификаты соответствия на поставляемую продукцию (по желанию клиента).
- Тестирование поставляемой продукции.
- Поставку компонентов, требующих военную и космическую приемку.
- Входной контроль качества.
- Наличие сертификата ISO.

В составе нашей компании организован Конструкторский отдел, призванный помогать разработчикам, и инженерам.

Конструкторский отдел помогает осуществить:

- Регистрацию проекта у производителя компонентов.
- Техническую поддержку проекта.
- Защиту от снятия компонента с производства.
- Оценку стоимости проекта по компонентам.
- Изготовление тестовой платы монтаж и пусконаладочные работы.



Тел: +7 (812) 336 43 04 (многоканальный)

Email: org@lifeelectronics.ru

www.lifeelectronics.ru