

DUAL OPERATIONAL AMPLIFIER

■ GENERAL DESCRIPTION

The NJM8065 integrated circuit is a high-gain, wide bandwidth, dual operational amplifier.

The NJM8065 combines many of the features of the NJM4558 as well as providing the capability of wider bandwidth (10MHz typ.), and higher slew rate (4V/μs typ.) make the NJM8065 ideal for active filters, data and telecommunications, and many instrumentation applications.

■ PACKAGE OUTLINE



NJM8065G
(SOP8)



NJM8065M
(DMP8)



NJM8065RB1
(MSOP8 (TVSP8))

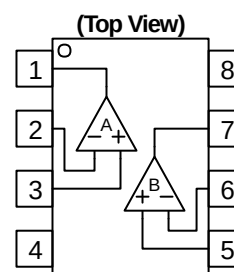


NJM8065V
(SSOP8)

■ FEATURES

- Operating Voltage $\pm 4V$ to $\pm 18V$
 - Wide Gain Bandwidth Product 10MHz typ.
 - Slew Rate 4V/μs typ.
 - Package Outline SOP8, DMP8
MSOP8 (TVSP8)*
SSOP8
- *MEET JEDEC MO-187-DA / THIN TYPE
- Bipolar Technology
 - Internal ESD protection Human body model (HBM) $\pm 2000V$ typ.
 - Wide temperature range $-40^{\circ}C$ to $+125^{\circ}C$

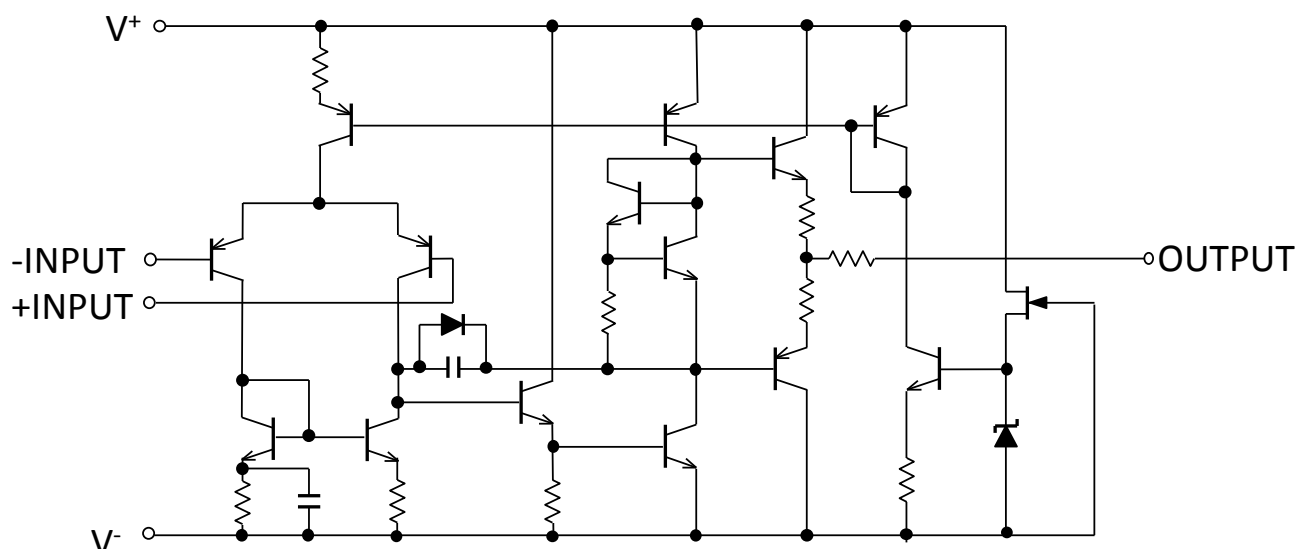
■ PIN CONFIGURATION



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

NJM8065G
NJM8065M
NJM8065RB1
NJM8065V

■ EQUIVALENT CIRCUIT (1/2 Shown)



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

PARAMETER	SYMBOL	RATINGS	UNIT
Supply Voltage	V^+V^-	±18	V
Differential Input Voltage (Note1)	V_{ID}	±36	V
Input Voltage (Note2)	V_{IN}	$V^- - 0.3$ to $V^+ + 36$	V
Output Terminal Input Voltage	V_O	$V^- - 0.3$ to $V^+ + 0.3$	V
Power Dissipation	P_D	SOP : 690(Note3) 1000(Note4) DMP : 470(Note3) 600(Note4) MSOP : 510(Note3) 680(Note4) SSOP : 430 (Note3) 540(Note4)	mW
Operating Temperature Range	T_{opr}	-40~+125	°C
Storage Temperature Range	T_{stg}	-65~+150	°C

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

(Note2) Input voltage is the voltage should be allowed to apply to the input terminal independent of the magnitude of V^+ .

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

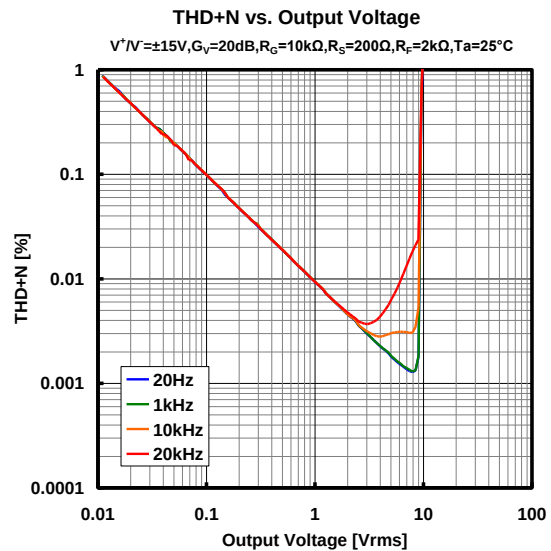
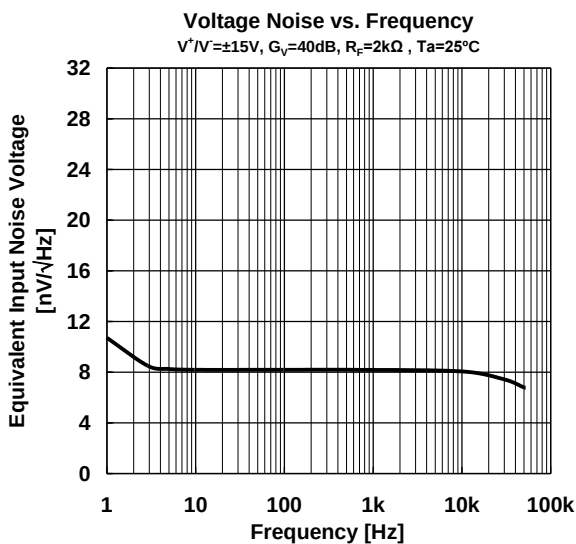
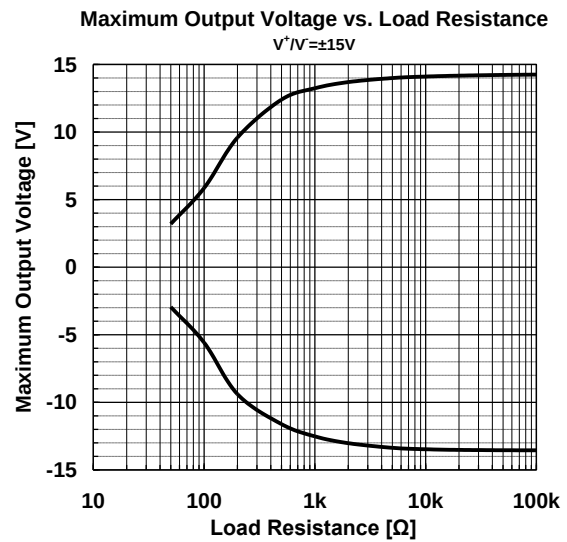
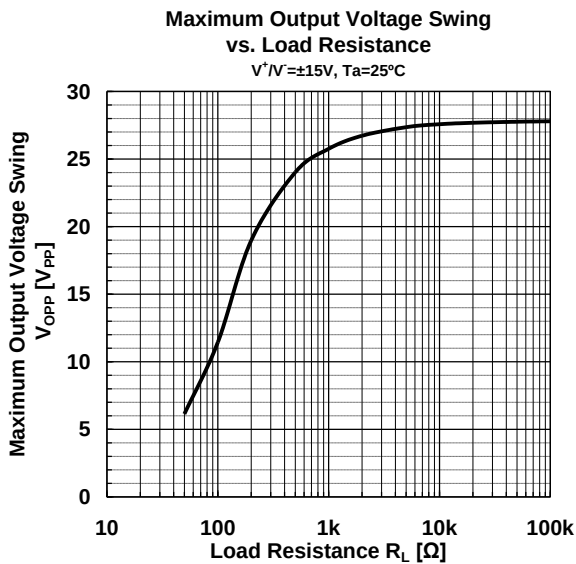
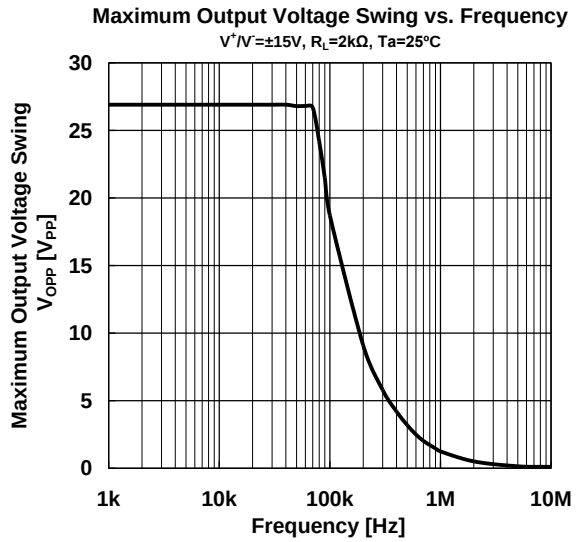
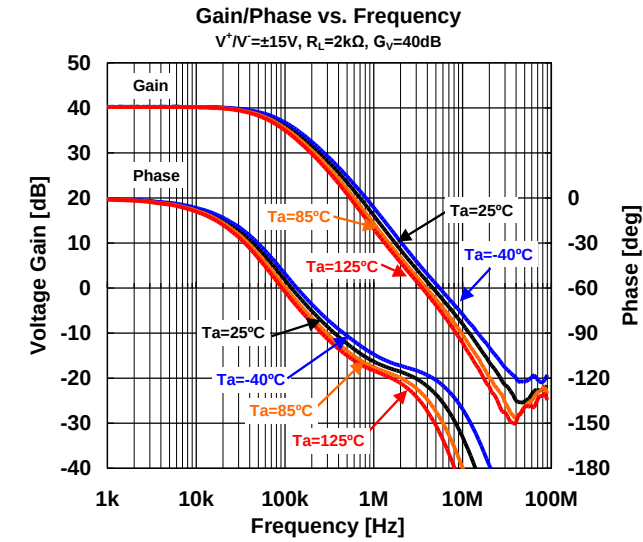
■ RECOMMENDED OPERATING CONDITIONS (Ta=25°C)

PARAMETER	SYMBOL	CONDITION	MIN.	TYP.	MAX.	UNIT
Supply Voltage	V^+V^-		±4	-	±18	V

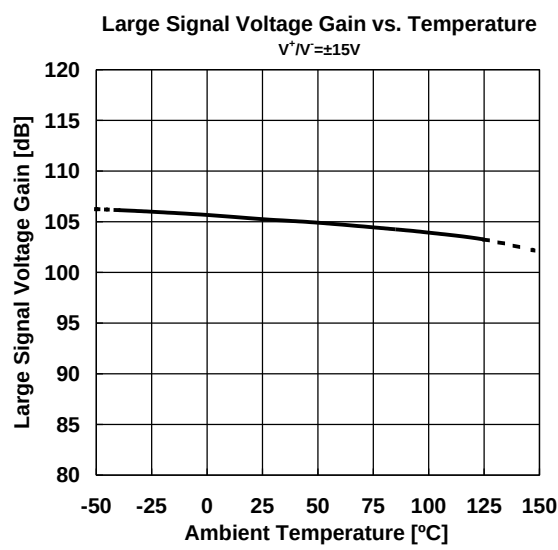
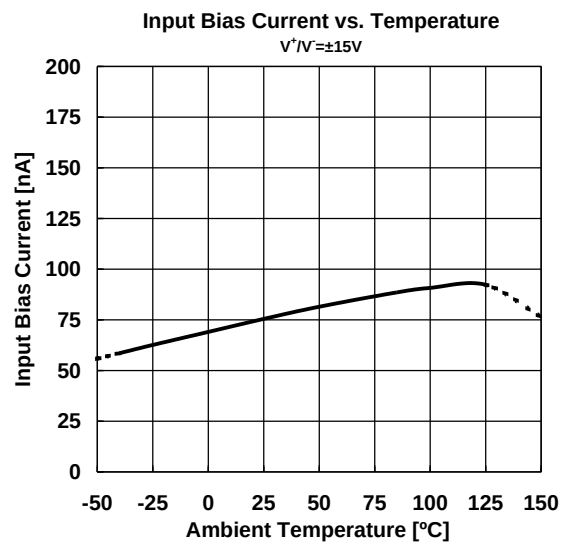
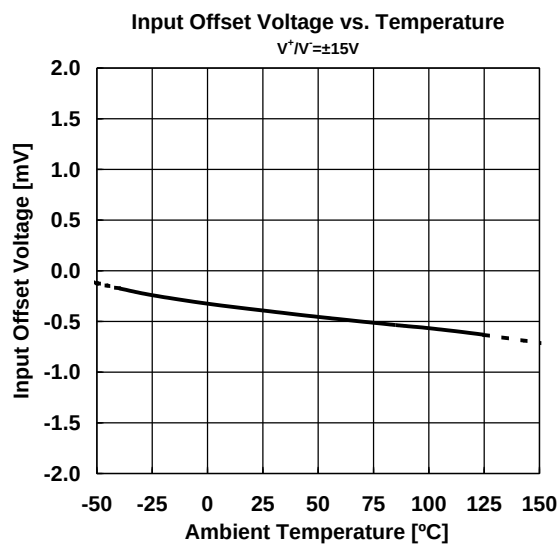
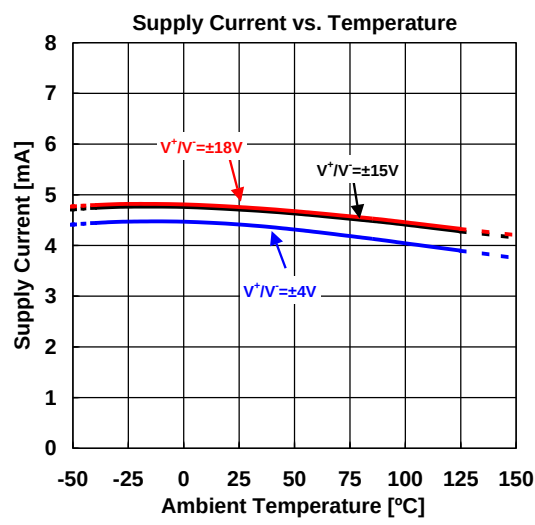
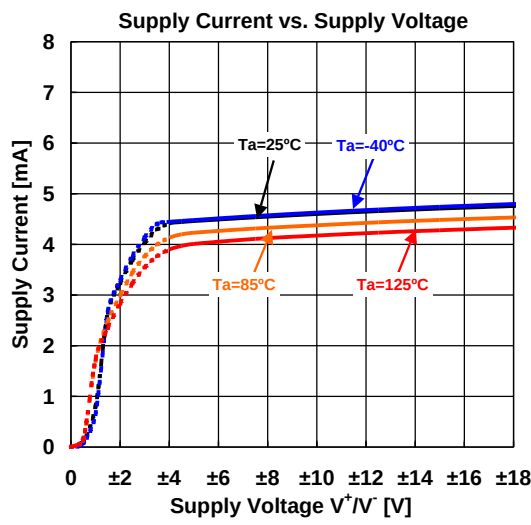
■ ELECTRICAL CHARACTERISTICS ($V^+V^- = \pm 15V$, Ta=25°C, unless otherwise noted.)

PARAMETER	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Input Offset Voltage	V_{IO}	$R_S \leq 10k\Omega$	-	0.5	3	mV
Input Offset Current	I_{IO}		-	2	50	nA
Input Bias Current	I_B		-	50	200	nA
Input Resistance	R_{IN}		-	1	-	MΩ
Large Signal Voltage Gain	A_V	$R_L \geq 2k\Omega$, $V_O = \pm 10V$	86	100	-	dB
Maximum Output Voltage Swing 1	V_{OM1}	$R_L \geq 2k\Omega$	±12	±14	-	V
Maximum Output Voltage Swing 2	V_{OM2}	$I_O = 25mA$	±10	±11.5	-	V
Input Common Mode Voltage Range	V_{ICM}		±12	±14	-	V
Common Mode Rejection Ratio	CMR	$R_S \leq 10k\Omega$	70	95	-	dB
Supply Voltage Rejection Ratio	SVR	$R_S \leq 10k\Omega$	76.5	100	-	dB
Operating Current	I_{CC}		-	4.5	7	mA
Slew Rate	SR		-	4	-	V/μs
Gain Bandwidth Product	GBP	$f = 10kHz$	-	10	-	MHz
Equivalent Input Noise Voltage	e_n	$f = 1kHz$	-	8	-	nV/√Hz

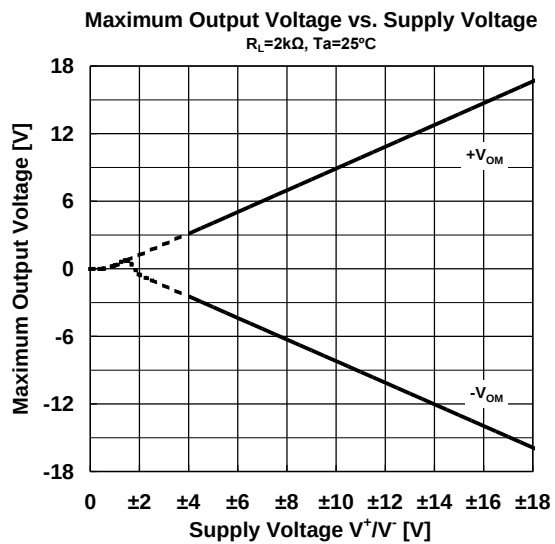
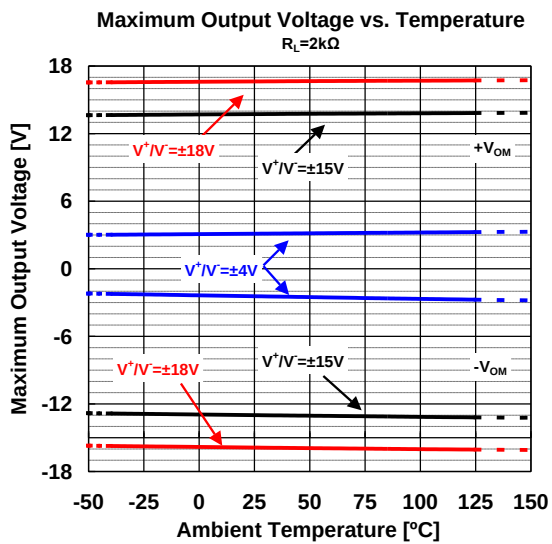
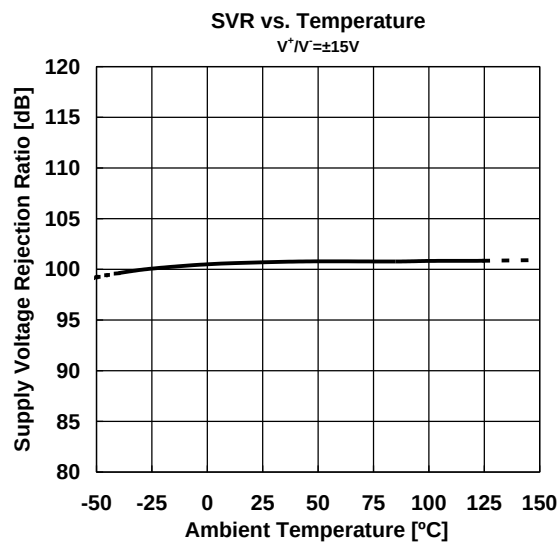
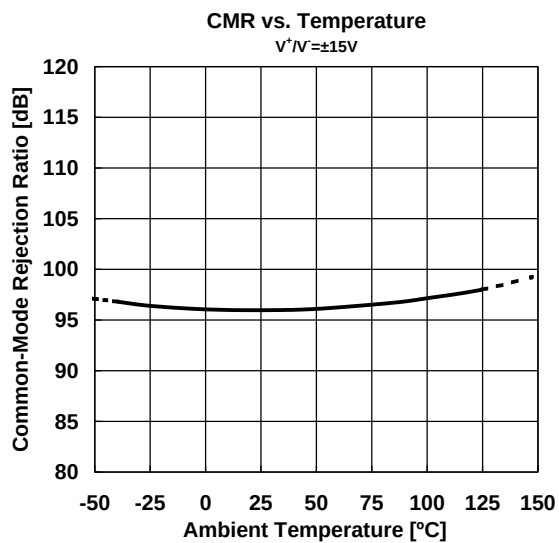
■ TYPICAL CHARACTERISTICS



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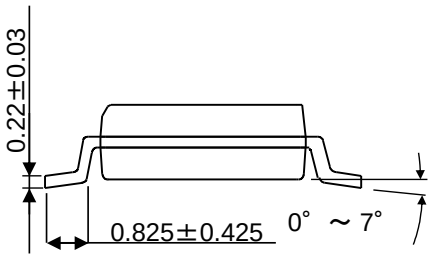
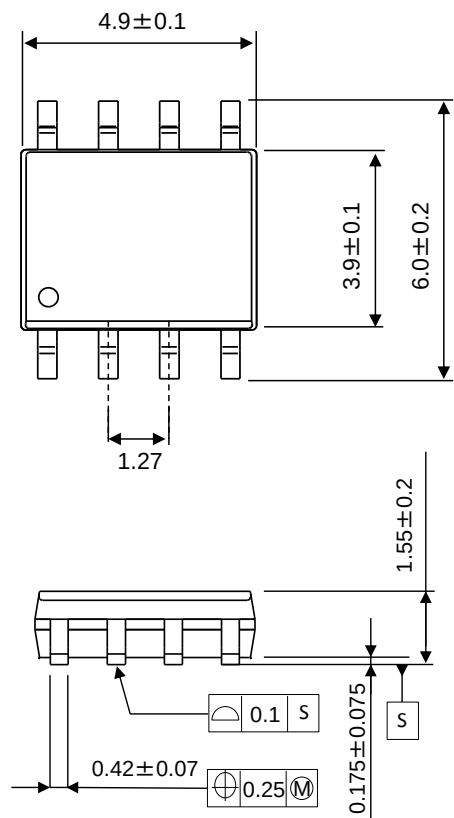
■ TYPICAL CHARACTERISTICS



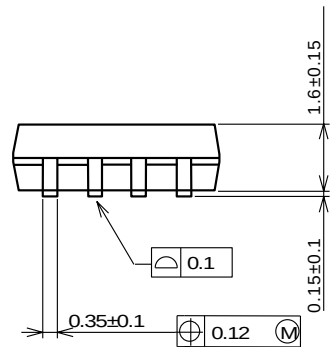
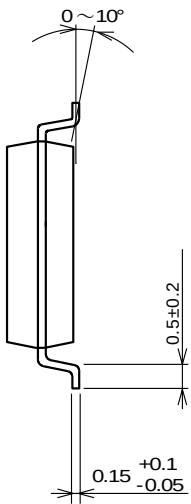
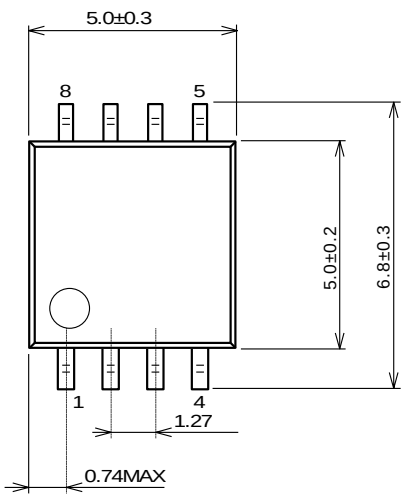
NJM8065

■PACKAGE OUTLINE UNIT : mm

SOP8



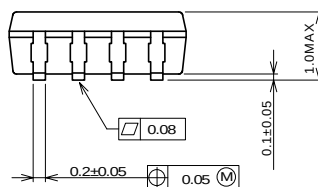
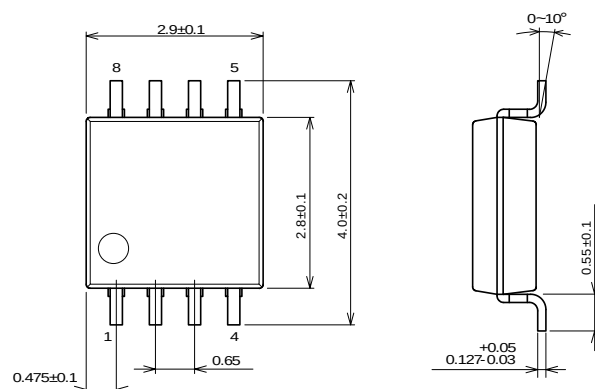
DMP8



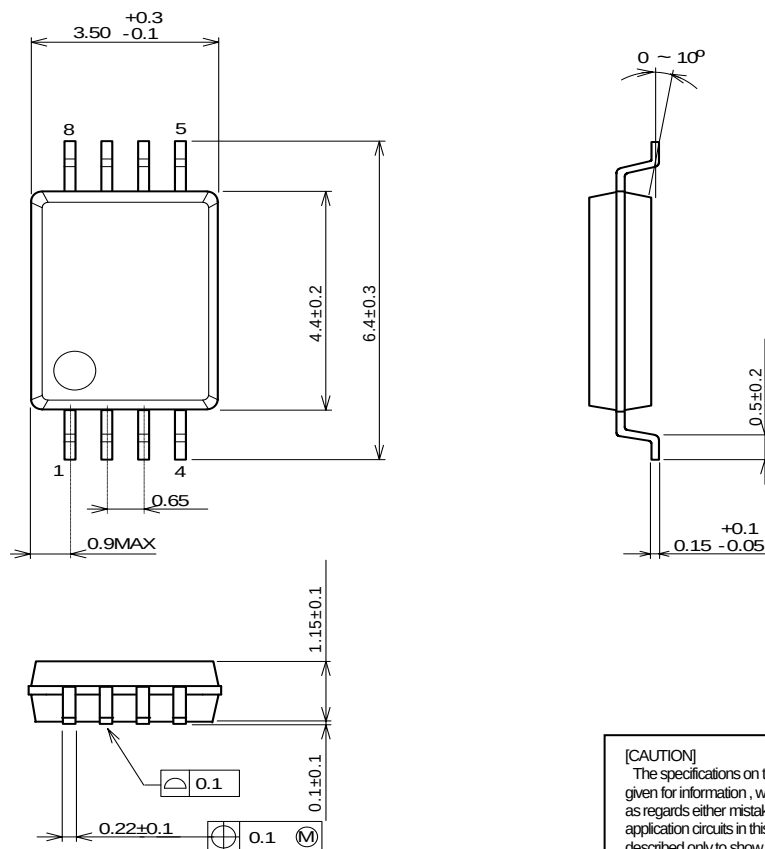
■PACKAGE OUTLINE UNIT : mm

MSOP8 (TVSP8)*

*MEET JEDEC MO-187-DA / THIN TYPE



SSOP8



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- Поставка образцов и прототипов;
- Техническая поддержка проекта;
- Защита от снятия компонента с производства.



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