

SINGLE-SUPPLY DUAL COMPARATOR

■ GENERAL DESCRIPTION

The NJM2407 is a single-supply dual comparator in small surface mount packages of MSOP8 (VSP8) and MSOP8(TVSP). The darlington PNP type input stage provides a signal detection of ground level. Further two-stage common-emitter output circuit provides a large gain, low output saturation voltage of 400mV (max.) and output sink current of 6mA (min.).

■ PACKAGE OUTLINE



NJM2407R
(MSOP8(VSP8))



NJM2407RB1
(MSOP8(TVSP8))

■ FEATURES

- Operating Voltage
- Output Sink Current
- Response Time
- Bipolar Technology
- Package Outline

$V^+ = +2V$ to $+20V$

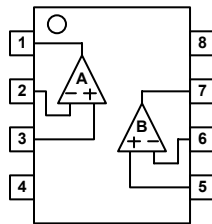
6mA min.

0.8 μ s typ.

MSOP8 (VSP8) MEET JEDEC MO-187-DA

MSOP8 (TVSP8) MEET JEDEC MO-187-DA / THIN TYPE

■ PIN CONFIGURATION

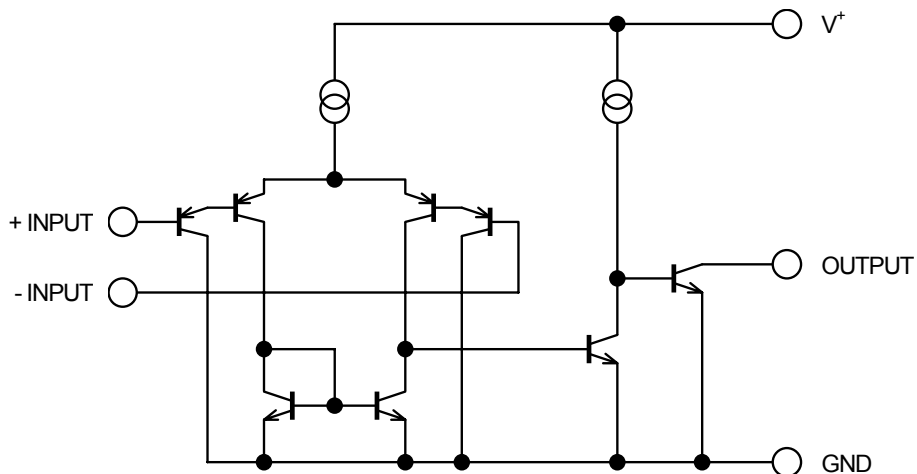


NJM2407R
NJM2407RB1

PIN FUNCTION

- 1.A OUTPUT
- 2.A -INPUT
- 3.A +INPUT
- 4.GND
- 5.B +INPUT
- 6.B -INPUT
- 7.B OUTPUT
- 8. V^+

■ EQUIVALENT CIRCUIT (1/2 Shown)



NJM2407

■ ABSOLUTE MAXIMUM RATINGS

(Ta=25°C)

PARAMETER	SYMBOL	RATINGS	UNIT
Supply Voltage	V^+ (V^+V^-)	20 (± 10)	V
Differential Input Voltage	V_{ID}	± 20	V
Input Voltage	V_{IN}	-0.3~+20 (note)	V
Power Dissipation	P_D	MSOP8(VSP/TVSP) 320	mW
Operating Temperature Range	T_{opr}	-40~+85	°C
Storage Temperature Range	T_{stg}	-50~+125	°C

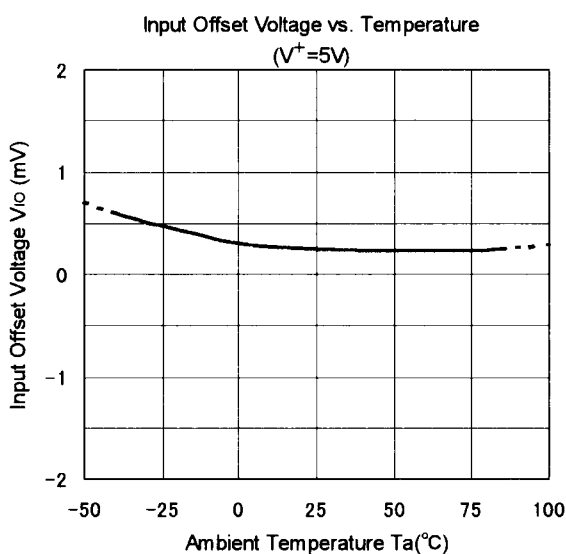
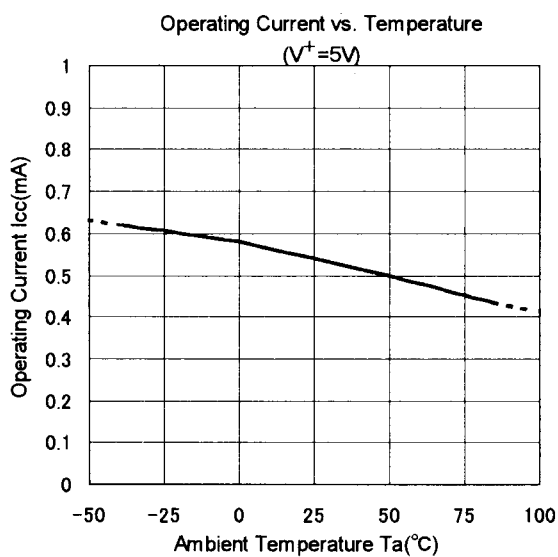
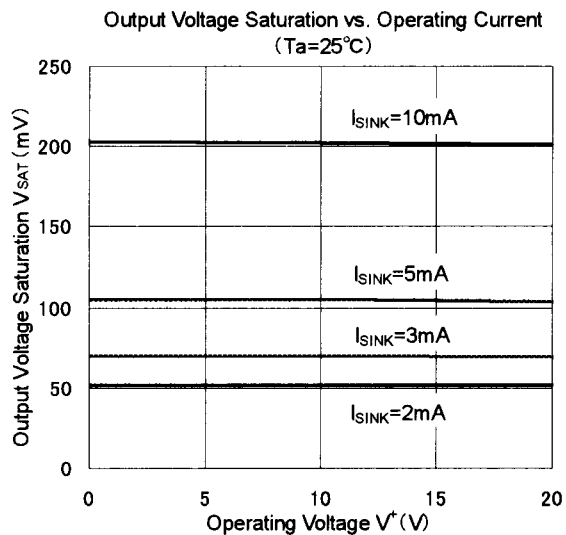
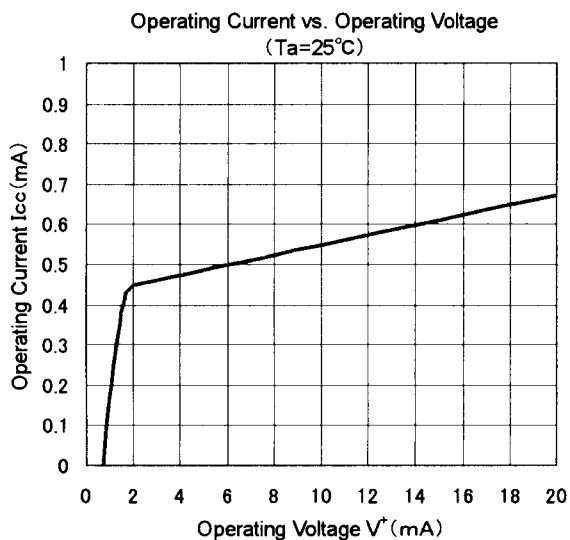
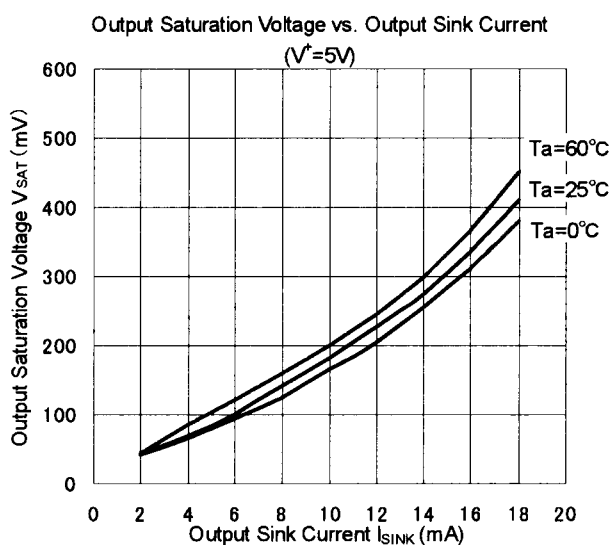
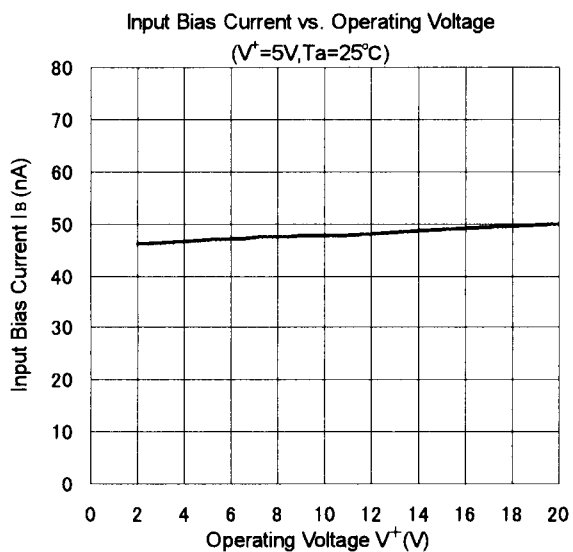
(note) When the supply voltage is less than +20V, the absolute maximum input is equal to the supply voltage.

■ ELECTRICAL CHARACTERISTICS

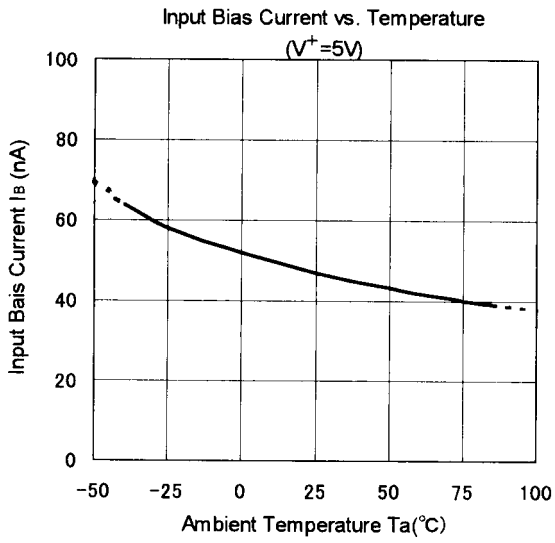
($V^+=5V, Ta=25^\circ C$)

PARAMETER	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Input Offset Voltage	V_{IO}	$R_S=0\Omega, V_O=1.4V$	-	2	7	mV
Input Offset Current	I_{IO}		-	5	50	nA
Input Bias Current	I_B		-	25	250	nA
Large Signal Voltage Gain	A_V	$R_L=15k\Omega$	-	106	-	dB
Input Common Mode Voltage Range	V_{ICM}		0~3.5	-	-	V
Response Time	t_R	$R_L=5.1k\Omega$	-	0.8	-	μs
Output Sink Current	I_{SINK}	$V_{IN}^- = 1V, V_{IN}^+ = 0V, V_O = 1.5V$	6	16	-	mA
Output Saturation Voltage	V_{SAT}	$V_{IN}^- = 1V, V_{IN}^+ = 0V, I_{SINK} = 3mA$	-	200	400	mV
Output Leakage Current	I_{LEAK}	$V_{IN}^- = 0V, V_{IN}^+ = 1V, V_O = 5V$	-	-	1.0	μA
Operating Current	I_{CC}	$R_L = \infty$	-	0.4	1	mA

■ TYPICAL CHARACTERISTICS



■ TYPICAL CHARACTERISTICS



[CAUTION]
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