

General Purpose Quad Operational Amplifier

IR3702/IR3702N

T-79-05-40

# IR3702/IR3702N

## General Purpose Quad Operational Amplifier

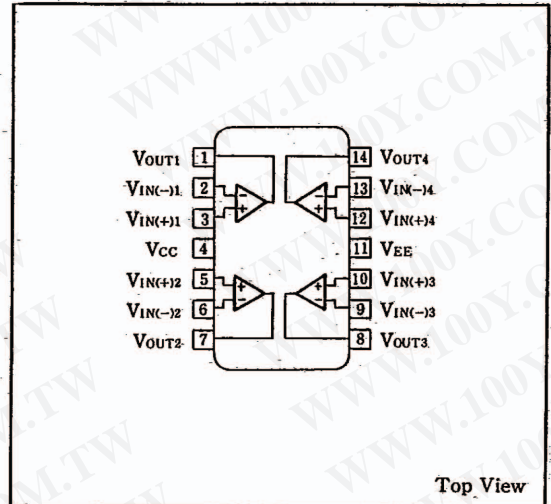
### Description

The IR3702/IR3702N is a general purpose high gain frequency compensated quad operational amplifier, which operates from a single supply over a wide range of voltages.

### Features

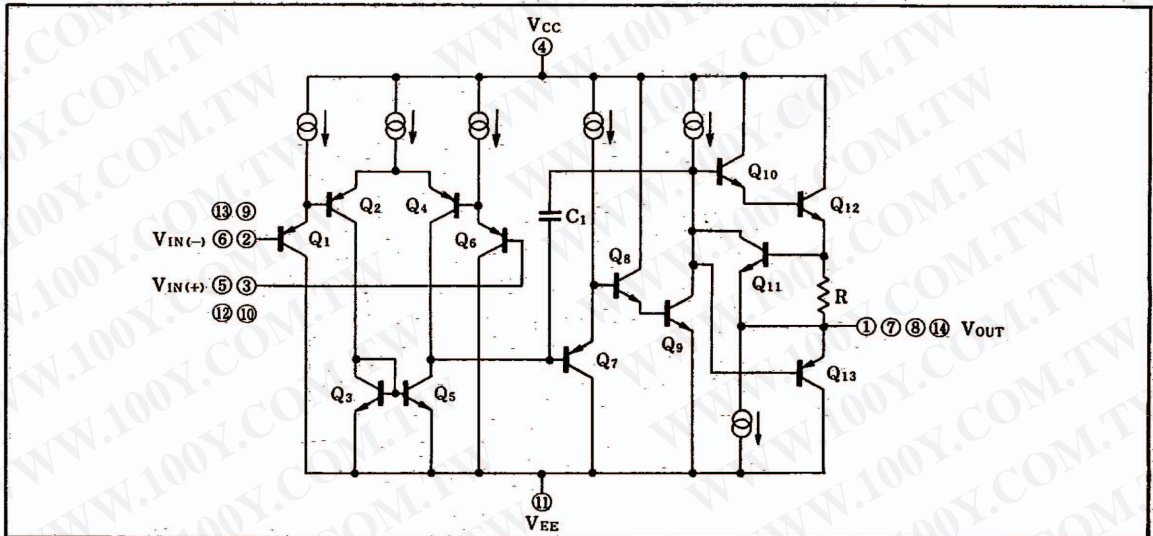
1. Operate from a single power supply
2. No frequency compensation required
3. Input common-mode voltage range includes ground
4. 14-pin dual-in-line package (IR3702)  
14-pin small-outline package (IR3702N)

### Pin Connections



勝特力材料 886-3-5753170  
 勝特力电子(上海) 86-21-34970699  
 勝特力电子(深圳) 86-755-83298787  
[Http://www.100y.com.tw](http://www.100y.com.tw)

### Equivalent Circuit



SHARP

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## Absolute Maximum Ratings

(Ta=25°C)

Parameter	Symbol	Condition	Rating	Unit	
Supply voltage	$V_{CC}-V_{EE}$		36	V	
Differential input voltage	$V_{ID}$		$V_{EE}\sim V_{CC}$	V	
In-phase input voltage	$V_{ICM}$		$(V_{EE}-0.3)\sim V_{CC}$	V	
Power dissipation	$P_D$	$T_a\leq 25^\circ\text{C}$	IR3702	650	mW
			IR3702N	625	
$P_D$ derating ratio	$\Delta P_D/^\circ\text{C}$	$T_a>25^\circ\text{C}$	IR3702	6.5	mW/°C
			IR3702N	5	
Operating temperature	$T_{opr}$		-30~+85	°C	
Storage temperature	$T_{stg}$		IR3702	-40~+125	°C
			IR3702N	-55~+150	

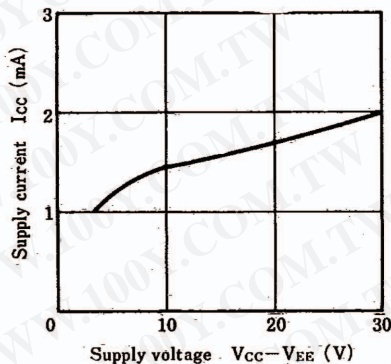
## Electrical Characteristics

(V<sub>CC</sub>=8V, V<sub>EE</sub>=-8V, Ta=25°C)

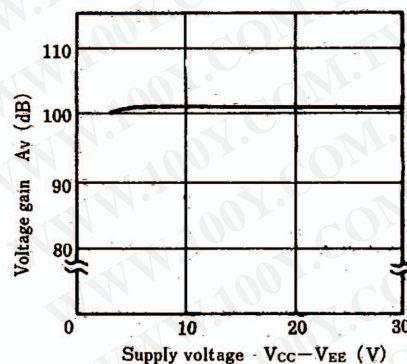
Parameter	Symbol	Condition	MIN.	TYP.	MAX.	Unit
Input offset voltage	$V_{IO}$	$R_S=50\Omega$		2	7	mV
Input offset current	$I_{IO}$			±5	±50	nA
Input bias current	$I_B$			50	500	nA
In-phase input voltage	$V_{ICM}$		$V_{EE}$		$V_{CC}-1.5$	V
Major amplitude voltage gain	$A_V$	$R_L\geq 2k\Omega$	80	95		dB
Supply current	$I_{CC}$			1.2	3.0	mA
Common signal rejection ratio	CMR		70	85		dB
			70	84		dB
Supply voltage rejection ratio	SVR(+)		75	90		dB
	SVR(-)		70	84		
Maximum output voltage	$V_{OM}(+)$	$R_L=2k\Omega, V_{IN(+)}-V_{IN(-)}=1V$	6.0	6.4		V
	$V_{OM}(-)$	$R_L=2k\Omega, V_{IN(+)}-V_{IN(-)}=1V$		-7.4	-6.5	
Output source current	$I_{OS}(+)$	$V_{OUT}=0V, V_{IN(+)}-V_{IN(-)}=1V$	20	50		mA
Output sink current	$I_{OS}(-)$	$V_{OUT}=0V, V_{IN(+)}-V_{IN(-)}=1V$	10	25		
Slew rate	SR	$R_L=\infty$		0.6		V/μs
Channel separation	C.S			120		dB

## Electrical Characteristic Curves (Unless otherwise specified, Ta=25°C)

Supply current—Supply voltage Characteristics



Voltage gain—Supply voltage Characteristics



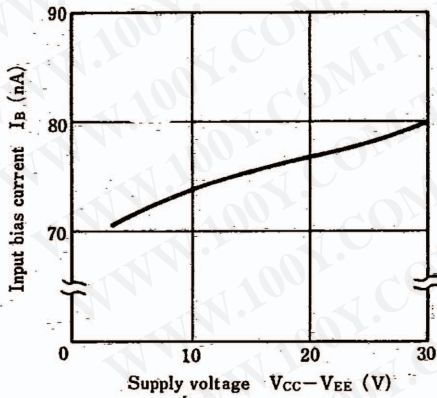
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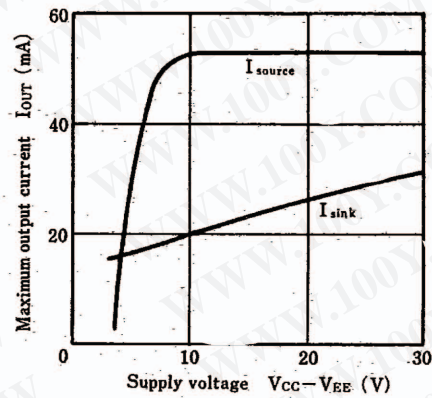
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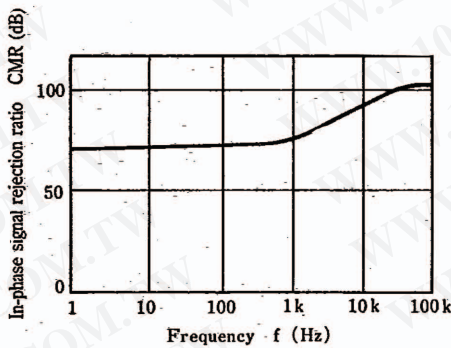
Input bias current—Supply voltage Characteristics



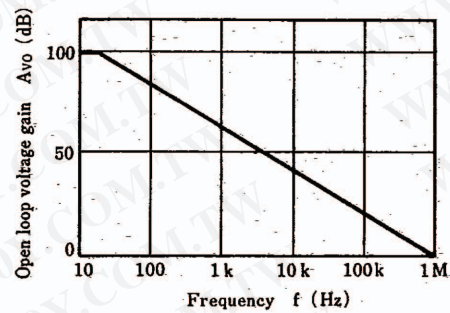
Maximum output current—Supply voltage Characteristics



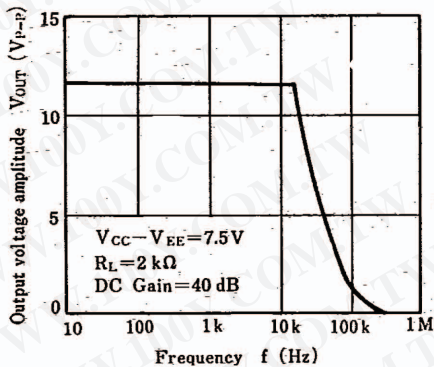
In-phase signal rejection ratio—Frequency Characteristics



Open loop voltage gain—Frequency Characteristics



Major amplitude frequency Characteristics



Response time Characteristics

