

General Purpose Operational Amplifier

IR3741/IR3741N

T-79-05-10

# IR3741/IR3741N

General Purpose Operational Amplifier

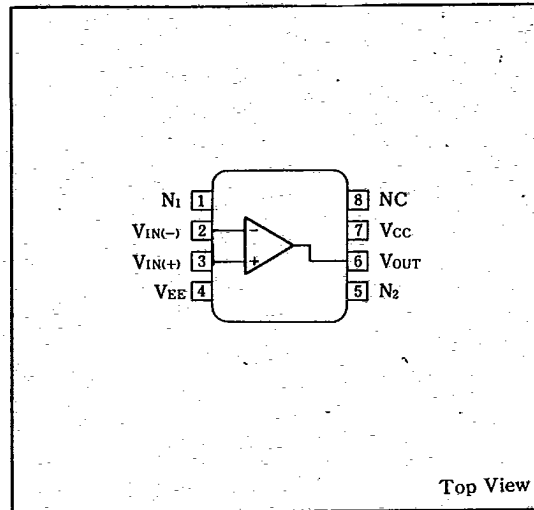
## ■ Description

The IR3741/IR3741N is a general purpose high performance operational amplifier. High common mode voltage range and absence of "Latch-up" make the IR3741/IR3741N ideal for use as a voltage follower.

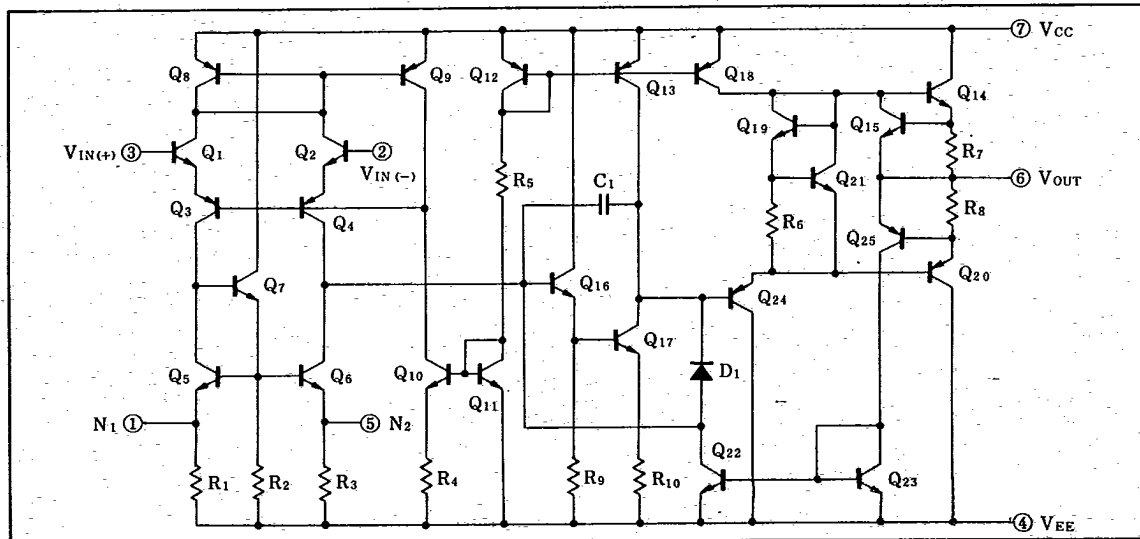
## ■ Features

1. High voltage gain 106dB (TYP.)
2. Short circuit protected output
3. Offset voltage null capability
4. No frequency compensation required
5. 8-pin dual-in-line package (IR3741)  
8-pin small-outline package (IR3741N)

## ■ Pin Connections



## ■ Equivalent Circuit



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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	$V_{ID}$		$\pm 30$	V	
In-phase input voltage	$V_{ICM}$		$V_{EE} \sim V_{CC}$	V	
Power dissipation	$P_D$	$T_a \leq 25^\circ C$	IR3741	500	mW
			IR3741N	400	
$P_D$ derating ratio	$\Delta P_D / ^\circ C$	$T_a > 25^\circ C$	IR3741	5	mW/°C
			IR3741N	4	
Operating temperature	$T_{opr}$		$-20 \sim +80$	°C	
Storage temperature	$T_{stg}$		IR3741	$-65 \sim +125$	°C
			IR3741N	$-55 \sim +150$	

**Electrical Characteristics**

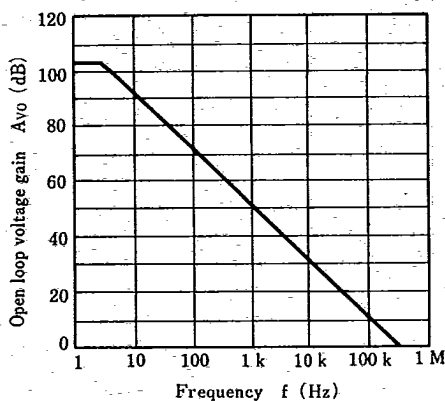
( $V_{CC}=15V, V_{EE}=-15V, T_a=25$ )

Parameter	Symbol	Condition	MIN.	TYP.	MAX.	Unit
Input offset	$V_{IO}$	$R_S \leq 10k\Omega$		1.0	5.0	mV
Input offset current	$I_{IO}$			20	200	nA
Input bias current	$I_B$			80	500	nA
Major amplitude voltage gain	$A_V$	$R_L \geq 2k\Omega, V_{OUT} = \pm 10V$	87	106		dB
Maximum output voltage	$V_{OM}$	$R_L \geq 10k\Omega$	$\pm 12$	$\pm 14$		V
		$R_L \geq 2k\Omega$	$\pm 10$	$\pm 13$		
Common signal rejection ratio	CMR	$R_S \leq 10k\Omega$	70	90		dB
Supply voltage rejection ration	SVR	$R_S \leq 10k\Omega$		30	150	$\mu V/V$
Supply current	$I_{CC}$			1.5	2.8	mA
Power dissipation	$P_D$			45	85	mW
Output short-circuit current	$I_{OS}$	$R_L = 0\Omega$	$\pm 5$	$\pm 20$		mA

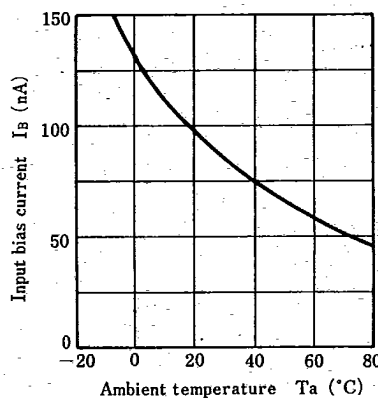


**Electrical Characteristic Curves** (Unless otherwise specified,  $V_{CC}=15V, V_{EE}=-15V, T_a=25^\circ C$ )

Open loop voltage gain—Frequency Characteristics



Input bias current—Ambient temperature Characteristics

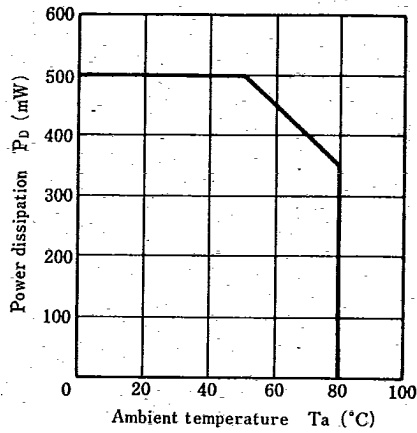


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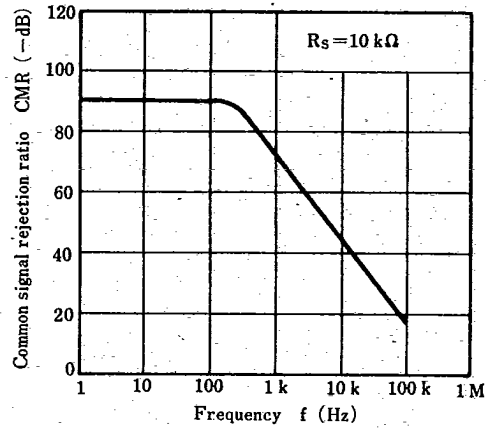
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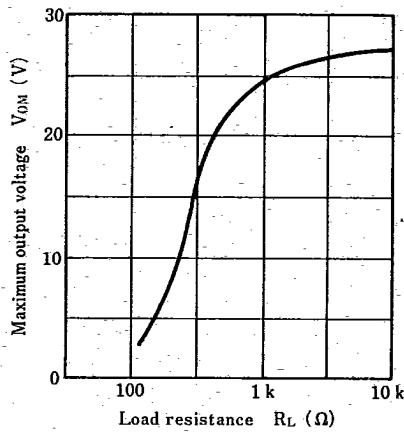
Power dissipation—Ambient temperature Characteristics



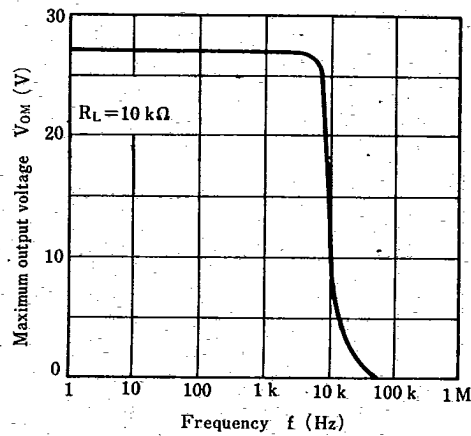
Common signal rejection ratio—Frequency Characteristics



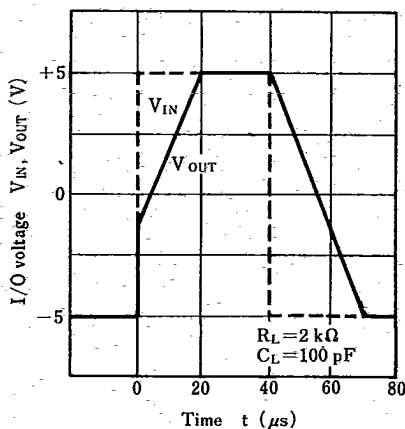
Maximum output voltage—Load resistance Characteristics



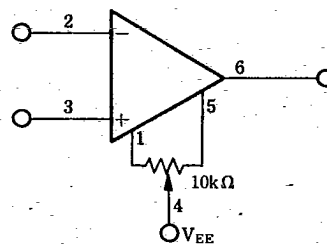
Maximum output voltage—Frequency Characteristics



Response time Characteristics



Offset adjusting method



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