

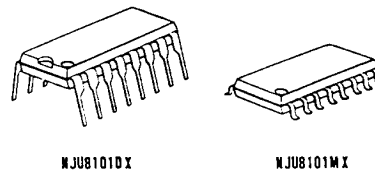
10 BIT MONOLITHIC MULTIPLYING D/A CONVERTER

GENERAL DESCRIPTION

The NJU8101 is a high-performance monolithic multiplying 10 bit D/A Converter with DTL, TTL and C-MOS compatible inputs for interface with any kinds of ICs.

The NJU8101 incorporated thin-film-resistors and performs 8 bit and 9 bit accuracy.

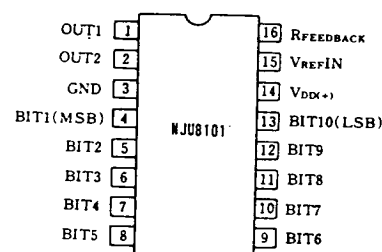
PACKAGE OUTLINE



FEATURES

- 8 bit and 9 bit linearity.
- Small temperature coefficient for gain and linearity.
- DTL, TTL, C-MOS compatible inputs.
- Accurate for quadrant multiplication.
- Wide Operating Voltage Range --- +5 ~ +15V
- Low Current Consumption.
- at $V_{DD}=15V$, $V_{REF}=0V$, Digital Input=H or L
- Package Outline --- DIP/DMP 16
- C-MOS Technology

PIN CONFIGURATION

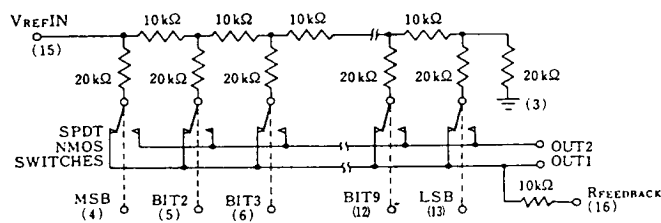


LINE-UP

NJU8101JX	8 bit Accuracy
NJU8101KX	9 bit Accuracy

* X indicates package outline ; D for DIP , M for DMP.

EQUIVALENT CIRCUIT



ABSOLUTE MAXIMUM RATINGS

(Ta=25°C)

P A R A M E T E R	S Y M B O L	R A T I N G S	U N I T
Supply Voltage	V _{DD}	- 0.3 ~ + 17	V
Reference Voltage	V _{REF}	± 25	V
Digital Input Voltage	V _{IN}	- 0.3 ~ V _{DD}	V
Output Voltage	V _{OUT}	- 0.3 ~ V _{DD}	V
Power Dissipation	P _D	500	mW
Operating Temperature Range	Topr	0 ~ + 70	°C
Storage Temperature Range	Tstg	- 60 ~ + 125	°C

ELECTRICAL CHARACTERISTICS

(V_{DD}=15V, V_{REF}=10V, Ta=25°C)

P A R A M E T E R		C O N D I T I O N S	M I N	T Y P	M A X	U N I T
Resolution Bit			10			bit
Nonlinearity	8 bit	V _{OUT1} =V _{OUT2} =0V			±0.2	% of FSR
	9 bit				±0.1	
Gain Error		Digital Input = V _{INH}			±1.4	
Output Leakage Current		V _{REF} =±10V			50	nA
Reference Input Resistance		All Digital Input = H	5		20	kΩ
Operating Current		All Digital Input=L OR H			100	uA
Digital	Current (Per Input)	V _{IN} =0V or V _{DD}			± 1	uA
Input	Capacitance				5	pF
Input Voltage	V _{INH}		2.4			V
	V _{INL}				0.8	
Power Supply Rejection		dGain/dV _{DD} , V _{DD} =14~17V			0.005	% of FSR
Output Current Settling Time					600	ns
Feedthrough Error		V _{REF} =±10V, 100kHz Sine W All Digital Inputs = L			±0.05	LSB
Output Capacitance	COUT1	All Digital Input = V _{INH}			300	pF
	COUT2				200	
	COUT1	All Digital Input = V _{INL}			200	
	COUT2				300	