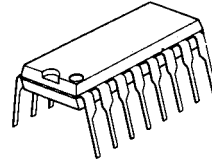


LOW POWER NARROW BAND FM IF

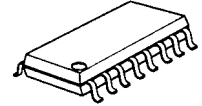
■ GENERAL DESCRIPTION

The **NJM3357** includes Oscillator, Mixer, Limiting Amplifier Quadrature Discriminator, Active Filter, Squelch Scan Control, and Mute Switch. The **NJM3357** is designed for use in FM dual conversion communication equipment.

■ PACKAGE OUTLINE



NJM3357D

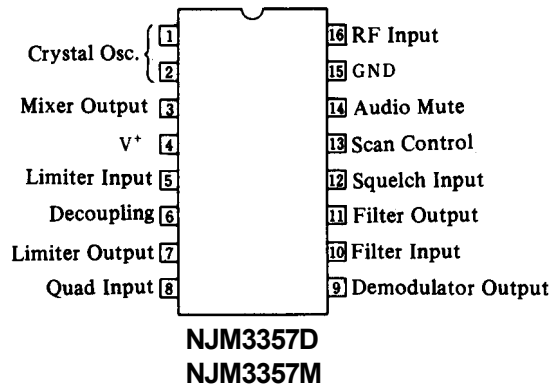


NJM3357M

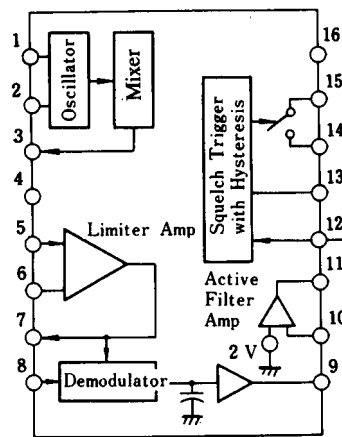
■ FEATURES

- Low Operating Current (3.0mA typ. @V⁺=6V)
- Minimum other parts.
- Package Outline DIP16, DMP16
- Bipolar Technology

■ PIN CONFIGURATION



■ BLOCK DIAGRAM



NJM3357D
NJM3357M

NJM3357

■ ABSOLUTE MAXIMUM RATINGS

($T_a=25^\circ\text{C}$)

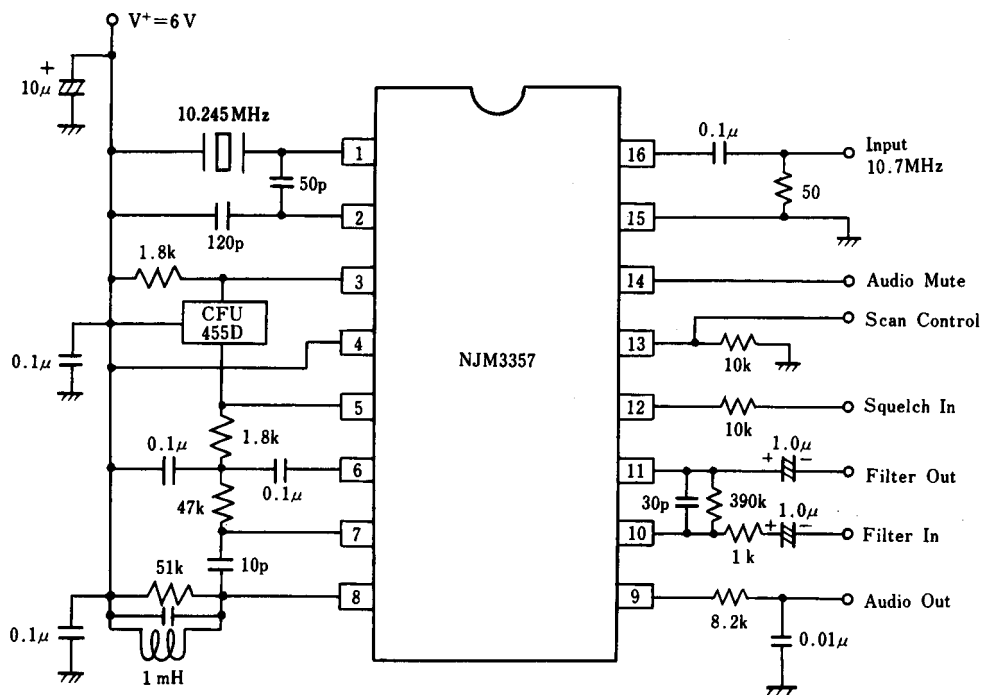
PARAMETER	SYMBOL	RATINGS	UNIT
Supply Voltage	V^+	12	V
Operating Supply Voltage Range	V^+_{opr}	4 to 8	V
Detector Input Voltage	V_8	1.0	V_{P-P}
Input Voltage ($V^+ \geq 6\text{V}$)	V_{16}	1.0	V_{rms}
Mute Function	V_{14}	-0.5 to 5.0	V_{PK}
Operating Temperature Range	T_{opr}	-40 to +85	$^\circ\text{C}$
Storage Temperature Range	T_{stg}	-40 to +125	$^\circ\text{C}$

■ ELECTRICAL CHARACTERISTICS

($V^+=6\text{V}$, $f_o=10.7\text{MHz}$, $\Delta f=\pm 3.0\text{kHz}$, $F_{mod}=1.0\text{kHz}$, $T_a=25^\circ\text{C}$)

PARAMETER	PIN	MIN.	TYP.	MAX.	UNIT
Operating Current	4	-	2.0	-	mA
Squelch OFF		-	3.0	5.0	mA
Squelch ON		-	3.0	5.0	mA
Input Limiting Voltage (-3dB Limiting)	16	-	5.0	10.0	μV
Detector Output Voltage	9	-	3.0	-	V
Detector Output Impedance	-	-	400	-	Ω
Recovered Audio Output Voltage ($V_{IN}=10\text{mV}_{rms}$)	9	200	350	-	mV_{rms}
Filter Gain ($f=10\text{kHz}$, $V_{IN}=5\text{mV}_{rms}$)	-	40	46	-	dB
Filter Output Voltage	11	1.8	2.0	2.5	V
Trigger Hysteresis	-	-	100	-	mV
Mute Function Low	14	-	15	50	Ω
Mute Function High	14	1.0	10	-	$\text{M}\Omega$
Scan Function Low (Mute OFF $V_{12}=2\text{V}$)	13	-	0	0.5	V
Scan Function High (Mute ON $V_{12}=0\text{V}$)	13	5.0	-	-	V
Mixer Conversion Gain	3	-	20	-	dB
Mixer Input Resistance	16	-	3.3	-	$\text{k}\Omega$
Mixer Input Capacitance	16	-	2.2	-	pF

■ TEST CIRCUIT

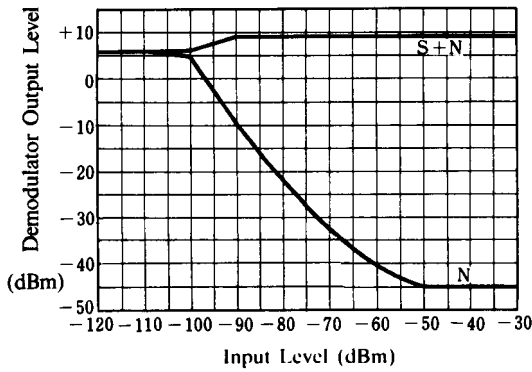


1mH: TOKO IFP455B

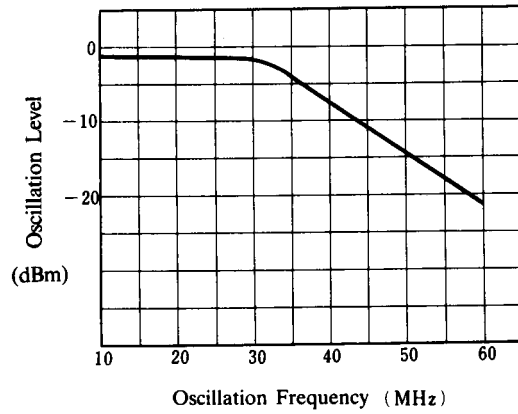
■ TYPICAL CHARACTERISTICS

Input - Output

($V^+ = 6.0V$, $f_{in} = 10.7MHz$, $f_{mod} = 1kHz$,
 $\Delta f = \pm 3kHz$)

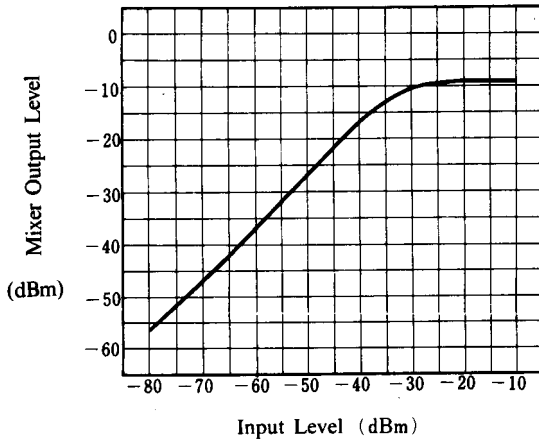


Local OSC Frequency



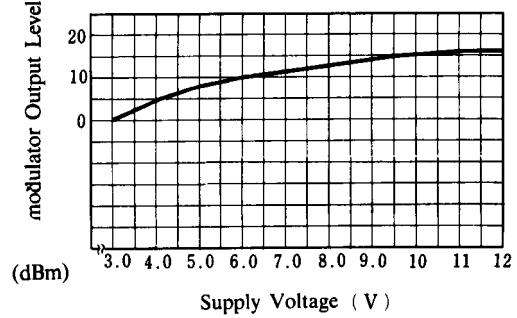
Mixer Input - Output

($V^+ = 6.0$, $f_{in} = 10.7MHz$, 2nd IF = 455kHz)



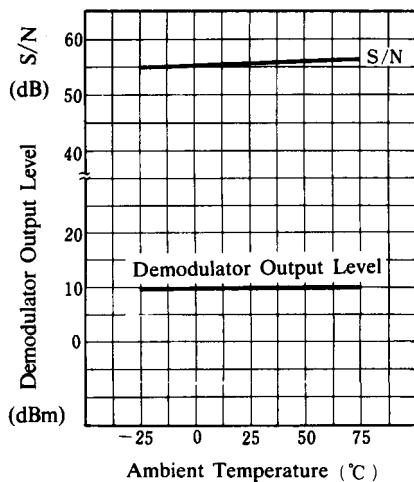
Demodulator Output Level

($f_{in} = 10.7MHz$, $V_{in} = 10mV_{rms}$,
 $\Delta f = \pm 3kHz$, $f_{mod} = 1kHz$)



Demodulator Output Level, S / N

($V^+ = 6.0V$, $f_{in} = 10.7MHz$, $V_{in} = 10mV_{rms}$,
 $f_{mod} = 1kHz$, $\Delta f = \pm 3kHz$)



[CAUTION]

The specifications on this databook are only given for information, without any guarantee as regards either mistakes or omissions. The application circuits in this databook are described only to show representative usages of the product and not intended for the guarantee or permission of any right including the industrial rights.