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## NTE1565 Integrated Circuit Phase Lock Loop (PLL) FM Demodulator for Portable Car Radio

**Features:**

- Phase Locked Loop System
- Wide Operating Supply Voltage Range
- Automatic Stereo/Monaural Switching when supply voltage goes down. No shock Noise is generated at ST/Mono switching.
- Lamp-lighting corresponds to the ST/Mono switching

**Functions:**

- Stereo Demodulator
- Automatic ST/Mono Switching Circuit
- Indicator Lamp Driver

**Absolute Maximum Ratings:**

Supply Voltage,  $V_{CC}$  ..... 16V  
 Lamp Driving Current,  $I_C$   
     Constant ..... 75mA  
     Peak ..... 100mA  
 Power Dissipation (Note 1),  $P_D$  ..... 400mW  
 Operating Temperature Range,  $T_{opr}$  ..... -30° to +75°C  
 Storage Temperature Range,  $T_{stg}$  ..... -55° to +125°C

**Electrical Characteristics:** ( $T_A = +25^\circ\text{C}$ ,  $V_{CC} = 9\text{V}$ ,  $P = 20\text{mV}$ ,  $L+R = 180\text{mV}$ ,  $f = 1\text{kHz}$  unless otherwise specified)

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Quiescent Current	$I_{CC}$		-	10	-	mA
Input Impedance	$Z_{in}$		23.5	50	-	k $\Omega$
Channel Separation	Sep	f = 100Hz	-	40	-	dB
		f = 1kHz	30	50	-	dB
		f = 10kHz	-	40	-	dB
Stereo Total Harmonic Distortion	ST THD		-	0.2	-	%
Output Voltage	$V_{out}$	$V_{in} = 200\text{mV}$	-	170	-	mV
Channel Balance	CB		1.5	0.5	1.5	dB
Monaural Total Harmonic Distortion	Mono THD		-	0.3	-	%
Lamp-ON Level	$L_{on}$		4	7	10	mV

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Lamp ON/OFF Hysteresis			-	4	-	dB
Carrier Leak	CL	19kHz	-	32	-	dB
		38kHz	-	35	-	dB
SCA Rejection Ratio	SCA <sub>Rej</sub>	SCA = 20mV, f <sub>sca</sub> = 67kHz	-	75	-	dB
Signal to Noise Ratio	S/N	R <sub>g</sub> = 4.7kΩ	-	82	-	dB
Capture Range	CR	P = 20mV	-	4	-	%
Max. Input Voltage	V <sub>in max</sub>	P = 10%, L+R = 90%, THD ≤ 2%	-	450	-	mV

### Pin Connection Diagram

