

IL91210EN

TONE/PULSE DIALER

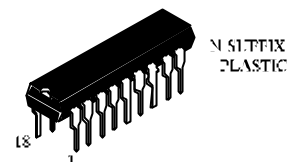
The IL91210EN is a single-chip, silicon gate, CMOS integrated circuit with an on-chip oscillator for a 3.58 MHz crystal or ceramic resonator. It provides dialing pulse (DP) or dual tone multi-frequency (DTMF) dialing. A standard 4x4 matrix keyboard can be used to support either DP or DTMF modes. Up to 32 digits can be saved in the on-chip RAM for reading. In the DTMF mode, minimum tone duration and minimum intertone pause are provided for rapid dialing. Maximum tone duration is dependent upon the key depression time in manual dialing.

- One touch redial operation
- Tone/Pulse switchable
- 32-digit capacity for redialing
- Built-in power up reset circuit
- PABX auto-pause is 2.2 second
- DTMF Timing:

Manual dialing: minimum duration for bursts and pauses

Redialing: calibrated timing

- Wide operating voltage range: 2 V to 5.5 V
- Uses inexpensive ceramic resonator (3.58 MHz)
- Digits dialed manually after redialing are cascable and stored as additional digits for the next redialing
- Automatic mixed redialing (last number redial) of pulse to DTMF with multiple automatic access pauses
- Four extra function keys: flash, pause, redial and DP or DTMF mixed dialing
- Four-by-four (or 2 of 8) keyboard can be used
- Low standby current
- Dial Pulse Rate: 10 pps



ORDERING INFORMATION

IL91210EN

T_A = -20° to 70° C

DC ELECTRICAL CHARACTERISTICS (V_{CC} = 3.5 V, F_{OSC} = 3.579 MHz, T_{OP} = +25°C)

Symbol	Parameter	Test Conditions		Guaranteed Limits		Unit
				Min	Max	
V _{CC}	DC Supply Voltage			2.0	5.5	V
V _{MR}	Minimum Memory Retention Voltage			1.0		V
V _{OC}	Tone Output Voltage	Column	V _{CC} = 3.5 V R _L = 5KΩ	584	876	mVp-p
V _{OR}		Row		456	684	
I _{OL1}	Minimum Output Current, XMUTE, KT, MODEOUT	V _{OL} = 0.4 V		0.5		mA
I _{OL2}	Minimum Output Sink Current, DP	V _{OL} = 0.4 V		0.6		mA
I _{MR}	Memory Retention Current	V _{CC} = 1.0 V, HK = V _{CC} All outputs unloaded			0.6	μA
I _{CCP}	Maximum Operation Current	Pulse mode	All outputs unloaded		1.0	mA
I _{CCT}		Tone mode			2.0	
I _{SBP}	Maximum Standby Current	Pulse mode HK = V _{CC} = 1.5 V	All outputs unloaded. No key selected		0.05	μA
I _{SBT}		Tone mode HK = GND			15	



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DIS%	Distortion			7	%
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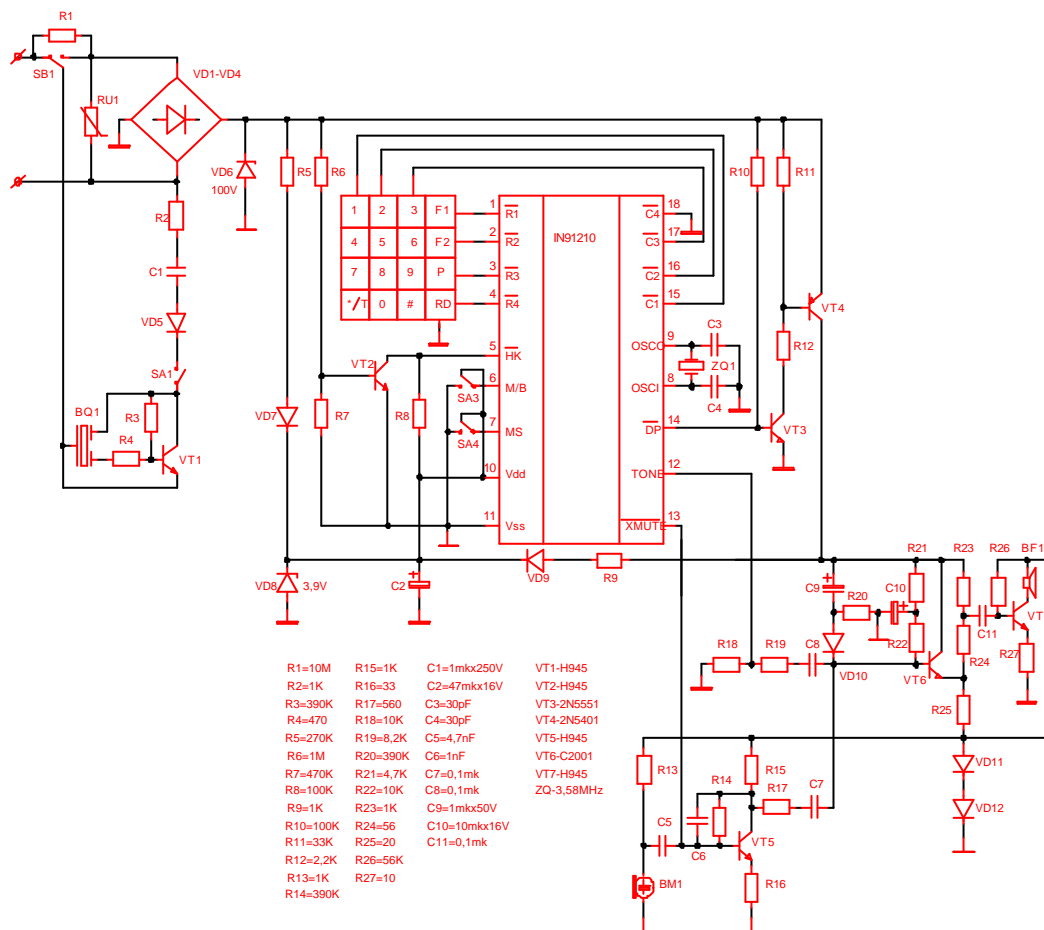
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AC ELECTRICAL CHARACTERISTICS

Symbol	Parameter	Test Conditions	Typ	Unit
T _M	Make Time	M/B = 1/2	33.3	ms
		M/B = 2/3	40	
T _B	Break Time	M/B = 1/2	66.6	ms
		M/B = 2/3	60	
T _{IDP}	Inter Digit Pause Time		824	ms
T _{PAU}	Pause Time		2.2	sec
T _{ROBK}	Auto-redial Break Time		2.2	sec
T _{MFD}	Minimum Tone Duration Time		94	ms
T _{TIDP}	Minimum Tone Inter-digit Pause		96	ms
T _{FSH}	Flash Time	F1	96	ms
		F2	640	

APPLICATION CIRCUIT



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