



HCD 220

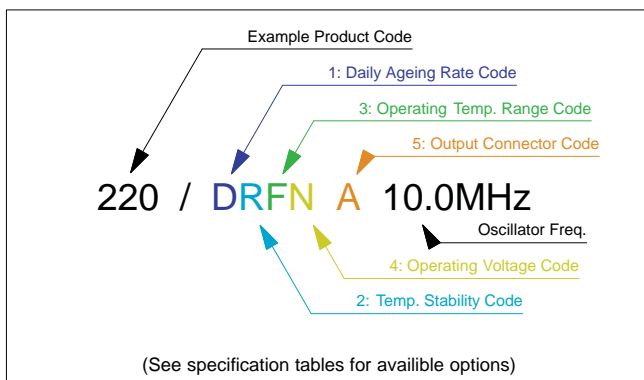
Features

- Temperature stability down to 1ppb
- Twin RF outputs available
- Oven alarm option on D9 connector
- Custom options available

Standard Models

The table below shows the most common models; in most cases selecting one of these will ensure best combination of price, performance and availability.

Product Code	Freq	Ageing per day	Temp stability
220/ DRFN D	5.0MHz	$< 1 \times 10^{-9}$	$< 1 \times 10^{-8}$ -20+70°C
220/ FTFN D	5.0MHz	$< 2 \times 10^{-10}$	$< 3 \times 10^{-9}$ -20+70°C
220/ DRFN A	10.0MHz	$< 1 \times 10^{-9}$	$< 1 \times 10^{-8}$ -20+70°C
220/ FTFN A	10.0MHz	$< 2 \times 10^{-10}$	$< 3 \times 10^{-9}$ -20+70°C



Parameters HCD220		Standard / Optional	Code
Frequency range:	5.0 ~ 16.0MHz	Standard	
Ageing per day (at dispatch):	$< 1 \times 10^{-9}$	Standard	D
	$< 2 \times 10^{-10}$	Standard	F
	$< 1 \times 10^{-10}$ (<10MHz)	Optional	G
Frequency stability:	$< 2 \times 10^{-8}$ per year max	Standard	
	$< 1 \times 10^{-9}$ per 5% change VDD	Standard	
	$< 5 \times 10^{-10}$ per 5% change in load	Standard	
Short term stability:	$< 5 \times 10^{-12}$ over 1 sec (5.0MHz)	Standard	
	$< 5 \times 10^{-11}$ over 1 sec (10.0MHz)	Standard	
Temperature stability:	$< 1 \times 10^{-8}$	Optional	R
	$< 5 \times 10^{-9}$	Standard	S
	$< 3 \times 10^{-9}$	Optional	T
	$< 1 \times 10^{-9}$	Standard	V
Operating temperature range:	0 to +50°C	Optional	A
	-10 to +60°C	Optional	C
	-20 to +70°C	Standard	F
	-40 to +70°C	Optional	G
Storage temp:	-40 to +90°C	Standard	
Output waveform:	Sine wave, 7dBm (± 1 dBm) into 50 Ω	Standard	
Frequency adjustment:	$\pm 5 \times 10^{-7}$ (typ) over +0.5 to +8.0V (sufficient for 10 years ageing min) Stabilised +6.0V supply provided	Standard	
Supply Voltage (V _{DD}):	+12.0V (± 0.5 V)	Standard	N
	+24.0V (± 0.5 V)	Standard	T
	Other options 12 ~ 30V	Optional	specify
Power consumption:	5.0W max at switch on	Standard	
	2.0W typ (stabilised at 25°C)	Standard	
Warm up:	$\pm 1 \times 10^{-8}$ after 12mins at +25°C	Standard	
Phase noise (@10MHz):	< -130 dBc/Hz @ 10Hz	Standard	
	< -140 dBc/Hz @ 100Hz	Standard	
	< -155 dBc/Hz @ 1kHz	Standard	
	< -158 dBc/Hz @ 10kHz	Standard	
	< -160 dBc/Hz @ 50kHz	Standard	
External connectors:	D9	Standard	D
	D9 + single SMA	Optional	A
	D9 + twin SMB	Optional	G
	Other (single SMC/BNC/MCX)	Optional	specify
Harmonics:	< -30 dB wrt carrier	Standard	
Shock:	IEC68-2-27 Test Ea 50G for 11ms	Standard	
Vibration:	IEC68-2-06 Test Fc 10-55Hz, 1.5mm. 55-500Hz, 10G	Standard	

