D2588 series

Ka-band to 720MHz Downconverters

INPUT SPECIFICATION			Options
1. Frequency range:		Any 1GHz, 2GHz or 3 GHz slot within 19 to 31GHz (see model table)	
2. Connector:		K-type	
3. Impedance:		50Ω	
4. Return loss:		≥18dB	
OUTPUT SPECIFICATION			
5. Frequency range:		720MHz	(see model table)
		IF ±200MHz (other values available)	
6. Connector:		SMA	
7. Impedance:		50Ω	
8. Return loss:		≥15dB	
9. 1dB compression point:		+10dBm	
10. Third order intercept::		+20dBm	
TRANSFER CHARACTERISTICS			
11. Gain:		25 to 45dB, adjustable in 0.1dB steps	20 to 40dB
12. Gain ripple:	over ±200MHz:	≤1.5dB p.t.p.	
	over ±40MHz:	≤0.8dB p.t.p.	
	over input band, 1GHz:	≤3dB p.t.p (1)	
	over input band, 2GHz or 3GHz:	≤4dB p.t.p (1)	
13. Gain stability,	0°C to 50°C:	±1dB	
	24hr. at constant temperature:	±0.2dB	
14. Frequency stability, -10°C to +60°C:		$1x10^{-7}$ from 0°C to +50°C	
		$1x10^{-8}$ at constant temperature over 24 hrs.	
15. External reference:		10MHz, 0dBm	5MHz, 0dBm
16. Synthesiser step size:		1kHz	
17. Noise figure (full gain):		<20dB	
Spurii			
18. Image rejection:		> 50dB	
19. In-band spurii (at 0dBm output):		< -55dBc typical	
PHASE NOISE			
20. 10Hz:		<-48dBc/Hz	
21. 100Hz:		<-70dBc/Hz	
22. 1kHz:		<-78dBc/Hz	
23. 10kHz:		<-83dBc/Hz	
24. 100kHz:		<-90dBc/Hz	
25. 1MHz:		<-110dBc/Hz	
26. Mains related:		<-60dBc	
MISCELLANEOUS			
27. Power supply:		115V/230V ±10% 50/60Hz ±10%, 50VA	
28. Mechanical:		1U 19" frame, 400, 500 or 520mm deep (depends on model)	
29. Temperature:	Operating:	0° to 50°C	
	Storage:	-40° to 85°C	
30. Relative humidity:	Operating:	0 to 90%	
	Storage:	0 to 95%	
31. Summary alarm:		NO and NC dry relay contacts via rear mounted connector	
32. Summary alarm indication:		Front panel LED	
33. Remote control:		● RS232 or RS422/RS485, connector D-type 9P F ● SNMP and HTTP over TCP/IP Ethernet, connector RJ45	

(1) Ripple spec measurement does not include 200MHz segment below the lowest limit and above the highest.

MODEL TABLE (a)

Model	Input	Output (c)
D2588-1	25.0 - 26.0GHz (b)	720 ± 200MHz
D2588-2	25.2 - 26.2GHz (b)	720 ± 200MHz
D2588-3	25.3 - 26.3GHz (b)	720 ± 200MHz
D2588-4	19.5 - 20.5GHz (b)	720 ± 200MHz
D2588-5	25.4 - 26.4GHz (b)	720 ± 200MHz
D2588-6	18.0 - 21.0GHz (b)	720 ± 200MHz
D2588-7	19.0 - 21.0GHz (b)	720 ± 200MHz
D2588-9	24.0 - 27.0GHz (b)	720 ± 200MHz
D2528	25.0 - 27.0GHz (b)	720 ± 200MHz

(a) This specification covers ALL frequency agile downconverters with 720MHz or 1.2GHz IF and RF input from 19GHz to 31GHz. This table lists ONLY more common models. Consult out office for other models configurations.
(b) Input frequencies are an illustrative sample. Any other values from 19GHz to 31GHz, in 50MHz steps, are possible.
(c) Other output bandwidths possible: ±20MHz, ±40MHz, ±50MHz, ±200MHz, ±300MHz.

NOTE

All Novella's frequency converter synthesisers are of the conventional phase-locked type. No DDS techniques or ICs are used. DDS synthesisers suffer from an inherent phase uncertainty (due to the inevitable residual frequency error) rendering them unsuitable for differential phase measurements used typically in satellite ranging and monopulse tracking systems which rely on differential phase measurements between two coherent signals processed by two downlink chains.

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