

MICROWAVE MIXER DIODES

AA51 AA51R

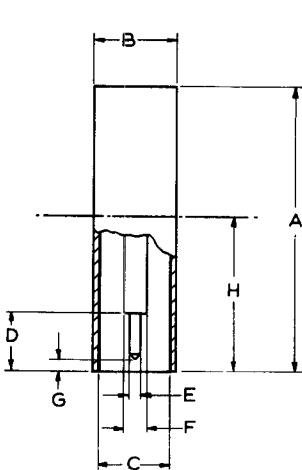
The AAY51 and AAY51R form a reverse pair of mixer diodes for use in balanced mixer circuits at J-band (Kuband). The diodes give a good impedance match over the whole band. The AAY51 and AAY51R are packaged in the standard coaxial outline for the frequency, similar to 1N78 types. The encapsulation is hermetically sealed.

QUICK REFERENCE DATA

Frequency range	12 to 18	GHz
Typ. noise figure at J-band	7.0	dB

Unless otherwise stated, data is applicable to both types

OUTLINE AND DIMENSIONS



Millimetres



	Min.	Max.
A	18.67	19.43
B dia.*	5.46	5.59
C dia.	4.67	4.80
D	3.73	-
E dia.	0.79	0.84
F dia.	1.60 nom.	
G	0.15	0.71
H	10.32 nom.	

*These tolerances apply over length H only

TERMINAL IDENTIFICATION

AAY51	Pin	cathode
	Body (red)	anode
AAY51R	Pin	anode
	Body (blue)	cathode

RATINGS (ABSOLUTE MAXIMUM SYSTEM)

Electrical

Max. burn-out (multiple d.c. spike) 0.1 erg

Temperature

T_{stg} max. 100 °C
 T_{stg} min. -55 °C
 T_{amb} max. 100 °C
 T_{amb} min. -55 °C

ELECTRICAL CHARACTERISTICS (at T_{amb} = 25°C)

		Min.	Typ.	Max.	
Static					
I _R	Reverse current V _R = 0.5V	-	3.0	-	µA
I _F	Forward current V _F = 0.5V	-	9.0	-	mA
Dynamic					
*N _o	Overall noise figure	-	7.0	7.5	dB
L _c	Conversion loss	-	5.2	-	dB
**N _r	Noise temperature ratio	-	1.1:1	-	
v.s.w.r.	Voltage standing wave ratio				
	measured at 13.5GHz	-	-	1.5:1	
	measured in band 13-18GHz	-	-	2.5:1	
z _{if}	Intermediate frequency impedance	220	270	320	Ω
f	Operating frequency range	12	-	18	GHz

*Measured at 13.5GHz in JAN201 holder. N_o includes N_{if} = 1.5dB (K1007 Issue 3, Section 8B 3.3.1/2)

**Intermediate frequency = 45MHz

FINISH

The bodies are cadmium plated in order to be compatible with an aluminium holder.

