

CV 5276

<p><u>Specification:</u> GPO/CV 5276 <u>Issue 1.</u> Dated October 1960 To be read in conjunction with K1007 Mandatory Sections. 1, 2, 3, 4, 5. 1,5. 2,5. 3,6,9,15. Other sections and Appendices as called up by this specification.</p>	<u>Security</u>	
	<u>Specification</u> Unclassified	<u>Valve</u> Unclassified

—> Indicates a change

<p><u>Type of Valve:</u> Silicon Junction Zener Noise Diode <u>Prototype:</u> KS15</p>		<u>Marking</u>	
		See K1007/4. The positive lead should be marked red.	
<u>RATINGS and CHARACTERISTICS</u> (Not for Inspection purposes)		<u>Dimensions</u>	
<u>All limiting values are absolute</u>		See K1007/A1/D6	
		<u>BODY</u>	
		The body shall be insulated from all leads or alternatively, shall be covered with an approved insulating sleeve.	
		<u>MOUNTING POSITION</u>	
		Any.	
<u>Notes</u>		<u>PACKAGING</u>	
<p>A. Averaged over any 20 m Sec period B. Joint Service Catalogue Number 5960-99-037-2316</p>		K1007/14	

TESTS

To be performed in addition to those applicable in K 1007

CV 5276

K 1007	Test	Test Conditions	AQL %	Insp. Level	Sym.	Limits		Units	
						Min.	Max.		
	<u>GROUP A</u>								
	Zener voltage	Ir d.c. = 1.0 mA		100%	VZ	7.1	7.9	V	
	Noise Voltage (1) (rms)	Ir d.c. = 1.0 mA Centre frequency = 16 kc/s Note 3		100%	Vn 1	1.5	-	μ V	
	Noise Voltage (2) (rms)	d.c. conditions as for Noise Test 1. Centre frequency = 200 c.p.s. Note 3		100%	Vn 2	-	$\sqrt{2}Vn1$	μ V	
	Noise Voltage (3) (rms)	Ir varied between 0.5 to 1.0 mA d.c. Centre frequency = 16 kc/s Note 3		100%	Vn 3	1.5	5.0	μ V	
	Incremental Impedance	d.c. conditions Ir is varied between 0.5 to 1.0 mA. A 1 mV rms a.c. Signal f = 1 kc/s is applied from a source impedance of 600 Ω .		100%	\bar{Z}	-	50	Ω	
	<u>GROUP B</u> Omitted								
	<u>GROUP C</u> T amb = $-10 \pm 2^{\circ}$ C			2.5	1	Vn 1	1.3	-	μ V
	Noise Voltage (1) (rms)								
	<u>GROUP D</u> Omitted								

CV 5276

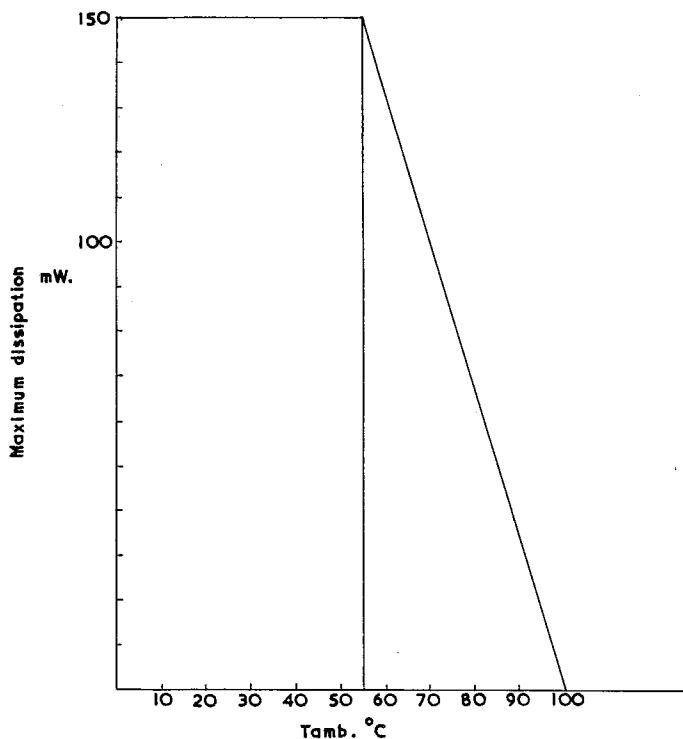
K 1007	Test	Test Conditions	AQL %	Insp. Level	Sym.	Limits		Units
						Min.	Max.	
	<u>GROUP E</u>							
10.2	Temperature cycling	Three cycles -55°C to +100°C No voltages		1C				
10.3	Climatic cycling	No voltages Note 1						
	<u>Post Temperature and Climatic cycling tests</u>							
8	Inoperatives	No voltages						
	Noise Voltage (1)	As in Group A	6.5		Vn 1	1.3	-	μV
	Noise Voltage (2)	As in Group A	6.5		Vn 2	-	$\sqrt{2}Vn1$	μV
	Noise Voltage (3)	As in Group A	6.5		Vn 3	1.3	6.0	μV
	Incremental Impedance	As in Group A	6.5		Z	-	55	Ω
11.3	<u>Fatigue</u>	No voltages		1C				
	<u>Post Fatigue tests</u>	Combined AQL	10					
8	Inoperatives	No voltages	6.5					
	Noise Voltage (1)	As in Group A	6.5		Vn 1	1.3	-	μV
11.4	Shock	No Voltages Hammer angle = 60°		T.A.				
	<u>Post Shock tests</u>	Combined AQL	10					
8	Inoperatives	No Voltages	6.5					
	Noise Voltages (1)	As in Group A	6.5		Vn 1	1.3	-	μV
10.1	Lead Fragility	No Voltages Note 2	6.5	1C				
11.5	Soldering	No Voltages	6.5	1C				

CV 5276

K 1007	Test	Test Conditions	AQL %	Insp. Level	Sym.	Limits		Units
						Min.	Max.	
13	<u>GROUP F</u> <u>LIFE</u>	PC = 150 mW T amb. = 55°C With diode passing reverse d.c. current. Note 4.						
13.3	<u>Life Test End Point 1000 hours</u>	Combined AQL	10	1A				
	Zener Voltage	As in Group A	6.5		Vz	6.9	8.1	V
	Noise Voltage (1) (rms)	As in Group A	6.5		Vn 1	1.3	-	μV
	Noise Voltage (2) (rms)	As in Group A	6.5		Vn 2	-	$\sqrt{2}Vn1$	μV
	Noise Voltage (3) (rms)	As in Group A	6.5		Vn 1	1.3	6.0	μV
	Incremental Impedance	As in Group A	6.5		Z	-	55	Ω
8	Inoperatives	No voltages	6.5					
13.4	<u>Storage Life (1)</u>	t = 150 hours T = -55°C		1				
13.5	<u>Storage Life (2)</u>	t = 150 hours T = +100°C		1				
	Post Storage Life Tests							
	Repeat Group A Tests	Combined AQL for Storage Life (1)	2.5					
		Combined AQL for Storage Life (2)	4.0					
5.2.2.11	<u>GROUP G</u> Re-test after 28 days holding period			100%				
8	Inoperatives	No voltages	0.5					
	Noise Voltage (1) (rms)	As in Group A	2.0		Vn 1	1.5	-	μV

CV 5276

DE-RATING CURVE

NOTES

1. The sample of diodes shall be subjected to conditioning in accordance with K1007, Section 10.1 shall then be subjected to climatic cycling and shall then pass the post climatic cycling tests.
2. Diodes used for this test must have undergone at least 28 cycles of the climatic test in accordance with K1007, Section 10.3.1 or 10.3.2 or 6 cycles in accordance with Section 10.3.3.
3. The maximum and minimum limits given relate to a bandwidth of 220 cps; $\sqrt{\frac{\Delta f}{200}}$ for any other bandwidth Δf cps, the limits should be multiplied by $\sqrt{\frac{\Delta f}{200}}$
4. Alternatively the life test may be carried out at any ambient temperature between 55°C and 90°C at a dissipation shown on the de-rating curve corresponding to the chosen ambient temperature.