

MINISTRY OF SUPPLY - DLRD/RRE

VALVE ELECTRONIC
SEMICONDUCTOR DEVICE **CV7047**

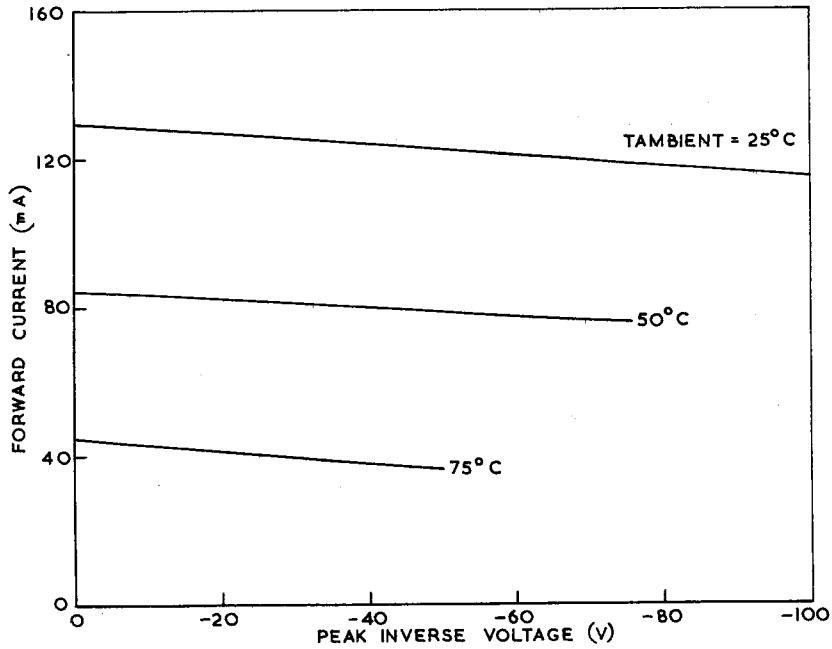
Specification MCS/CV7047 Issue 1 dated 10.8.59 To be used in conjunction with K 1007	<u>SECURITY</u>	
	<u>Specification</u>	<u>Valve</u>
	Unclassified	Unclassified

indicates a change

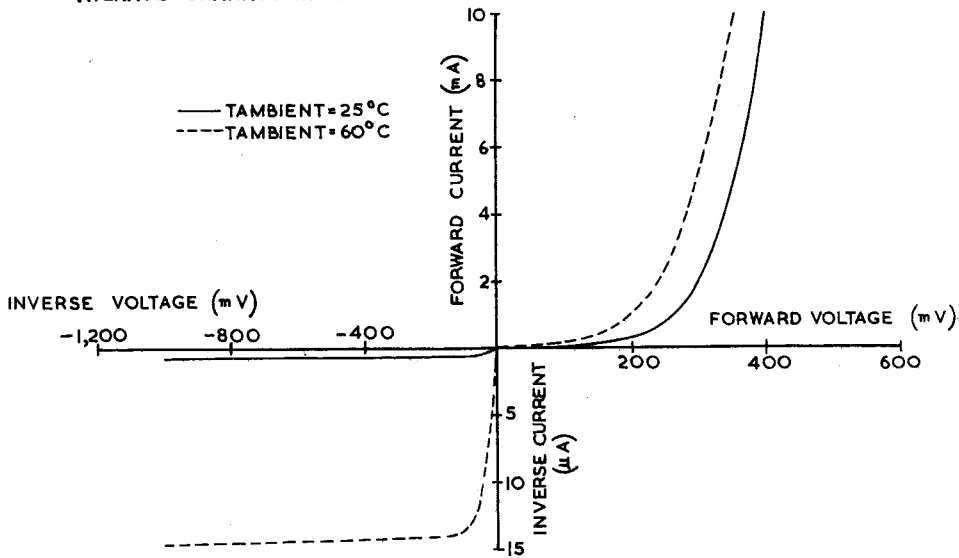
TYPE OF DEVICE - Gold Bonded Germanium Diode		<u>MARKING</u>	
CONSTRUCTION - Glass		CV number, manufacturer and date codes	
PROTOTYPE - QA5		See K1007/4	
<u>RATING</u>		<u>Dimensions</u>	
All limiting values are absolute		See K1007. A1.D2 except that dimension 0.320" max should read 0.120" max.	
	Note	<u>MOUNTING POSITION</u>	
Max. Reverse Voltage (V)	50	Any	
Max. Forward d.c. Current (mA)	50 B		
Max. dissipation (mW)	25 B	<u>PACKAGING</u>	
Max. Reverse Current (μA)	50 A.B		
Max. Peak Forward Current (mA)	350	See K1007 Sect.14	
Max. Total thermal resistance when mounted with leads each 25 mm. long (°C/mW)	0.8		
Max. Ambient Temperature (°C)	75		
Storage temperature range (°C)	-55 to +75		
Max. Continuous Vibration (g)	10		
Max. Shock (g)	500		
<u>CAPACITANCES (pF)</u>			
Cak max at -10 _v ± 1 _v (pF)	5		
<u>NOTES</u>			
A. Applied voltage = -65 _v			
B. T.Amb = 55°C			
C. JOINT SERVICE CATALOGUE NUMBER 5960-99-037-2056			

CV7047/1/1

DERATING CURVE FOR FORWARD CURRENT AGAINST PEAK INVERSE VOLTAGE AT AMBIENT TEMPERATURES OF 25 50 AND 75°C.



AVERAGE CHARACTERISTICS AT AMBIENT TEMPERATURES OF 25°C AND 60°C.



To be performed in addition to those in K1007 Section 5.2 and 5.3. **CV7047**

K1007 ref.	Test	Test Conditions	AQL %	Insp. Level	Sym- bol	Limits		Units
						Min.	Max.	
	<u>GROUP A</u>							
5.B.4	Forward Voltage (1)	If = 200 mA Note 2		100%	Vf	-	1.0	V
5.B.2	Reverse Current (1)	Vr = 100 V		100%	Ir	-	30	μ A
	<u>GROUP B</u> omitted							
	<u>GROUP C</u>							
5.B.4	Forward Voltage (2)	If = 10 mA	2.5	I	Vf	-	0.55	V
	<u>GROUP D</u>							
10	Photosensitivity	Vr = 100 V	2.5	I	Ir	-	5	μ A
5.B.2	Reverse Current (2)	T. amb = $55 \pm 2^\circ\text{C}$ Vr = 50 V	2.5	IA	Ir	-	50	μ A
5.B.5.1	Capacitance	Vr = -10 ± 1 V	6.5	IC	Cac	-	5	pF
	<u>GROUP E</u>							
10.1	Lead Fragility	No Voltages Note 1		IC				
11.5	Soldering	No Voltages		IC				
10.2	Temperature Cycling	No Voltages Three cycles -55°C to $+75^\circ\text{C}$		IC				
10.3	Climatic	No Voltages		IC				
11.3	Fatigue	No Voltages		IC				
11.4	Shock	No Voltages Hammer Angle = 60°		T.A.				
	<u>Post Temperature Cycling, Climatic, Fatigue and Shock Tests.</u>	Combined AQL for each group of tests.	10					
8	Inoperatives		6.5					
5.B.4	Forward Voltage	If = 200 mA	6.5		Vf	-	1.05	V
5.B.2	Reverse Current(1)	Vr = 100 V	6.5		Ir	-	35	μ A
10	Photo-sensitivity	Vr = 100 V	6.5		Ir	-	5	μ A

K1007 ref.	Test	Test Conditions	AQL %	Insp. Level	Sym- bol	Limits		Units
						Min.	Max.	
<u>GROUP F</u>								
13.1	Life	50 μ s half wave circuit with resis- tive load. $I_o = 16$ mA d.c. P.I.V. 50 v T.amb = 55°C		IA				
13.3	<u>Life Test End Point 1000 hours</u>	Combined AQL	6.5					
5.b.4	Forward Voltage	$I_f = 200$ mA	4.0		V_f	-	1.05	V
5.B.2	Reverse Current (1)	$V_r = 100$ v	4.0		I_r	-	35	μ A
8	Inoperatives		4.0					
13.4	Storage Life(1)	No Voltages $t = 150$ hours T = -55°C		I				
13.5	Storage Life(2)	No Voltages $t = 150$ hours T = +75°C		I				
	<u>Post Storage Life Tests</u>							
	Repeat Group A Tests.	Combined AQL for Storage Life (1) Combined AQL for Storage Life (2)	2.5 4.0					
<u>GROUP G</u>								
	Re-test after 28 days holding period.							
8	Inoperatives		0.5					
5.B.4	Forward Voltage	$I_f = 200$ mA	2.0		V_f	-	1.0	v
5.B.2	Reverse Current (1)	$V_r = 100$ v.	2.0		I_r	-	30	μ A
<u>NOTES</u>								
1. Diodes used for this test must have undergone at least 28 cycles of climatic conditioning in accordance with K1007, Section 10.3.1. or 10.3.2., or 6 cycles in accordance with Section 10.3.3.								
2. This test is made under pulse conditions. Alternatively the following may be applied:- $I_f = 50$ mA dc V_f max = 0.8v.								