DIODES, MICROWAVE, SILICON,

HYPER-ABRUPT JUNCTION TUNING VARACTOR,

BASED ON TYPES DH76XXX

ESCC Detail Specification No. 5512/023

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DCR No.	CHANGE DESCRIPTION
772	Specification upissued to incorporate editorial changes per DCR.

TABLE OF CONTENTS

1 GENERAL

1.1 SCOPE

This specification details the ratings, physical and electrical characteristics, test and inspection data for a Diode, Microwave, Silicon, Hyper-Abrupt Junction Tuning Varactor, based on Types DH76xxx. It shall be read in conjunction with ESCC Generic Specification No. 5010, the requirements of which are supplemented herein.

1.2 COMPONENT TYPE VARIANTS

Variants of the basic diodes specified herein, which are also covered by this specification are given in Table 1(a).

1.3 MAXIMUM RATINGS

The maximum ratings, which shall not be exceeded at any time during use or storage, applicable to the diodes specified herein, are as scheduled in Table 1(b).

1.4 PARAMETER DERATING INFORMATION

The derating information applicable to the diodes specified herein is shown in Figure 1.

1.5 PHYSICAL DIMENSIONS

The physical dimensions of the diodes specified herein are shown in Figure 2.

1.6 FUNCTIONAL DIAGRAM

The functional diagram, showing lead identification, of the diodes specified herein, is shown in Figure 3.

1.7 HANDLING PRECAUTIONS

These devices are susceptible to damage by electrostatic discharge. Therefore, suitable precautions shall be employed for protection during all phases of manufacture, testing, packaging, shipment and any handling.

These components are categorised as Class 2 with a Minimum Critical Path Failure Voltage of 2500V for Variants 01 to 45 and 55 to 72 and Class 3 with a Minimum Critical Path Failure Voltage of 5000V for Variants 46 to 54

2 APPLICABLE DOCUMENTS

The following documents form part of this specification and shall be read in conjunction with it:

(a) ESCC Generic Specification No. 5010 for Discrete Microwave Semiconductor Components.
(b) MIL-STD-750, Test Methods for Semiconductor Devices.

3 TERMS, DEFINITIONS, ABBREVIATIONS, SYMBOLS AND UNITS

For the purpose of this specification, the terms, definitions, abbreviations, symbols and units specified in ESCC Basic Specification No. 21300 shall apply.

C_T = Total Capacitance.

TABLE 1(a) - TYPE VARIANTS

(1) Variant	(2) Based on Type	(3) Figure	(4) Total Capacitance C_T (pF) (Note 1)	(5) Tuning Ratio C_{T1}/C_{T12}	(6) Tuning Ratio C_{T1}/C_{T20}	(7) Quality Factor (Q)	(8) Body-Lid and Lead Material and Finish
01	DH76010	2(a)	0.9 - 1.34	3.8 - 5.1	5.3	100	D7-E2
02		2(b)					D7
03		2(c)					D7-E2
04		2(d)					
05		2(e)					
06		2(f)					
07		2(g)	0.94 - 1.42	3.5 - 4.7	4.8		A7-D7
08		2(h)	1 - 1.5	3.3 - 4.4	4.3		D7
09		2(i)					D7-E2
10	DH76015	2(a)	1.3 - 1.94	4.1 - 5.5	5.8	90	D7-E2
11		2(b)					D7
12		2(c)					D7-E2
13		2(d)					
14		2(e)					
15		2(f)					
16		2(g)	1.34 - 2.02	3.9 - 5.2	5.3		A7-D7
17		2(h)	1.4 - 2.1	3.7 - 4.9	4.9		D7
18		2(i)					D7-E2
19	DH76022	2(a)	1.86 - 2.78	4.3 - 5.7	6.1	75	D7-E2
20		2(b)					D7
21		2(c)					D7-E2
22		2(d)					
23		2(e)					
24		2(f)					
25		2(g)	1.9 - 2.86	4.1 - 5.5	5.7		A7-D7
26		2(h)	1.96 - 2.94	3.9 - 5.3	5.4		D7
27		2(i)					D7-E2
28	DH76033	2(a)	2.74 - 4.1	4.5 - 6	6.3	58	D7-E2
29		2(b)					D7
30		2(c)					D7-E2
31		2(d)					
32		2(e)					
33		2(f)					
34		2(g)	2.74 - 4.18	4.3 - 5.8	6.1		A7-D7
35		2(h)	2.84 - 4.26	4.2 - 5.6	5.8		D7
36		2(i)					D7-E2

(1) Variant	(2) Based on Type	(3) Figure	(4) Total Capacitance C_T (pF) (Note 1)	(5) Tuning Ratio C_{T1}/C_{T12}	(6) Tuning Ratio C_{T1}/C_{T20}	(7) Quality Factor (Q)	(8) Body-Lid and Lead Material and Finish
37	DH76047	2(a)	3.86 - 5.78	4.6 - 6.1	6.5	40	D7-E2
38		2(b)					D7
39		2(c)					D7-E2
40		2(d)					
41		2(e)					
42		2(f)					
43		2(g)	3.9 - 5.86	4.5 - 6	6.3		A7-D7
44		2(h)	3.96 - 5.94	4.4 - 5.8	6.1		D7
45		2(i)					D7-E2
46	DH76068	2(a)	5.54 - 8.3	4.6 - 6.2	6.6	25	D7-E2
47		2(b)					D7
48		2(c)					D7-E2
49		2(d)					
50		2(e)					
51		2(f)					
52		2(g)	5.58 - 8.38	4.6 - 6.1	6.5		A7-D7
53		2(h)	5.64 - 8.46	4.5 - 6	6.3		D7
54		2(i)					D7-E2
55	DH76100	2(a)	8.1 - 12.14	4.7 - 6.3	6.7	12	D7-E2
56		2(b)					D7
57		2(c)					D7-E2
58		2(d)					
59		2(e)					
60		2(f)					
61		2(g)	8.14 - 12.22	4.2 - 6.2	6.6		A7-D7
62		2(h)	8.2 - 12.3	4.6 - 6.1	6.5		D7
63		2(i)					D7-E2
64	DH76150	2(a)	12.1 - 18.14	4.7 - 6.3	6.8	4	D7-E2
65		2(b)					D7
66		2(c)					D7-E2
67		2(d)					
68		2(e)					
69		2(f)					
70		2(g)	12.1 - 18.22	4.7 - 6.3	6.7		A7-D7
71		2(h)	12.2 - 18.3	4.7 - 6.2	6.6		D7
72		2(i)					D7-E2

NOTES

1. V_R = -4.0V, f = 1.0MHz.

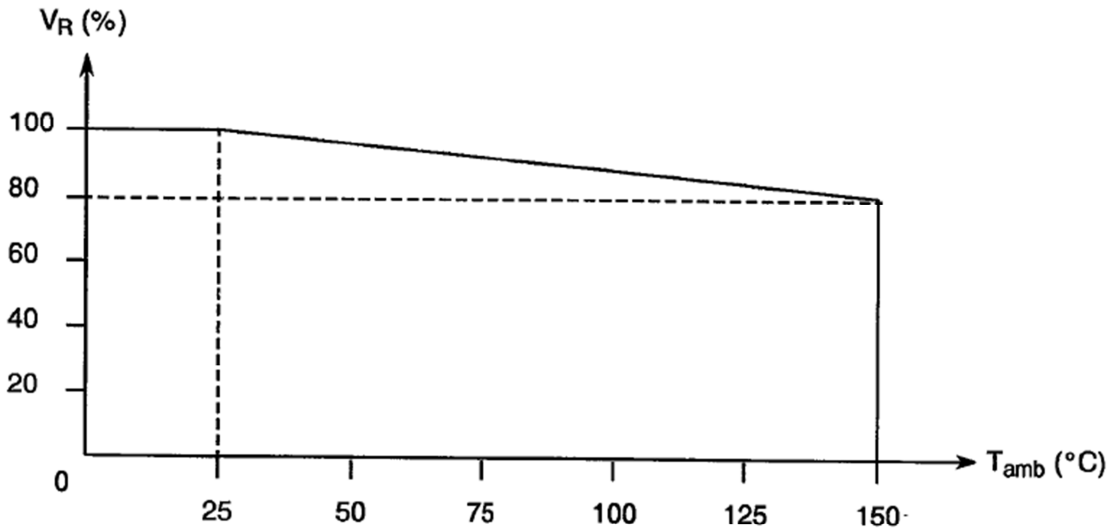
TABLE 1(b) - MAXIMUM RATINGS

No.	Characteristics	Symbol	Maximum Ratings	Unit	Remarks
1	Maximum Reverse Voltage	V_R	-20	V	Note 1
2	Operating Temperature Range	T_{op}	-55 to +150	^oC	T_{amb}
3	Storage Temperature Range	T_{stg}	-65 to +175	^oC	
4	Soldering Temperature	T_{sol}	+230	^oC	Note 2

NOTES

1. Measured at I_R = 10µA and T_{amb} = +25°C. For derating at T_{amb} > +25^{o}C, see Figure 1.
2. Duration 5 seconds maximum at a distance of not less than 1.5mm from the device body and the same termination shall not be resoldered until 3 minutes have elapsed. Not applicable to Variants 02, 07, 08, 11, 16, 17, 20, 25, 26, 29, 34, 35, 38, 43, 44, 47, 52, 53, 56, 61, 62, 65, 70 and 71.

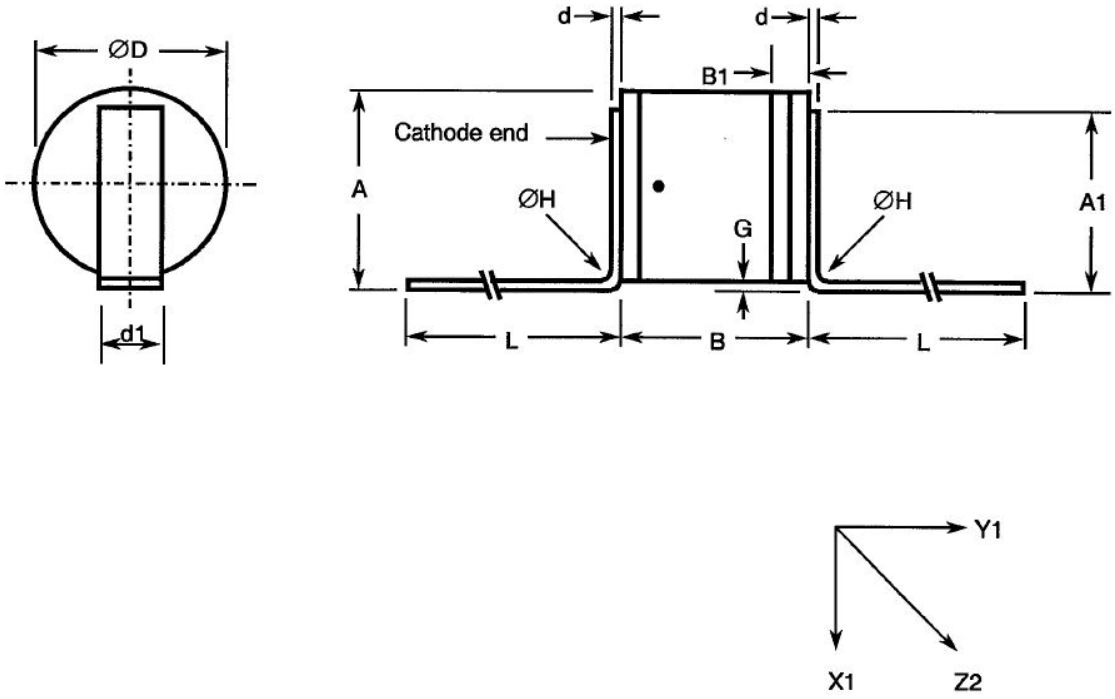
FIGURE 1 - PARAMETER DERATING INFORMATION



Reverse Voltage versus Temperature

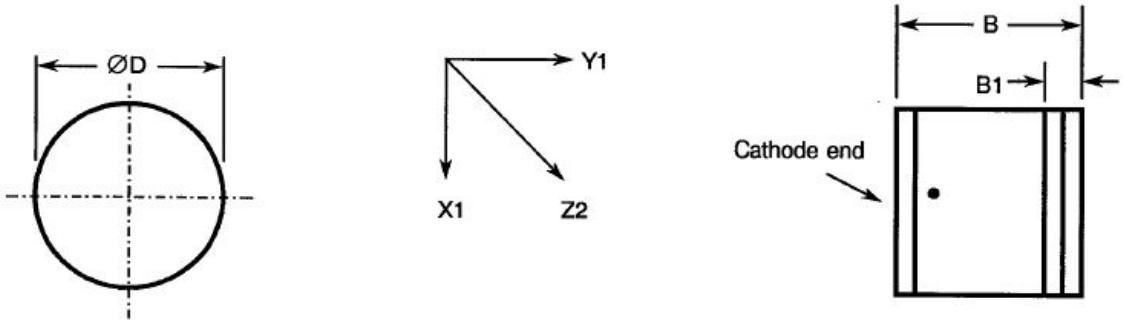
FIGURE 2 - PHYSICAL DIMENSIONS

FIGURE 2(a) VARIANTS 01, 10, 19, 28, 37, 46, 55, 64



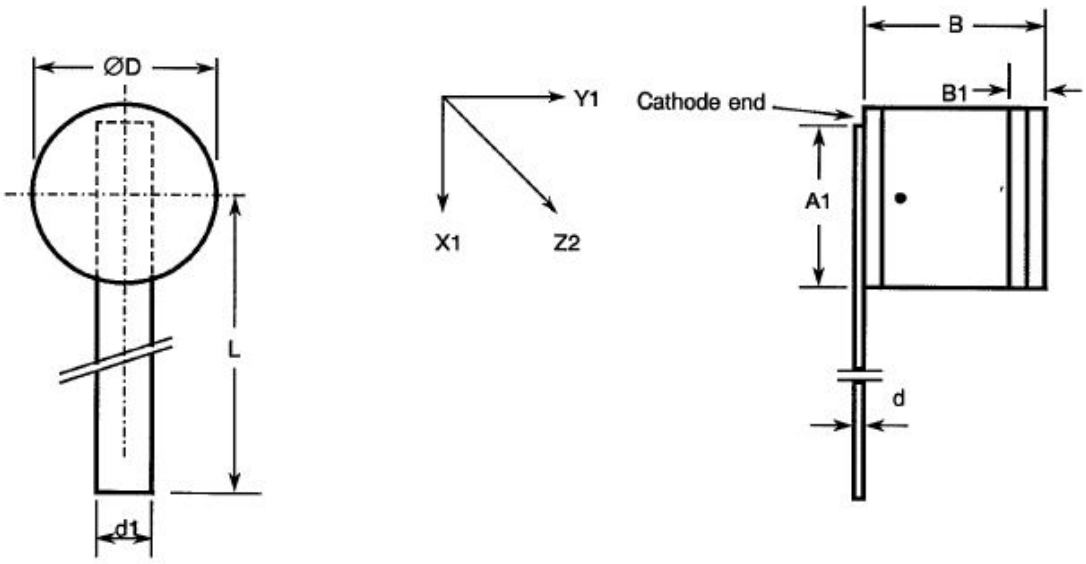
Symbol	Millimetres	
	min	max
A	1.3	1.9
A1	1.22	1.82
B	0.95	1.35
B1	0.23	0.33
d	0.06	0.1
d1	0.55	0.65
ØD	1.07	1.47
G	0.1	0.5
ØH	0.1	0.5
L	2.5	-

FIGURE 2(b) VARIANTS 02, 11, 20, 29, 38, 47, 56, 65



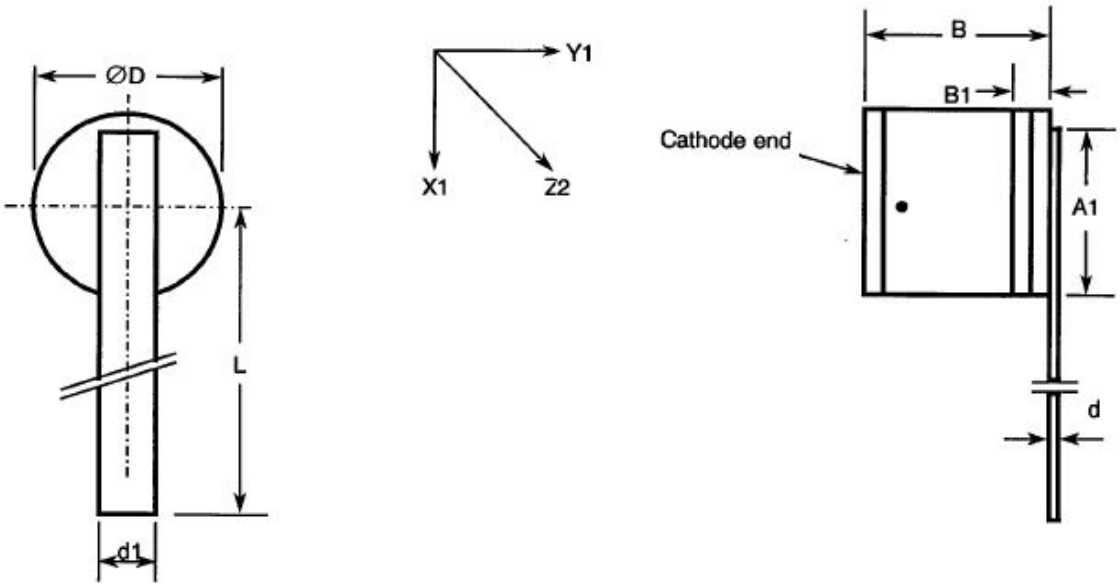
Symbol	Millimetres	
	min	max
B	0.95	1.35
B1	0.23	0.33
ØD	1.07	1.47

FIGURE 2(c) VARIANTS 03, 12, 21, 30, 39, 48, 57, 66



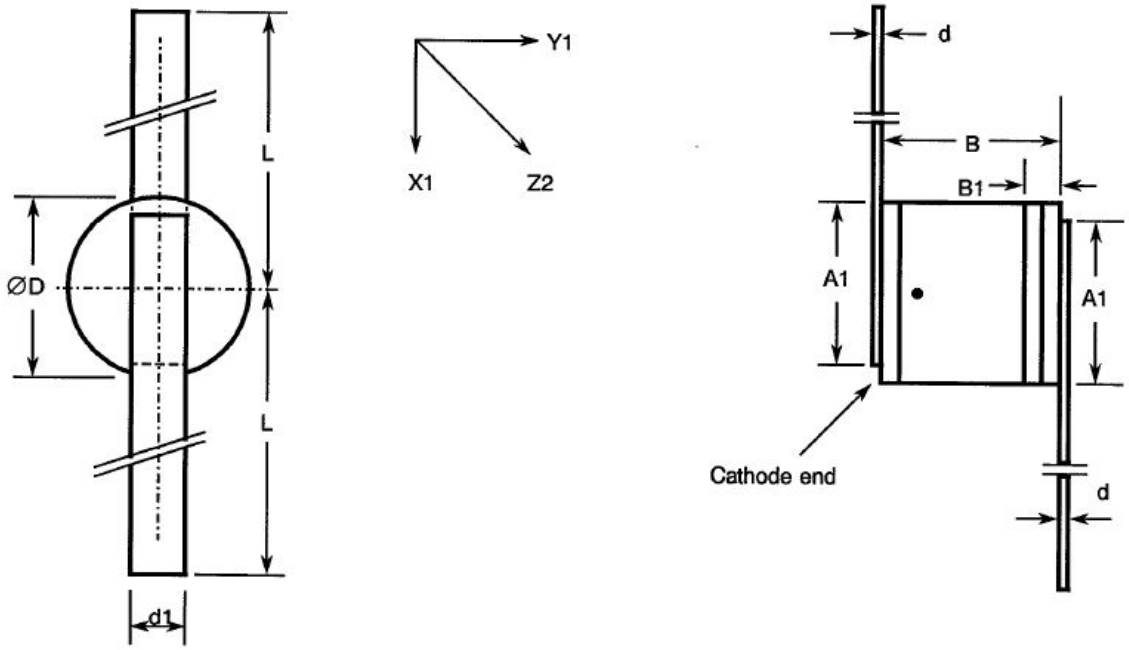
Symbol	Millimetres	
	min	max
A1	0.99	1.39
B	0.95	1.35
B1	0.23	0.33
d	0.06	0.1
d1	0.55	0.65
ØD	1.07	1.47
L	5	-

FIGURE 2(d) VARIANTS 04, 13, 22, 31, 40, 49, 58, 67



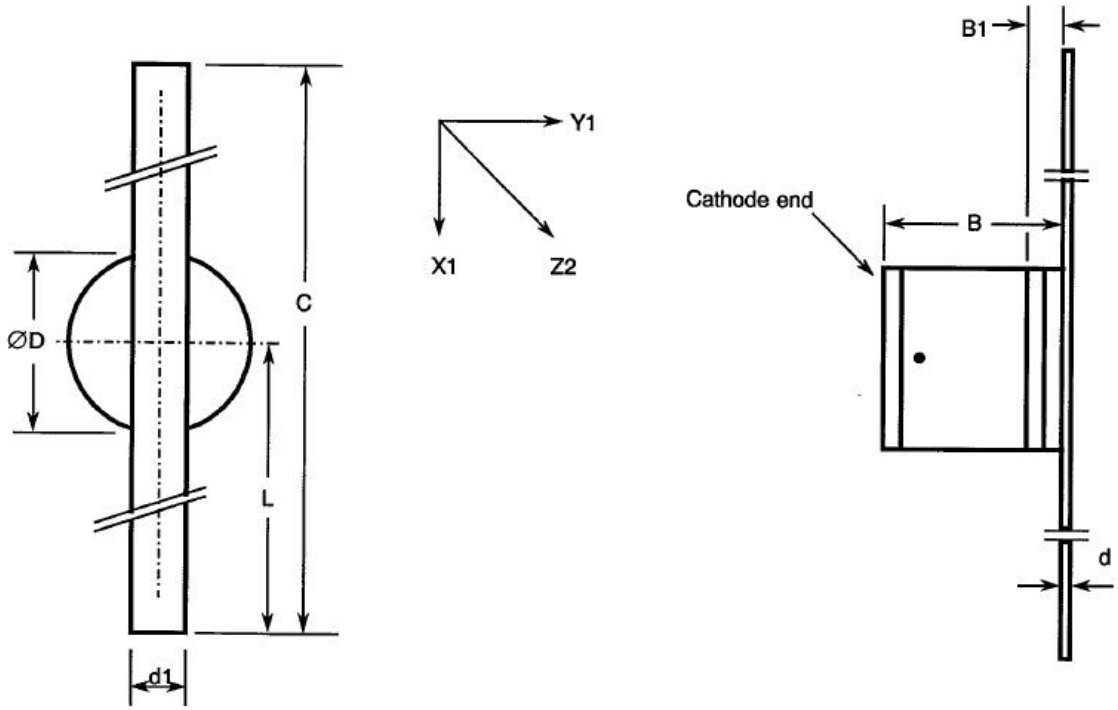
Symbols	Millimetres	
	min	max
A1	0.99	1.39
B	0.95	1.35
B1	0.23	0.33
d	0.06	0.10
d1	0.55	0.65
ØD	1.07	1.47
L	5.00	-

FIGURE 2(e) VARIANTS 05, 14, 23, 32, 41, 50, 59, 68



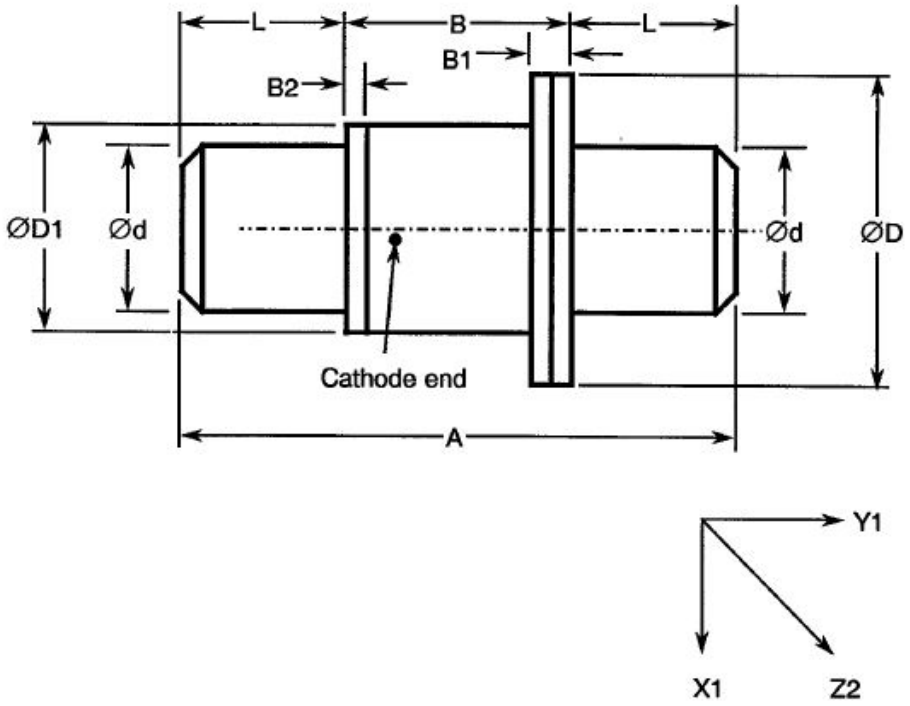
Symbol	Millimetres	
	min	max
A1	0.99	1.39
B	0.95	1.35
B1	0.23	0.33
d	0.06	0.1
d1	0.55	0.65
ØD	1.07	1.47
L	5	-

FIGURE 2(f) VARIANTS 06, 15, 24, 33, 42, 51, 60, 69



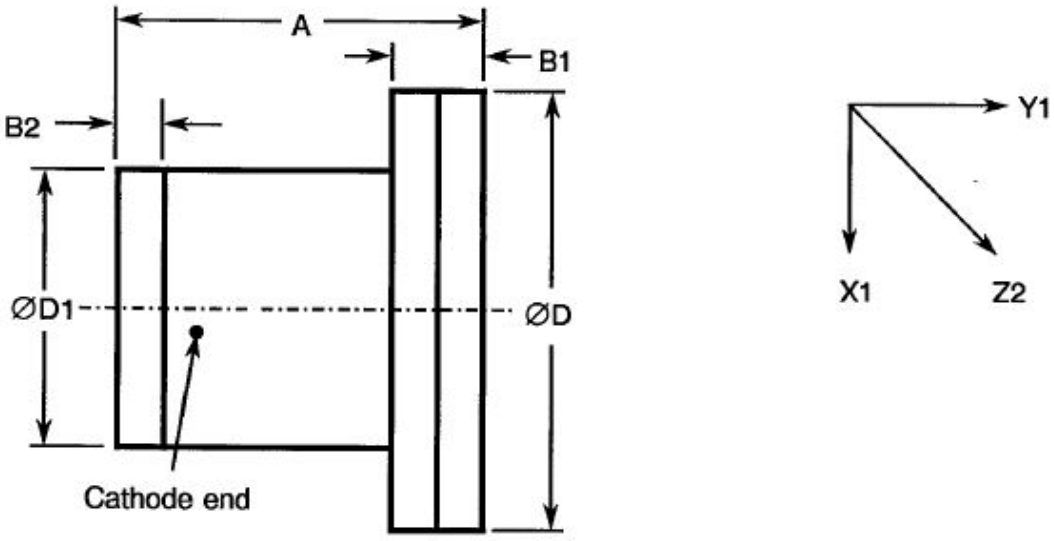
Symbol	Millimetres	
	min	max
B	0.95	1.35
B1	0.23	0.33
C	10	10.4
d	0.06	0.1
d1	0.55	0.65
ØD	1.07	1.47
L	5	-

FIGURE 2(g) VARIANTS 07, 16, 25, 34, 43, 52, 61, 70



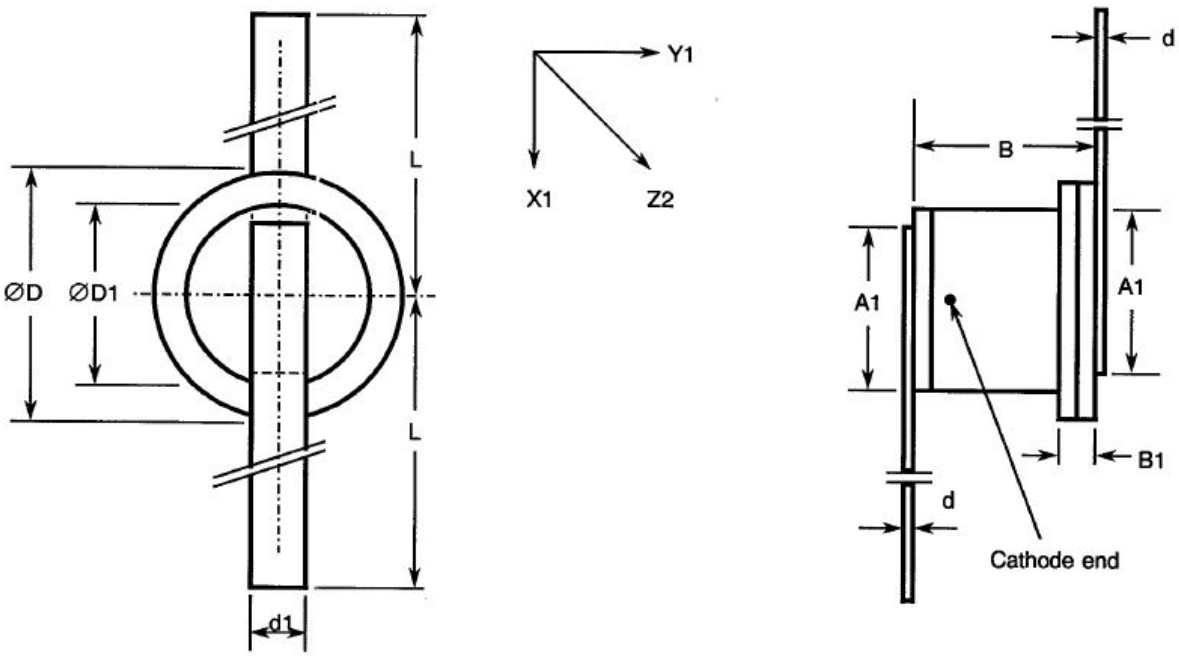
Symbol	Millimetres	
	min	max
A	5.2	5.72
B	2.16	2.46
B1	0.41	0.61
B2	0.15	0.25
Ød	1.52	1.63
ØD	3	3.23
ØD1	1.95	2.11
L	1.52	1.63

FIGURE 2(h) VARIANTS 08, 17, 26, 35, 44, 53, 62, 71



Symbol	Millimetres	
	min	max
A	1.4	1.6
B1	0.4	0.6
B2	0.15	0.25
ØD	2.94	3.14
ØD1	1.93	2.13

FIGURE 2(i) VARIANTS 09, 18, 27, 36, 45, 54, 63, 72



Symbol	Millimetres	
	min	max
A1	0.99	1.39
B	1.38	1.73
B1	0.44	0.63
d	0.07	0.08
d1	0.95	1.05
ØD	2.95	3.15
ØD1	1.93	2.13
L	9	-

FIGURE 3 - FUNCTIONAL DIAGRAM

1. Anode
2. Cathode

4 REQUIREMENTS

4.1 GENERAL

The complete requirements for procurement of the components specified herein shall be as stated in this specification and ESCC Generic Specification No. 5010 for Discrete Microwave Semiconductor Components. Deviations from the Generic Specification applicable to this specification only, are listed in Para. 4.2.

Deviations from the applicable Generic Specification and this Detail Specification, formally agreed with specific Manufacturers on the basis that the alternative requirements are equivalent to the ESCC requirements and do not affect the components' reliability, are listed in the appendices attached to this specification.

4.2 DEVIATIONS FROM GENERIC SPECIFICATION

4.2.1 Deviations from Production Control

None.

4.2.2 Deviations from Final Production Tests (Chart II (b))

None.

4.2.3 Deviations from Burn-in and Electrical Measurements (Chart III (a))

None.

4.2.4 Deviations from Qualification Tests (Chart IV)

(a) Para. 9.13, Shock Test: Shall not be performed.
(b) Para. 9.14, Vibration Test: Shall not be performed.
(c) Para. 9.15, Constant Acceleration: Shall not be performed.
(d) Para. 9.19, Terminal Strength: Shall not be performed for Variants 02, 07, 08, 11, 16, 17, 20, 25, 26, 29, 34, 35, 38, 43, 44, 47, 52, 53, 56, 61, 62, 65, 70 and 71.
(e) Para. 9.23, Special Testing: Shall not be performed.

4.2.5 Deviations from Lot Acceptance Tests (Chart V)

(a) Para. 9.13, Shock Test: Shall not be performed.
(b) Para. 9.14, Vibration Test: Shall not be performed.
(c) Para. 9.15, Constant Acceleration: Shall not be performed.
(d) Para. 9.19, Terminal Strength: Shall not be performed for Variants 02, 07, 08, 11, 16, 17, 20, 25, 26, 29, 34, 35, 38, 43, 44, 47, 52, 53, 56, 61, 62, 65, 70 and 71.
(e) Para. 9.23, Special Testing: Shall not be performed.

4.3 MECHANICAL REQUIREMENTS

4.3.1 Dimension Check

The dimensions of the diodes specified herein shall be checked. They shall conform to those shown in Figure 2.

4.3.2 Weight

The maximum weight of the diodes specified herein shall be as follows:

- Variants 01 to 06, 10 to 15, 19 to 24, 28 to 33, 37 to 42, 46 to 51, 55 to 60 and 64 to 69: 0.02g.
- Variants 07, 16, 25, 34, 43, 52, 61 and 70: 0.15g.
- Variants 08, 09, 17, 18, 26, 27, 35, 36, 44, 45, 53, 54, 62, 63, 71 and 72: 0.06g.

4.3.3 Terminal Strength

The requirements for terminal strength are specified in Section 9 of ESCC Generic Specification No. 5010. The test conditions shall be as follows:

(a) Condition: 'A' (Tension).
Variants 01, 03 to 06, 09, 10, 12 to 15, 18, 19, 21 to 24, 27, 28, 30 to 33, 36, 37, 39 to 42, 45, 46, 48 to 51, 54, 55, 57 to 60, 63, 64, 66 to 69 and 72.
- Force: 1.25N
- Duration: 10 seconds.

4.3.4 Bond Strength

The requirements for bond strength are specified in Section 9 of ESCC Generic Specification No.5010. The test conditions shall be as follows:

(a) Condition: 'A'.
(b) Separating Force: 0.03N minimum.

4.3.5 Die Shear

The requirements for die shear are specified in Section 9 of ESCC Generic Specification No. 5010. The test conditions shall be as follows:

(a) Semiconductor material remaining: 50% minimum.

4.3.6 High Temperature Stabilisation Bake

The requirements for high temperature stabilisation bake are specified in Section 9 of ESCC Generic Specification No. 5010. The temperature to be applied shall be +175 (+0 -3)°C.

4.4 MATERIALS AND FINISHES

The materials and finishes shall be as specified herein. Where a definite material is not specified, a material which will enable the diodes specified herein to meet the performance requirements of this specification shall be used. Acceptance or approval of any constituent material shall not guarantee acceptance of the finished product.

4.4.1 Case

The case shall be hermetically sealed and have a ceramic body. The lid shall be welded or preform soldered.

4.4.2 Lead Materials and Finish

(a) For Variants 01, 03 to 06, 09, 10, 12 to 15, 18, 19, 21 to 24, 27, 28, 30 to 33, 36, 37, 39 to 42, 45, 46, 48 to 51, 54, 55, 57 to 60, 63, 64, 66 to 69 and 72, the body material shall be Type 'D' with Type '7' finish and the lid material shall be Type 'E' with Type '2' finish, in accordance with the requirements of ESCC Basic Specification No. 23500.

b) For Variants 02, 08, 11, 17, 20, 26, 29, 35, 38, 44, 47, 53, 56, 62, 65 and 71, the body and lid material shall be Type ‘D’ with Type ‘7’ finish, in accordance with the requirements of ESCC Basic Specification No. 23500.

c) For Variants 07, 16, 25, 34, 43, 52, 61 and 70, the body material shall be Type ‘A’ with Type ‘7’ finish and the lid material shall be Type ‘D’ with Type ‘7’ finish, in accordance with the requirements of ESCC Basic Specification No. 23500.

4.5 MARKING

4.5.1 General

The marking of components delivered to this specification shall be in accordance with the requirements of ESCC Basic Specification No. 21700 and the following paragraphs. When the component is too small to accommodate all of the marking specified, as much as space permits shall be marked and the marking information, in full, shall accompany the component in its primary package.

The information to be marked and the order of precedence, shall be as follows:

(a) Terminal Identification.
(b) The ESCC Component Number.
(c) Traceability Information.

4.5.2 Cathode Identification

Cathode identification shall be as shown in Figures 2 and 3 of this specification.

4.5.3 ESCC Component Number

Each component shall bear the ESCC Component Number which shall be constituted and marked as follows:

Example: 551202301BF

- Detail Specification Number: 5512023
- Type Variant (see Table 1(a)): 01
- Testing Level (B or C, as applicable): B
- Total Dose Irradiation Level (if applicable): F

The Total Dose Irradiation Level designation shall be added for those devices for which a sample has been successfully tested to the level in question. For these devices, a code letter shall be added in accordance with the requirements of ESCC Basic Specification No. 22900.

4.5.4 Traceability Information

Each component shall be marked in respect of traceability information in accordance with the requirements of ESCC Basic Specification No. 21700.

4.6 ELECTRICAL MEASUREMENTS

4.6.1 Electrical Measurements at Room Temperature

The parameters to be measured at room temperature are scheduled in Table 2. Unless otherwise specified, measurements shall be performed at T_{amb} = +22 ±3°C.

4.6.2 Electrical Measurements at High and Low Temperatures

The parameters to be measured at high and low temperatures are scheduled in Table 3. Unless otherwise specified, the measurements shall be performed at T_{amb} = +150 (+0 -3)ºC.

4.7 BURN-IN TESTS

Burn-in shall be Category 1 of Chart III(a) of ESCC Generic Specification No. 5010.

4.7.1 Parameter Drift Values

The parameter drift values applicable to burn-in are specified in Table 4 of this specification. Unless otherwise stated, the measurements shall be performed at T_{amb} = +25 ±3°C. The parameter drift values (Δ) applicable to the scheduled parameters shall not be exceeded. In addition to these drift value requirements for a given parameter, the appropriate limit value specified in Table 2 shall not be exceeded.

4.7.2 Conditions for High Temperature Reverse Bias Burn-in

The requirements for the high temperature reverse bias burn-in are specified in Section 9 of ESCC Generic Specification No. 5010. The conditions for high temperature reverse bias burn-in shall be as specified in Table 5(a) of this specification.

4.7.3 Conditions for Power Burn-in

The requirements for power burn-in are specified in Section 9 of ESCC Generic Specification No. 5010. The conditions for power burn-in shall be as specified in Table 5(b) of this specification.

4.7.4 Electrical Circuits for High Temperature Reverse Bias

Circuits for use in performing the high temperature reverse bias burn-in test are shown in Figure 5(a) of this specification.

4.7.5 Electrical Circuit for Power Burn-in (Figure 5(b))

Not applicable.

TABLE 2 - ELECTRICAL MEASUREMENTS AT ROOM TEMPERATURE - DC PARAMETERS

No.	Characteristics	Symbol	MIL-STD-750 Test Method	Test Conditions	Limits		Unit
					Min.	Max.	
1	Reverse Current 1	I_{R1}	4016	V_R = -20V	-	10	µA
2	Reverse Current 2	I_{R2}	4016	V_R = -16V	-	50	nA
3	Forward Voltage 1	V_{F1}	4011	I_F = 10mA	-	1	V

TABLE 2 - ELECTRICAL MEASUREMENTS AT ROOM TEMPERATURE - AC PARAMETERS

No.	Characteristics	Symbol	MIL-STD-750 Test Method	Test Conditions	Limits			Unit
					Min.	Typ	Max	
4	Total Capacitance	C_T	4001	V_R = -4.0V f = 1.0MHz	Note 1	-	Note 1	pF
5	Tuning Ratio	C_{T1}/C_{T12} (Note 2)	4001	V_R = -1.0V V_R = -12V f = 1.0MHz	Note 3	-	Note 3	-
6	Tuning Ratio	C_{T1}/C_{T20} (Note 4)	4001	V_R = -1.0V V_R = -20V f = 1.0MHz	-	Note 5	-	-
7	Quality Factor	Q	-	V_R = -4.0V f = 1.0GHz	Note 6	-	-	-

NOTES

1. See Column 4 of Table 1(a).
2. Ratio = (C_T at V_R = -1.0V)/(C_0 at V_R = -12V).
3. See Column 5 of Table 1(a).
4. Ratio = (C_T at V_R = -1.0V)/(C_T at V_R = -20V).
5. See Column 6 of Table 1(a).
6. See Column 7 of Table 1(a). Guaranteed but not tested.

TABLE 3- ELECTRICAL MEASUREMENTS AT HIGH AND LOW TEMPERATURES

No.	CHARACTERISTICS	SYMBOL	SPEC. AND/OR TEST METHOD	TEST CONDITIONS	LIMITS		UNIT
					MIN.	MAX.	
2	Reverse Current 2	I_{R2}	4016	V_R = -16V	-	10	µA

FIGURE 4 - CIRCUITS FOR ELECTRICAL MEASUREMENTS

Not applicable.

TABLE 4 - PARAMETER DRIFT VALUES

No.	Characteristics	Symbol	Spec. And/Or Test Method	Test Conditions	Change Limits (Δ)	Unit
2	Reverse Current 2	I_{R2}	As per Table 2	As per Table 2	±100 or (1) ±10	% nA
3	Forward Voltage	V_F	As per Table 2	As per Table 2	±5	%
4	Total Capacitance	C_T	As per Table 2	As per Table 2	±5 (2)	%

NOTES

1. Whichever is the greater, referred to the initial measurement.
2. Rounded upwards to the nearest 0.01pF. If C_T < 0.25pF, then Δ = ±10%.

TABLE 5(a) - CONDITIONS FOR HIGH TEMPERATURE REVERSE BIAS BURN-IN AND OPERATING LIFE TESTS

No.	Characteristics	Symbol	Conditions	Unit
1	Ambient Temperature	T_{amb}	+150 (+0 -3)	ºC
2	Reverse Voltage	V_R	-16	V

TABLE 5(b) - CONDITIONS FOR POWER BURN-IN

No.	Characteristics	Symbol	Conditions	Unit
1	Ambient Temperature	T_{amb}	+125 (+0 -3)	^{o}C
2	Forward Current	I_F	50	mA

FIGURE 5(a) - ELECTRICAL CIRCUIT FOR HIGH TEMPERATURE REVERSE BIAS BURN-IN AND OPERATING LIFE TESTS

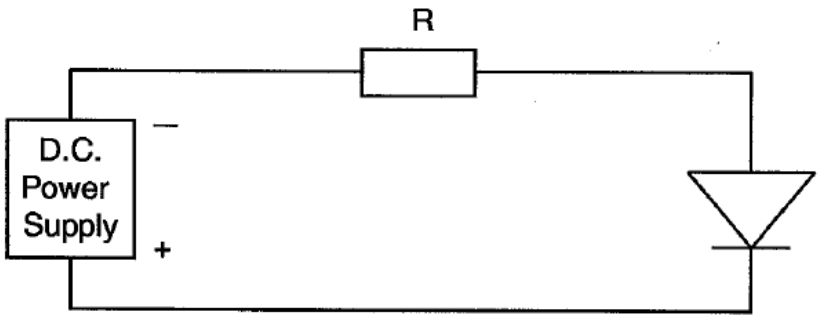


FIGURE 5(b) - ELECTRICAL CIRCUIT FOR POWER BURN-IN

Not applicable.

4.8 ENVIRONMENTAL AND ENDURANCE TESTS (CHARTS IV AND V OF ESCC GENERIC SPECIFICATION No. 5010)

4.8.1 Electrical Measurements on Completion of Environmental Tests

The parameters to be measured on completion of environmental tests are scheduled in Table 2. Unless otherwise stated, the measurements shall be performed at T_{amb} = +22 ±3ºC.

4.8.2 Electrical Measurements at Intermediate Points and on Completion of Endurance Tests

The parameters to be measured at intermediate points and on completion of endurance tests are scheduled in Table 6. Unless otherwise stated, the measurements shall be performed at T_{amb} = +22 ±3°C.

4.8.3 Conditions for Operating Life Tests (Part of Endurance Testing)

The requirements for operating life testing are specified in Section 9 of ESCC Generic Specification No. 5010. The conditions for operating life testing are specified in Table 5(a) of this specification, except that the duration shall be as specified in ESCC Generic Specification No. 5010, Para. 9.20.

4.8.4 Electrical Circuits for Operating Life Tests

The circuit to be used for performance of the operating life test shall be the same as shown in Figure 5(b) for High Temperature Reverse Bias Burn-in.

4.9 TOTAL DOSE IRRADIATION TESTING

Not applicable.

4.10 SPECIAL TESTING

Not applicable.

TABLE 6- ELECTRICAL MEASUREMENTS AT INTERMEDIATE POINTS AND ON COMPLETION OF ENDURANCE TESTING

No.	CHARACTERISTICS	SYMBOL	SPEC. AND/OR TEST METHOD	TEST CONDITIONS	LIMITS		UNIT
					MIN.	MAX.	
1	Reverse Current 2	I_{R2}	As per Table 2	As per Table 2	-	20	µA
2	Total Capacitance	C_T	As per Table 2	As per Table 2	-	Note 1	pF
3	Forward Voltage	V_F	As per Table 2	As per Table 2	-	1	V

NOTES:

1. See Column 4 of Table 1(a).

FIGURE 6 - BIAS CONDITIONS FOR IRRADIATION TESTING

Not applicable.

TABLE 7 - ELECTRICAL MEASUREMENTS DURING AND ON COMPLETION OF IRRADIATION TESTING

Not applicable.

APPENDIX A

AGREED DEVIATIONS FOR TEKELEC (F)

ITEMS AFFECTED	DESCRIPTION OF DEVIATIONS
Para. 4.2.1	Para. 5.2, Wafer Lot Acceptance: Scanning Electron Microscope (SEM) Inspection shall be performed on one wafer per metallisation run. Three dice shall be selected at random after dicing.
Para. 4.2.2	Para. 9.12, Radiographic Inspection of Chart III(a): May be performed after Para. 9.7, PIND test.
Para. 4.2.3	Para. 9.12, Radiographic Inspection: May be performed after Para. 9.7, PIND test of Chart II(b).