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EIA-535BAAD

EIA DETAIL SPECIFICATION

Fixed Tantalum Chip Capacitor Style 1 Protected - Extended Capacitance Range

EIA-535BAAD

JANUARY 1991

ELECTRONIC INDUSTRIES ASSOCIATION
ENGINEERING DEPARTMENT



Approved For Use In
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(From Standards Proposal No. 2282 formulated under cognizance of the EIA P-2.5 Subcommittee on Electrolyte Dielectric Capacitive Components)

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FIXED TANTALUM CHIP CAPACITOR

STYLE 1 PROTECTED - EXTENDED CAPACITANCE RANGE

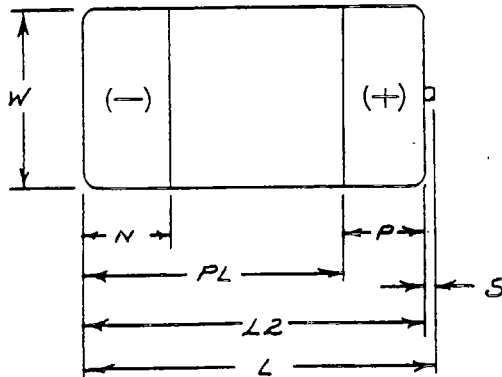
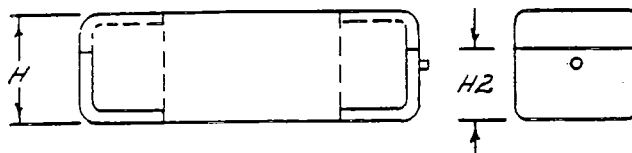
This Standard consists of International Electrotechnical Commission Quality Assessment Systems (IECQ) Detail Specification QC 300801/US0002, March 1986. It is issued as an EIA document to provide a Specification in the National Electronic Components Quality Assessment System (NECQ).

IEC documents referenced in this Detail Specification (e.g., QC 300000) may be obtained from the American National Standards Institute, 1430 Broadway, New York, NY 10018

ELECTRONIC INDUSTRIES ASSOCIATION

Electronic Components of Assessed
Quality in Accordance With:
QC300000 (IEC384-1)

Outline Drawing: (See Table I)
(Third Angle Projection)



(Other shapes permitted within
the dimensions given)

EIA-535BAAD

March 17, 1989

QC300801

Fixed Tantalum Chip Capacitor
Style 1 Protected - Extended
Capacitance Range

Polar, Non-Hermetically Sealed
Chip Capacitor with Solid
Electrolyte and Porous Tantalum
Anode

Electrical Circuit

- 0-----) |-----+

Assessment Level: E

Information on the availability
of components qualified to this
detail specification are given
in the Qualified Products List.

Part One - General Data1.0 GENERAL DATA1.1 RECOMMENDED METHOD(S) OF MOUNTING

These components can be attached to glass epoxy or alumina substrates by conventional techniques, such as vapor-phase, infrared (IR) or thermal conduction reflow, wave soldering and hot plate/belt methods. In general attachment with a soldering iron is not recommended due to the difficulty of consistently controlling temperature and time at temperature.

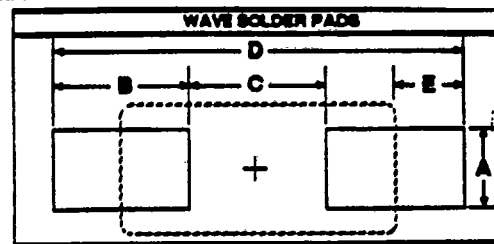
Recommended nominal temperature and duration: 230°C for 10 seconds.

Limiting factors are:

- a) Temperature should not exceed 260°C
- b) Time duration should not exceed 10 seconds at maximum temperature.

1.1.1 RECOMMENDED LAND PATTERNS

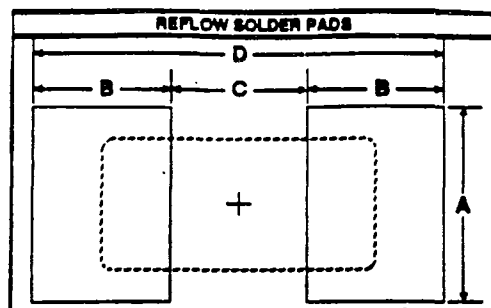
The following recommendations are intended to be starting points for users, and may be optimized to suit their own unique process consideration and requirements.

1.1.1.1 WAVE SOLDER PROCESS

DIMENSIONS (mm)

DIMENSIONS	CASE SIZE			
	3518	3527	7227*	7257
A (NOM)	1.4	2.0	2.0	4.2
B (NOM)	2.0	2.0	2.7	2.7
C (NOM)	1.0	1.0	2.9	2.9
D (NOM)	5.0	5.0	8.3	8.3
E (NOM)	1.0	1.0	1.0	1.0

* 7227 A, B and C all have the same termination footprint but different height dimensions.

1.1.1.2 REFLOW SOLDER PROCESSDIMENSION (mm)

DIMENSION	CASE SIZE			
	3518	3527	7227*	7257
A (NOM)	2.0	3.4	3.4	6.7
B (NOM)	1.0	1.0	1.7	1.7
C (NOM)	1.0	1.0	2.9	2.9
D (NOM)	3.0	3.0	6.3	6.3

- * 7227 A, B and C all have the same termination footprint but different height dimensions.

1.2 DIMENSIONS (mm):

TABLE IA

Case	L	W	H	N	P	H2 Min	L2	PL
3518	3.5+-.2	1.8+-.2	1.2+-.3	.5+-.3	.2-1.3	.7	2.9+-.3	2.2+-.4
3527	3.5+-.2	2.7+-.3	1.3+-.3	.5+-.3	.2-1.3	.7	2.9+-.3	2.2+-.4
7227A	7.0+-.3	2.7+-.3	1.3+-.3	1.0+-.5	.2-1.8	1.0	6.2+-.3	5.1+-.7
7227B	7.0+-.3	2.7+-.3	1.8+-.3	1.0+-.5	.2-1.8	1.0	6.2+-.3	5.1+-.7
7227C	7.0+-.3	2.7+-.3	2.7+-.3	1.0+-.5	.2-1.8	2.0	6.2+-.3	5.1+-.7
7257	7.0+-.3	5.9+-.3	3.5+-.3	1.0+-.5	.2-1.8	2.0	6.2+-.3	5.1+-.7

All Dimensions mm

Note 1: H2 = Termination Height

L2 = Length of unit without anode riser

PL = Location of anode termination

Note 2: The riser from the Tantalum Anode may extend into the volume delineated by "S" (shown on outline drawing).

Note 3: There are minor differences in the unit configurations supplied by the various manufacturers. For optimum results the user should consult the selected component manufacturers' specifications prior to doing PWB layouts.

1.3 RATINGS AND CHARACTERISTICS :

Capacitance C_R	0.10 to 330 μF See Table IIA
Tolerance on Rated Capacitance	+/-10% and +/-20%
Rated Voltage U_R	4 - 50 Volts See Table IIA
Category Voltage U_C	See Table IIA
Climatic Category	-55/125/56
Rated Temperature	85°C
Variation of Capacitance with Temperature	See Table IIB
Leakage Current	See Table IIB
Tangent of Loss Angle (Dissipation Factor)	See Table IIB
Insulation Resistance	Not Applicable
Equivalent Series Resistance	See Table IIB
Impedance	Not Applicable
Surge Voltage	See Table III
Terminations	Solderable, with non-leachable barrier See Table IV, Note 6