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SURFACE VEHICLE STANDARD

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Submitted for recognition as an American National Standard

(R) Connections for On-Board Road Vehicle Electrical Wiring Harnesses—Part 1: Single-Pole Connectors—Flat Blade Terminals—Dimensional Characteristics and Specific Requirements

This document is technically equivalent to ISO 8092/1.

Foreword—This document has been changed from a Draft Technical Report to a Standard. It has also changed to comply with the new SAE Technical Standards Board Format. Definitions have changed to Section 3. All other section numbers have changed accordingly.

SAE J2223 consists of the following parts:

SAE J2223-1—Connections for On-Board Road Vehicle Electrical Wiring Harnesses—Part 1: Single Pole Connectors—Flat Blade Terminals—Dimensional Characteristics and Specific Requirements
SAE J2223-2—Connections for On-Board Road Vehicle Electrical Wiring Harnesses—Part 2: Tests and General Performance Requirements
SAE J2223-3—Connections for On-Board Road Vehicle Electrical Wiring Harnesses—Part 3: Multipole Connectors—Flat Blade Terminals—Dimensional Characteristics and Specific Requirements

1. Scope—This SAE Standard specifies dimensional characteristics of flat blades of single-pole connectors and specific requirements for on-board electrical harnesses of road vehicles, which can be fitted into female connectors such as those given as in Appendix A.

This document applies to connectors designed to be disconnected after mounting in the vehicle in the case of repair and/or maintenance only.

2. References

2.1 Applicable Publications—The following publications form a part of this specification to the extent specified herein. Unless otherwise indicated, the latest issue of SAE publications shall apply.

2.1.1 SAE PUBLICATIONS—Available from SAE, 400 Commonwealth Drive, Warrendale, PA 15096-0001.

SAE J2223/2—Connections for On-Board Road Vehicle Electrical Wiring Harnesses—Part 2: Tests and General Performance Requirements
SAE J2223/3-Connections for On-Board Road Vehicle Electrical Wiring Harnesses—Part 3: Multipole Connectors—Flat Blade Terminals—Dimensional Characteristics and Specific Requirements

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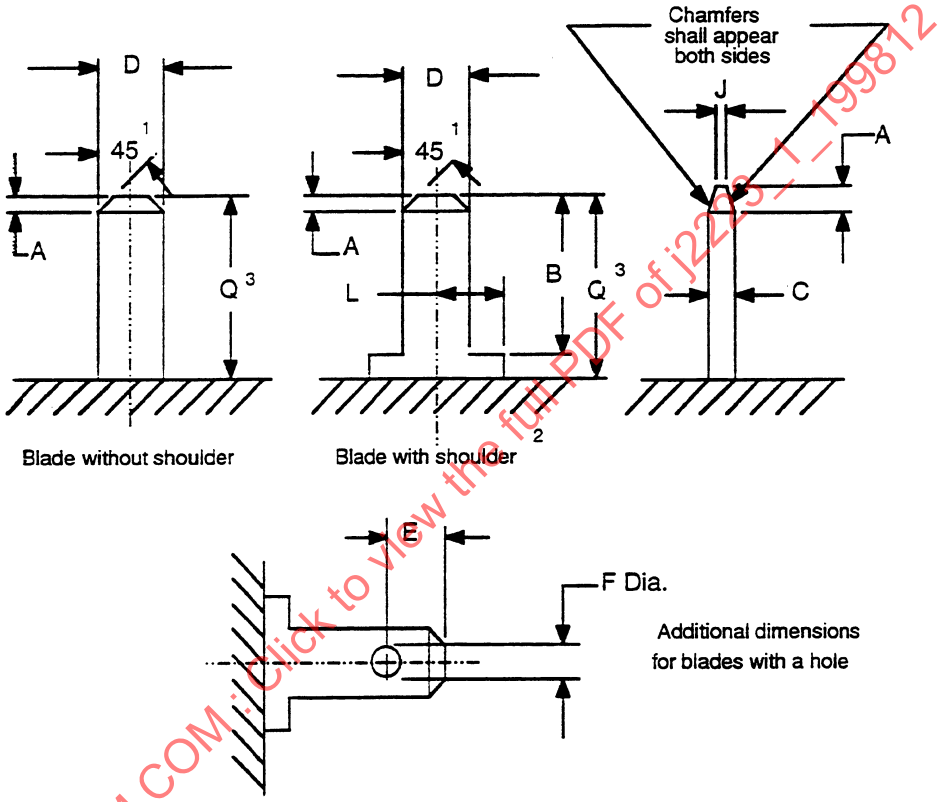
2.1.2 ISO PUBLICATION—Available from ANSI, 11 West 42nd Street, New York, NY 10036-8002.

ISO 8092/1—Single pole connector tabs—Dimensions and specific requirements

3. Definitions—See SAE J2223-2, Section 3.

4. Dimensional Characteristics—Blades shall conform to dimensions given in Figure 1 and Table 1.

NOTE—Details not specified are left to the manufacturer's choice.



1. Bevel A x 45° need not be a straight line but shall not be a concave curve if it is within the confines shown; it may be a radius of A.
2. Blades with one shoulder are optional.
3. Functional length of the blade. Retention features of the blade must not be within this length.

NOTE—Q is the blade length required for engaging the female connector (functional area of blade).

FIGURE 1—FLAT BLADE DIMENSIONS

TABLE 1—BLADE DIMENSIONS
Dimensions in millimeters

Dimension	Dimension	Size 2.8 x 0.5[1]	Size 2.8 x 0.8	Size 4.8 x 0.5[1]	Size 4.8 x 0.8	Size 6.3 x 0.8	Size 9.5 x 1.2
D	max	2.9	2.9	4.9	4.9	6.4	9.6
D	min	2.7	2.7	4.7	4.7	6.2	9.4
C	max	0.54	0.84	0.54	0.84	0.84	1.23
C	min	0.47	0.77	0.47	0.77	0.77	1.17
B	max	7.3	7.3	6.5	6.5	8.1	12.5
B	min	7.0	7.0	6.2	6.2	7.8	12.0
Q	max	—	—	—	—	—	—
Q	min	8.1	8.1	8.0	8.0	10.1	14.5
A	max	0.6	0.6	0.9	0.9	1.0	1.3
A	min	0.3	0.3	0.6	0.6	0.5	0.7
J	max	0.3	0.5	0.3	0.5	0.5	0.7
J	min	0.1	0.3	0.1	0.3	0.3	0.5
L	max	2.3	2.3	3.5	3.5	4.7	6.5
L	min	2.0	2.0	3.0	3.0	4.0	5.5
E[2]	max	1.8	1.8	3.4	3.4	4.7	5.5
E[2]	min	1.3	1.3	3.0	3.0	4.0	4.5
F[2]	max	1.3	1.3	1.5	1.5	2.0	2.0
F[2]	min	1.1	1.1	1.3	1.3	1.6	1.7

1. Non-preferred blade thickness.
2. For blades with hole only.

5. ***Specific Performance Requirements—***Blades for single-pole connections shall be in conformity with the general performance requirements of SAE J2223-2, and shall meet the following specific requirements.

NOTE—A blade without a hole requires external means of retention to the mating part.

6. ***Connection Forces and Disconnection Forces—***Single-pole connectors, tested as in SAE J2223-2 (see 4.3), shall meet the requirements as in Table 2.

NOTE—Disconnection forces of positive locking connections shall be performed with the locks disengaged.

6.1 **Connection Resistance—**Single-pole connectors, tested as in SAE J2223-2 (see 4.8), shall meet the requirements as in Table 3.

7. ***Designation—***Blades in accordance with this document may be designated as follows in Figure 2:

TABLE 2—PERFORMANCE REQUIREMENTS FOR CONNECTION AND DISCONNECTION FORCES OF SINGLE-POLE CONNECTIONS(1)(2)

Connection and Disconnection	Force (N) Blade Size 2.8 P	Force (N) Blade Size 2.8 F	Force (N) Blade Size 4.8 P	Force (N) Blade Size 4.8 F	Force (N) Blade Size 6.3 P	Force (N) Blade Size 6.3 F	Force (N) Blade Size 9.5 F
1st connection force, max	27	53	30	67	45	80	100
1st disconnection force, max	27	53	30	67	45	80	100
10th disconnection force, min	4	6	7	15	9	18	30

1. P refers to positive locking female terminals
2. F refers to female terminals (without positive locking), e.g., detents or nibs.

TABLE 3—MAXIMUM PERMITTED CONNECTION RESISTANCES

Connection Resistances Initial Permitted	Connection Resistances After Endurance	Connection Resistances After Endurance
	1(1)	2(1)
milliohms maximum	milliohms maximum	% of initial measured value maximum
5	10	150

1. 1 and/or 2 to be selected by supplier and user.

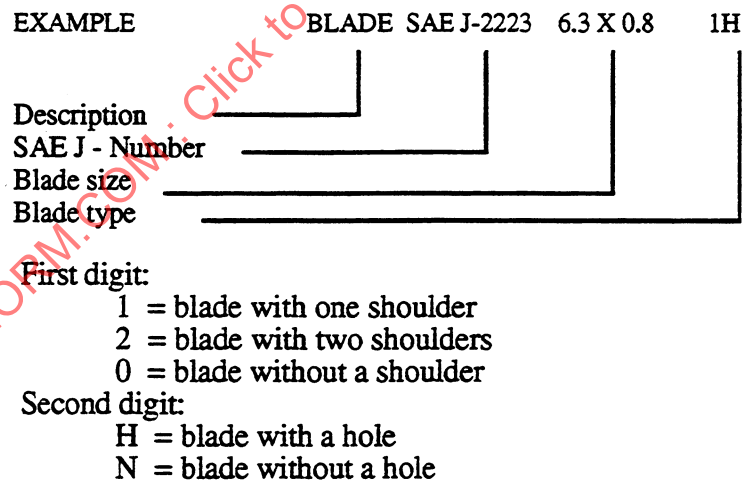


FIGURE 2—BLADE DESIGNATION

8. Notes

8.1 Marginal Indicia—The change bar (l) located in the left margin is for the convenience of the user in locating areas where technical revisions have been made to the previous issue of the report. An (R) symbol to the left of the document title indicates a complete revision of the report.

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