

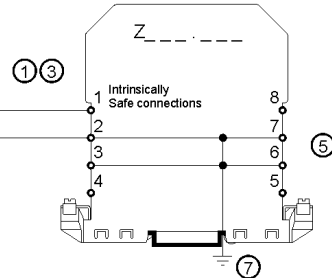
Connections

HAZARDOUS AREA
 CLASS I, DIVISION 1 GROUPS A,B,C,D
 CLASS II, DIVISION 1 GROUPS E,F,G
 CLASS III, DIVISION 1

Any Simple Apparatus ② or I.S. devices with Entity Concept parameters ① (Vmax, Imax, Ci, Li) appropriate for connection to associated apparatus with Entity Concept parameters listed in the Entity Parameters table.

CONNECTION DIAGRAM 1

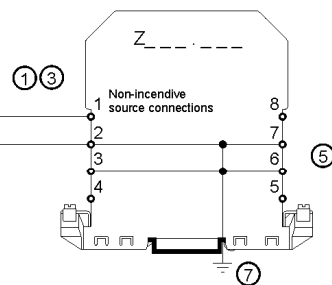
NON-HAZARDOUS AREA ⑥
 OR
 CLASS I, DIVISION 2, GROUPS A,B,C,D ⑥



HAZARDOUS (CLASSIFIED) LOCATION
 CLASS I, DIVISION 2 GROUPS A,B,C,D
 CLASS II, DIVISION 2 GROUPS F,G
 CLASS III, DIVISION 2

Non-incendive field circuit with Entity Concept parameters ① (Vmax, Imax, Ci, Li) appropriate for connection to non-incendive source with Entity Concept parameters listed in the Entity Parameters table.

CONNECTION DIAGRAM 1A



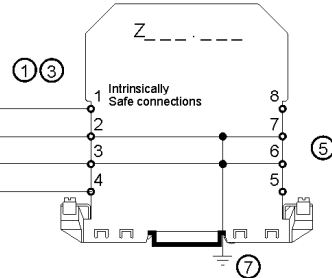
HAZARDOUS AREA
 CLASS I, DIVISION 1 GROUPS A,B,C,D
 CLASS II, DIVISION 1 GROUPS E,F,G
 CLASS III, DIVISION 1

Any Simple Apparatus ② or I.S. devices with Entity Concept parameters ① (Vmax, Imax, Ci, Li) appropriate for connection to associated apparatus with Entity Concept parameters listed in the Entity Parameters table.

Any Simple Apparatus ② or I.S. devices with Entity Concept parameters ① (Vmax, Imax, Ci, Li) appropriate for connection to associated apparatus with Entity Concept parameters listed in the Entity Parameters table.

Note: Ground returns must be run separately.

CONNECTION DIAGRAM 2



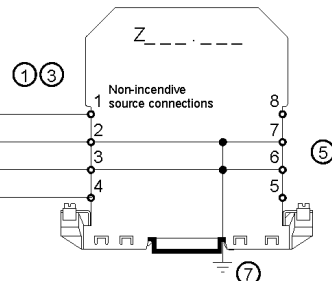
HAZARDOUS (CLASSIFIED) LOCATION
 CLASS I, DIVISION 2 GROUPS A,B,C,D
 CLASS II, DIVISION 2 GROUPS F,G
 CLASS III, DIVISION 2

Non-incendive field circuit with Entity Concept parameters ① (Vmax, Imax, Ci, Li) appropriate for connection to non-incendive source with Entity Concept parameters listed in the Entity Parameters table.

Non-incendive field circuit with Entity Concept parameters ① (Vmax, Imax, Ci, Li) appropriate for connection to non-incendive source with Entity Concept parameters listed in the Entity Parameters table.

Note: Ground returns must be run separately.

CONNECTION DIAGRAM 2A



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	Control Drawing Installation Drawing for UL listed Z7.., Z8.., Z9.. Zener Barriers	respons.	GB-TC
		approved	GB-PAW
		norm	GB-PT
Twinsburg			116-0139E sheet 1 of 10

HAZARDOUS AREA

CLASS I, DIVISION 1 GROUPS A,B,C,D
 CLASS II, DIVISION 1 GROUPS E,F,G
 CLASS III, DIVISION 1

Any Simple Apparatus ② or I.S. devices with Entity Concept parameters ① (Vmax, Imax, Ci, Li) appropriate for connection to associated apparatus with Entity Concept parameters listed in the Entity Parameters table.

CONNECTION DIAGRAM 3

HAZARDOUS (CLASSIFIED) LOCATION

CLASS I, DIVISION 2 GROUPS A,B,C,D
 CLASS II, DIVISION 2 GROUPS F,G
 CLASS III, DIVISION 2

Non-incendive field circuit with Entity Concept parameters ① (Vmax, Imax, Ci, Li) appropriate for connection to non-incendive source with Entity Concept parameters listed in the Entity Parameters table.

CONNECTION DIAGRAM 3A

HAZARDOUS AREA

CLASS I, DIVISION 1 GROUPS A,B,C,D
 CLASS II, DIVISION 1 GROUPS E,F,G
 CLASS III, DIVISION 1

Any Simple Apparatus ② or I.S. devices with Entity Concept parameters ① (Vmax, Imax, Ci, Li) appropriate for connection to associated apparatus with Entity Concept parameters listed in the Entity Parameters table.

Any Simple Apparatus ② or I.S. devices with Entity Concept parameters ① (Vmax, Imax, Ci, Li) appropriate for connection to associated apparatus with Entity Concept parameters listed in the Entity Parameters table.

Any Simple Apparatus ② or I.S. devices with Entity Concept parameters ① (Vmax, Imax, Ci, Li) appropriate for connection to associated apparatus with Entity Concept parameters listed in the Entity Parameters table.

Note: Ground returns must be run separately.

CONNECTION DIAGRAM 4

HAZARDOUS (CLASSIFIED) LOCATION

CLASS I, DIVISION 2 GROUPS A,B,C,D
 CLASS II, DIVISION 2 GROUPS F,G
 CLASS III, DIVISION 2

Non-incendive field circuit with Entity Concept parameters ① (Vmax, Imax, Ci, Li) appropriate for connection to non-incendive source with Entity Concept parameters listed in the Entity Parameters table.

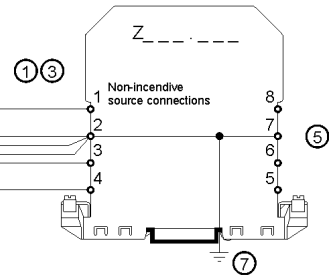
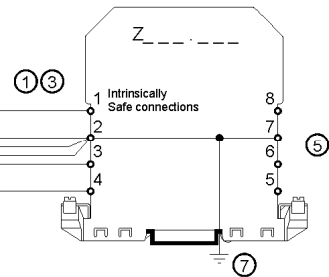
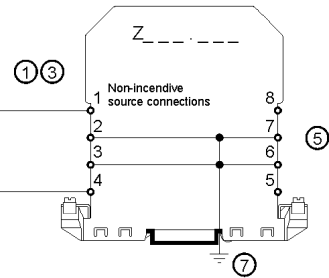
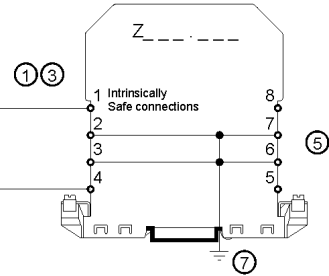
Non-incendive field circuit with Entity Concept parameters ① (Vmax, Imax, Ci, Li) appropriate for connection to non-incendive source with Entity Concept parameters listed in the Entity Parameters table.

Non-incendive field circuit with Entity Concept parameters ① (Vmax, Imax, Ci, Li) appropriate for connection to non-incendive source with Entity Concept parameters listed in the Entity Parameters table.

Note: Ground returns must be run separately.

CONNECTION DIAGRAM 4A

NON-HAZARDOUS AREA ⑥
 OR
 CLASS I, DIVISION 2, GROUPS A,B,C,D ⑥



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	Installation Drawing for UL listed	approved	GB-PAW
	Z7.., Z8.., Z9..	norm	GB-PT
Twinsburg	Zener Barriers		116-0139E sheet 2 of 10

HAZARDOUS AREA
 CLASS I, DIVISION 1 GROUPS A,B,C,D
 CLASS II, DIVISION 1 GROUPS E,F,G
 CLASS III, DIVISION 1

Any Simple Apparatus ② or I.S. devices with Entity Concept parameters ① (V_{max} , I_{max} , C_i , L_i) appropriate for connection to associated apparatus with Entity Concept parameters listed in the Entity Parameters table.

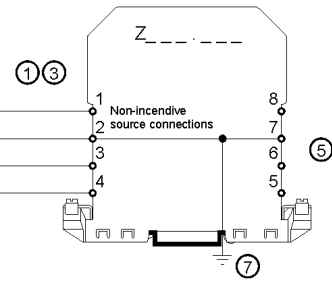
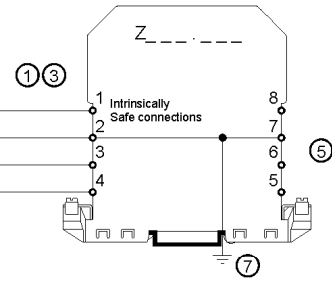
CONNECTION DIAGRAM 5

HAZARDOUS (CLASSIFIED) LOCATION
 CLASS I, DIVISION 2 GROUPS A,B,C,D
 CLASS II, DIVISION 2 GROUPS F,G
 CLASS III, DIVISION 2

Non-incendive field circuit with Entity Concept parameters ① (V_{max} , I_{max} , C_i , L_i) appropriate for connection to non-incendive source with Entity Concept parameters listed in the Entity Parameters table.

CONNECTION DIAGRAM 5A

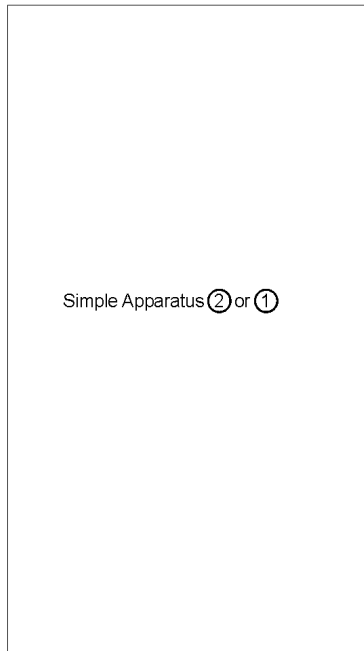
NON-HAZARDOUS AREA ⑥
 OR
 CLASS I, DIVISION 2, GROUPS A,B,C,D ⑥



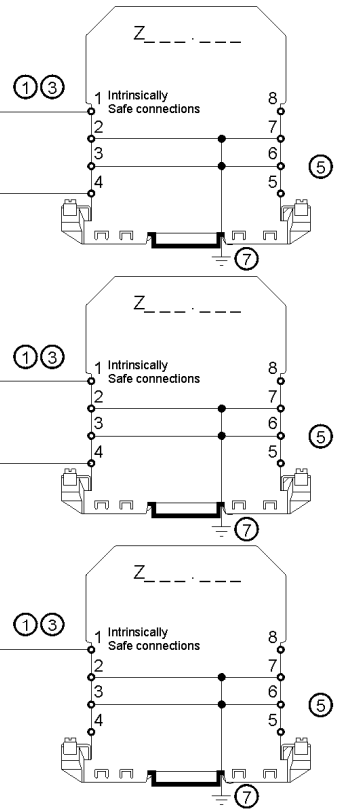
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	Control Drawing Installation Drawing for UL listed Z7..., Z8..., Z9.. Zener Barriers	respons.	GB-TC
		approved	GB-PAW
		norm	GB-PT
Twinsburg			116-0139E sheet 3 of 10

HAZARDOUS AREA
 CLASS I, DIVISION 1 GROUPS A,B,C,D
 CLASS II, DIVISION 1 GROUPS E,F,G
 CLASS III, DIVISION 1

NON-HAZARDOUS AREA ⑥
 OR
 CLASS I, DIVISION 2, GROUPS A,B,C,D ⑥



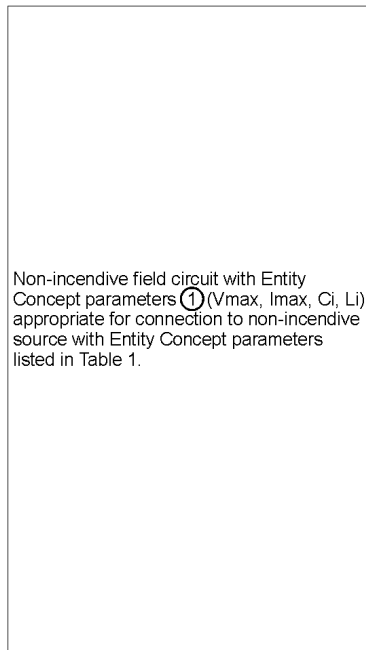
CONNECTION DIAGRAM 6



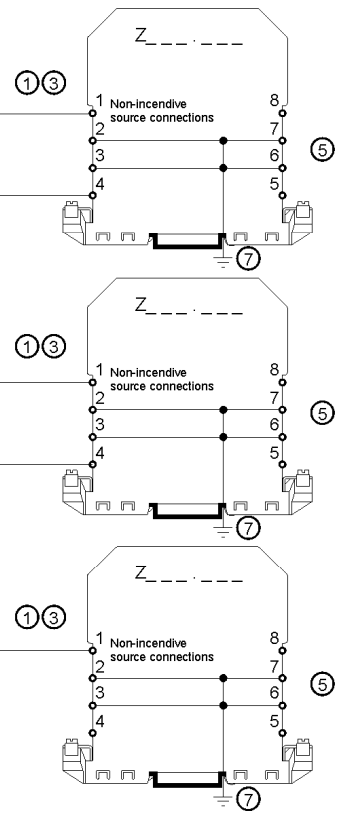
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pf PEPPERL+FUCHS	Control Drawing Installation Drawing for UL listed Z7..., Z8..., Z9.. Zener Barriers	respons.	GB-TC
		approved	GB-PAW
		norm	GB-PT
Twinsburg			116-0139E sheet 4 of 10

HAZARDOUS (CLASSIFIED) LOCATION
 CLASS I, DIVISION 2 GROUPS A,B,C,D
 CLASS II, DIVISION 2 GROUPS FG
 CLASS III, DIVISION 2

NON-HAZARDOUS AREA ⑥
 OR
 CLASS I, DIVISION 2, GROUPS A,B,C,D ⑥



CONNECTION DIAGRAM 6A



Notes

- The Entity Concept allows interconnection of non-incendive apparatus with associated apparatus not specifically examined in combination as a system when the approved values of V_{oc} (or U_o) and I_{sc} (or I_o) for the associated apparatus are less than or equal to V_{max} (U_i) and I_{max} (I_i) for the non-incendive apparatus and the approved values of C_a (C_o) and L_a (L_o) for the associated apparatus are greater than $C_i + C_{cable}$ and $L_i + L_{cable}$, respectively, for the intrinsically safe apparatus,
 Where $C_{cable} = 60pF/ft$ if unknown
 Where $L_{cable} = 0.20uH/ft$ if unknown

The parameters in the Entity parameters table apply when one of the two conditions below is given:

- The total L_i of the external circuit (excluding the cable) is $< 1\%$ of the L_o value or
- The total C_i of the external circuit (excluding the cable) is $< 1\%$ of the C_o value.

The parameters in the Entity parameters table are reduced to 50% when both of the two conditions below are given:

- The total L_i of the external circuit (excluding the cable) $> 1\%$ of the L_o and
- The total C_i of the external circuit (excluding the cable) $> 1\%$ of the C_o .


Note: the reduced capacitance of the external circuit (including cable) shall not be greater than $1uF$ for C, D, E, F, G (IIA, IIB) and $600nF$ for A, B (IIC).

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		approved	GB-PAW
		norm	GB-PT
Twinsburg			116-0139E sheet 5 of 10

2. Simple apparatus: an electrical component or combination of components of simple construction with well-defined electrical parameters that does not generate more than 1.5 V, 100mA, 25mW, or is a passive component that does not dissipate more than 1.3W and is compatible with the intrinsic safety of the circuit in which it is used.
3. Wiring methods must be in accordance with all applicable installation requirements of the county in use. For US, this is NFPA 70 (NEC) article 504 with additional information in ANSI-ISA –RP12.06.01. For Canada this is CSA 22.1-12 (CEC) section 18 and appendix F.
4. Warning: Substitution of components may impair intrinsic safety and suitability for hazardous (classified) locations.


ADVERTISEMENT: le remplacement des composants peut altérer la sécurité intrinsèque et l'adéquation à une utilisation dans des zones dangereuses (classées).

5. Barriers shall not be connected to any device which uses or generates internally any voltage in excess of 250V Rms or DC unless the device has been determined to adequately isolate the voltage from the barrier.
6. The barriers are rated 'Nonincendive'. If the barriers are intended to be mounted in a Division 2 location, they must be mounted in an enclosure with a minimum ingress protection of IP2X. If the barriers are intended to be mounted in a Zone 2 location that is subject to contamination by water or dust, they must be mounted in an enclosure with a minimum ingress protection of IP54. If the barriers are intended to be mounted in a Zone 2 indoor location that is not subject to contamination by water or dust, they must be mounted in an enclosure with a minimum ingress protection of IP4X. The enclosure must be able to accept Division 2 / Zone 2 wiring methods. A temperature rating of T4 applies to all nonincendive rated barriers. In Class I, Division 2 / Class I, Zone 2 installations, the subject equipment shall be mounted within a tool-secured enclosure which is capable of accepting one or more of the Class I, Division 2 / Class I, Zone 2 wiring methods specified National Electrical Code (ANSI/NFPA 70) or Canadian Electrical Code (C22.1), as applicable.
7. Barriers must be connected to a suitable ground electrode per the National Electrical Code, ANSI/NFPA 70, Article 504. For Canada this is CSA 22.1-12 (CEC) section 18 and appendix F. The resistance of the ground path must be less than 1 ohm. Any of the terminals 2,3,6,7 or the two wire clamp terminals at the base of the barrier may be used for this purpose. Alternatively, the ground connection may be established by mounting the barrier on standard 35mm DIN rail, when meeting the following conditions:
 - a. DIN rail must be standard 35mm DIN rail (35mm ± 0.3mm).
 - b. Any corrosion on the DIN rail must be removed and the DIN rail must be checked for the standard tolerance of 35mm ± 0.3mm.
 - c. A continuity check must be conducted between the DIN rail and any ground terminal on the barrier, terminals 2,3,6,7 or the wire clamp terminals at the base of the barrier.
 - d. Connect 35mm DIN rail to the ground electrode using hardware suitable to provide a ground path resistance of less than 1 ohm.

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	Control Drawing Installation Drawing for UL listed Z7., Z8., Z9. Zener Barriers	respons.	GB-TC
		approved	GB-PAW
		norm	GB-PT
Twinsburg			116-0139E sheet 6 of 10

Entity Parameters


MODEL NUMBER	TERMINALS	Voc (V) (Uo)	Isc (mA) (Io)	Vt (V)	It (mA)	Groups Ca (μF)			Groups La(mH)		
						A,B (IIC)	C,E (IIB)	D,F,G (IIA)	A,B (IIC)	C,E (IIB)	D,F,G (IIA)
Z705	1,2	4.94	504	-	-	100	300	800	0.14	0.42	1.12
Z710	1,2	9.56	195	-	-	3	9	24	0.86	2.58	6.88
Z710.CL	1,2	9.56	195	-	-	3	9	24	0.86	2.58	6.88
Z713	1,2	15.75	723	-	-	0.48	1.44	3.84	0.076	0.228	0.608
Z715	1,2	14.7	150	-	-	0.58	1.74	4.64	1.3	3.9	10.4
Z715.CL	1,2	14.7	150	-	-	0.58	1.74	4.64	1.3	3.9	10.4
Z715.1K	1,2	14.7	15	-	-	0.58	1.74	4.64	144	432	1152
Z722	1,2	22	150	-	-	0.17	0.51	1.36	1.45	4.35	11.6
Z722.CL	1,2	22	150	-	-	0.17	0.51	1.36	1.45	4.35	11.6
Z726	1,2	27.5	155	-	-	-	0.27	0.72	-	4	8
Z728	1,2	28	93	-	-	0.083	0.249	0.664	3.05	9.15	24.4
Z728.CL	1,2	28	93	-	-	0.083	0.249	0.664	3.05	9.15	24.4
Z728.H	1,2	28	119	-	-	0.083	0.249	0.664	1.82	5.46	14.56
Z755	1,2	4.94	504	-	-	100	300	800	0.14	0.42	1.12
	3,4	4.94	504	-	-	100	300	800	0.14	0.42	1.12
	1,2,3,4	-	-	4.94	1008	100	300	800	0.03	0.09	0.24
Z757	1,2	7.14	729	-	-	13.5	40.5	108	0.07	0.21	0.56
	3,4	7.14	729	-	-	13.5	40.5	108	0.07	0.21	0.56
	1,2,3,4	-	-	7.14	1457	13.5	40.5	108	0.02	0.06	0.16
Z763	1,2	11.6	370	-	-	1.41	4.23	11.28	0.24	0.72	1.92
	3,4	1.6	51	-	-	100	300	800	14	42	112
	1,2,3,4	-	-	13.2	422	0.94	2.82	7.52	0.2	0.6	1.6
Z764	1,2	11.6	12	-	-	1.41	4.23	11.28	240	720	1,920
	3,4	11.6	12	-	-	1.41	4.23	11.28	240	720	1,920
	1,2,3,4	-	-	11.6	24	1.41	4.23	11.28	61	183	488
Z765	1,2	14.7	150	-	-	0.58	1.74	4.64	1.3	3.9	10.4
	3,4	14.7	150	-	-	0.58	1.74	4.64	1.3	3.9	10.4
	1,2,3,4	-	-	14.7	300	0.58	1.74	4.64	0.32	0.96	2.56
Z772	1,2	22	150	-	-	0.17	0.51	1.36	1.45	4.35	11.6
	3,4	22	150	-	-	0.17	0.51	1.36	1.45	4.35	11.6
	1,2,3,4	-	-	22	300	-	0.51	1.36	-	4.35	11.6
Z778	1,2	28	46	-	-	0.083	0.249	0.664	17.2	51.6	137.6
	3,4	28	46	-	-	0.083	0.249	0.664	17.2	51.6	137.6
	1,2,3,4	-	-	28	93	0.083	0.249	0.664	3.05	9.15	24.4
Z779	1,2	28	93	-	-	0.083	0.249	0.664	3.05	9.15	24.4
	3,4	28	93	-	-	0.083	0.249	0.664	3.05	9.15	24.4
	1,2,3,4	-	-	28	186	-	0.249	0.664	-	4	8
Z779.H	1,2	28	119	-	-	0.083	0.249	0.664	1.82	5.46	14.56
	3,4	28	119	-	-	0.083	0.249	0.664	1.82	5.46	14.56
	1,2,3,4	-	-	28	238	-	0.249	0.664	-	2	4
Z786	1,2	28	0	-	-	0.083	0.249	0.664	5	15	40
	3,4	28	0	-	-	0.083	0.249	0.664	5	15	40
	1,2,3,4	-	-	28	0	0.083	0.249	0.664	5	15	40
Z787	1,2	28	93	-	-	0.083	0.249	0.664	3.05	9.15	24.4
	3,4	28	0	-	-	0.083	0.249	0.664	5	15	40
	1,2,3,4	-	-	28	93	0.083	0.249	0.664	3.05	9.15	24.4
Z787.H	1,2	28	119	-	-	0.083	0.249	0.664	1.82	5.46	14.56
	3,4	28	0	-	-	0.083	0.249	0.664	5	15	40
	1,2,3,4	-	-	28	119	0.083	0.249	0.664	1.82	5.46	14.56
Z788	1,2	28	93	-	-	0.083	0.249	0.664	3.05	9.15	24.4
	3,4	9.56	195	-	-	3	9	24	0.86	2.58	6.88
	1,2,3,4	-	-	28	288	0.083	0.249	0.664	0.32	0.96	2.56

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		approved	GB-PAW
		norm	GB-PT
		116-0139E	
		sheet 7 of 10	

MODEL NUMBER	TERMINALS	Voc (V) (Uo)	Isc (mA) (Io)	Vt (V)	It (mA)	Groups Ca (μ F)			Groups La(mH)		
						A,B (IIC)	C,E (IIB)	D,F,G (IIA)	A,B (IIC)	C,E (IIB)	D,F,G (IIA)
Z788.R	1,2	28	93	-	-	0.083	0.249	0.664	3.05	9.15	24.4
	3,4	9.56	195	-	-	3	9	24	0.86	2.58	6.88
	1,2,3,4	-	-	28	288	0.083	0.249	0.664	0.32	0.96	2.56
Z788.H	1,2	28	119	-	-	0.083	0.249	0.664	1.82	5.46	14.56
	3,4	9.56	195	-	-	3	9	24	0.86	2.58	6.88
	1,2,3,4	-	-	28	314	0.083	0.249	0.664	0.26	0.78	2.08
Z788.R.H	1,2	28	119	-	-	0.083	0.249	0.664	1.82	5.46	14.56
	3,4	9.56	195	-	-	3	9	24	0.86	2.58	6.88
	1,2,3,4	-	-	28	314	0.083	0.249	0.664	0.26	0.78	2.08
Z796	1,2	26.6	85	-	-	0.094	0.282	0.752	5.14	15.42	41.12
	3,4	20.5	50	-	-	0.203	0.609	1.624	14.6	43.8	116.8
	1,2,3,4	-	-	26.6	135	0.094	0.282	0.752	2.05	6.15	16.4
Z796.L	1,2	26.0	83	-	-	0.094	0.282	0.752	5.14	15.42	41.12
	3,4	20.0	49	-	-	0.203	0.609	1.624	14.6	43.8	116.8
	1,2,3,4	-	-	26.0	132	0.094	0.282	0.752	2.05	6.15	16.4
Z805	1,2	4.94	504	-	-	100	300	800	0.14	0.42	1.12
Z810	1,2	9.56	195	-	-	3	9	24	0.86	2.58	6.88
Z810.CL	1,2	9.56	195	-	-	3	9	24	0.86	2.58	6.88
Z813	1,2	15.75	723	-	-	0.48	1.44	3.84	0.076	0.228	0.608
Z815	1,2	14.7	150	-	-	0.58	1.74	4.64	1.3	3.9	10.4
Z815.CL	1,2	14.7	150	-	-	0.58	1.74	4.64	1.3	3.9	10.4
Z815.1K	1,2	14.7	15	-	-	0.58	1.74	4.64	144	432	1152
Z822	1,2	22	150	-	-	0.17	0.51	1.36	1.45	4.35	11.6
Z822.CL	1,2	22	150	-	-	0.17	0.51	1.36	1.45	4.35	11.6
Z828	1,2	28	93	-	-	0.083	0.249	0.664	3.05	9.15	24.4
Z828.CL	1,2	28	93	-	-	0.083	0.249	0.664	3.05	9.15	24.4
Z828.H	1,2	28	119	-	-	0.083	0.249	0.664	1.82	5.46	14.56
Z855	1,2	4.94	504	-	-	100	300	800	0.14	0.42	1.12
	3,4	4.94	504	-	-	100	300	800	0.14	0.42	1.12
	1,2,3,4	-	-	4.94	1008	100	300	800	0.03	0.09	0.24
Z857	1,2	7.14	729	-	-	13.5	40.5	108	0.07	0.21	0.56
	3,4	7.14	729	-	-	13.5	40.5	108	0.07	0.21	0.56
	1,2,3,4	-	-	7.14	1457	13.5	40.5	108	0.02	0.06	0.16
Z864	1,2	11.6	12	-	-	1.41	4.23	11.28	240	720	1,920
	3,4	11.6	12	-	-	1.41	4.23	11.28	240	720	1,920
	1,2,3,4	-	-	11.6	24	1.41	4.23	11.28	61	183	488
Z865	1,2	14.7	150	-	-	0.58	1.74	4.64	1.3	3.9	10.4
	3,4	14.7	150	-	-	0.58	1.74	4.64	1.3	3.9	10.4
	1,2,3,4	-	-	14.7	300	0.58	1.74	4.64	0.32	0.96	2.56
Z872	1,2	22	150	-	-	0.17	0.51	1.36	1.45	4.35	11.6
	3,4	22	150	-	-	0.17	0.51	1.36	1.45	4.35	11.6
	1,2,3,4	-	-	22	300	-	0.51	1.36	-	4.35	11.6
Z878	1,2	28	46	-	-	0.083	0.249	0.664	17.2	51.6	137.6
	3,4	28	46	-	-	0.083	0.249	0.664	17.2	51.6	137.6
	1,2,3,4	-	-	28	93	0.083	0.249	0.664	3.05	9.15	24.4
Z879	1,2	28	93	-	-	0.083	0.249	0.664	3.05	9.15	24.4
	3,4	28	93	-	-	0.083	0.249	0.664	3.05	9.15	24.4
	1,2,3,4	-	-	28	186	-	0.249	0.664	-	4	8
Z879.H	1,2	28	119	-	-	0.083	0.249	0.664	1.82	5.46	14.56
	3,4	28	119	-	-	0.083	0.249	0.664	1.82	5.46	14.56
	1,2,3,4	-	-	28	238	-	0.249	0.664	-	2	4
Z886	1,2	28	0	-	-	0.083	0.249	0.664	5	15	40
	3,4	28	0	-	-	0.083	0.249	0.664	5	15	40
	1,2,3,4	-	-	28	0	0.083	0.249	0.664	5	15	40

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		approved	GB-PAW
		norm	GB-PT
		116-0139E	
		sheet 8 of 10	


MODEL NUMBER	TERMINALS	Voc (V) (Uo)	Isc (mA) (Io)	Vt (V)	It (mA)	Groups Ca (µF)			Groups La(mH)		
						A,B (IIC)	C,E (IIB)	D,F,G (IIA)	A,B (IIC)	C,E (IIB)	D,F,G (IIA)
Z887	1,2	28	93	-	-	0.083	0.249	0.664	3.05	9.15	24.4
	3,4	28	0	-	-	0.083	0.249	0.664	5	15	40
	1,2,3,4	-	-	28	93	0.083	0.249	0.664	3.05	9.15	24.4
Z887.H	1,2	28	119	-	-	0.083	0.249	0.664	1.82	5.46	14.56
	3,4	28	0	-	-	0.083	0.249	0.664	5	15	40
	1,2,3,4	-	-	28	119	0.083	0.249	0.664	1.82	5.46	14.56
Z888	1,2	28	93	-	-	0.083	0.249	0.664	3.05	9.15	24.4
	3,4	9.56	195	-	-	3	9	24	0.86	2.58	6.88
	1,2,3,4	-	-	28	288	0.083	0.249	0.664	0.32	0.96	2.56
Z888.R	1,2	28	93	-	-	0.083	0.249	0.664	3.05	9.15	24.4
	3,4	9.56	195	-	-	3	9	24	0.86	2.58	6.88
	1,2,3,4	-	-	28	288	0.083	0.249	0.664	0.32	0.96	2.56
Z888.H	1,2	28	119	-	-	0.083	0.249	0.664	1.82	5.46	14.56
	3,4	9.56	195	-	-	3	9	24	0.86	2.58	6.88
	1,2,3,4	-	-	28	314	0.083	0.249	0.664	0.26	0.78	2.08
Z888.R.H	1,2	28	119	-	-	0.083	0.249	0.664	1.82	5.46	14.56
	3,4	9.56	195	-	-	3	9	24	0.86	2.58	6.88
	1,2,3,4	-	-	28	314	0.083	0.249	0.664	0.26	0.78	2.08
Z896	1,2	26.6	85	-	-	0.094	0.282	0.752	5.14	15.42	41.12
	3,4	20.5	50	-	-	0.203	0.609	1.624	14.6	43.8	116.8
	1,2,3,4	-	-	26.6	135	0.094	0.282	0.752	2.05	6.15	16.4
Z896.L	1,2	26.0	83	-	-	0.094	0.282	0.752	5.14	15.42	41.12
	3,4	20.0	49	-	-	0.203	0.609	1.624	14.6	43.8	116.8
	1,2,3,4	-	-	26.0	132	0.094	0.282	0.752	2.05	6.15	16.4
Z905	1,2	4.89	499	-	-	100	300	800	0.14	0.42	1.12
Z910	1,2	9.94	203	-	-	3	9	24	0.86	2.58	6.88
Z915	1,2	15	153	-	-	0.58	1.74	4.64	1.3	3.9	10.4
Z915.1k	1,2	15	15	-	-	0.58	1.74	4.64	144	432	1152
Z928	1,2	28	93	-	-	0.083	0.249	0.664	3.05	9.15	24.4
Z954	1,2	4.5	383	-	-	100	300	800	0.24	0.72	1.92
	2,3	4.5	383	-	-	100	300	800	0.24	0.72	1.92
	2,4	4.5	383	-	-	100	300	800	0.24	0.72	1.92
	1,2,3;2,3,4	9	765	-	-	4.9	14.7	39.2	0.068	0.204	0.544
	1,2,3,4	-	-	9	1150	4.9	14.7	39.2	0.030	0.090	0.24
Z955	1,2	4.89	499	-	-	100	300	800	0.14	0.42	1.12
	3,4	4.89	499	-	-	100	300	800	0.14	0.42	1.12
	1,2,3,4	-	-	9.78	998	3.3	9.9	26.4	0.030	0.090	0.24
Z960	1,2	9.94	203	-	-	3	9	24	0.86	2.58	6.88
	3,4	9.94	203	-	-	3	9	24	0.86	2.58	6.88
	1,2,3,4	-	-	9.94	406	3	9	24	0.19	0.57	1.52
Z961 (Single module Installation)	1,2	8.7	89	-	-	4.9	14.7	39.2	4.69	14.07	37.52
	3,4	8.7	89	-	-	4.9	14.7	39.2	4.69	14.07	37.52
	1,2,3,4	-	-	17.4	178	0.346	1.038	2.768	1.14	3.42	9.12
Z961 (Installed as detailed in Diagram 6)	1,4	-	-	17.4	213	0.346	1.038	2.768	1.14	3.42	9.12
Z961.H	1,2	8.7	25	-	-	4.9	14.7	39.2	57	171	456
	3,4	8.7	25	-	-	4.9	14.7	39.2	57	171	456
	1,2,3,4	-	-	17.4	49	0.346	1.038	2.768	15.2	45.6	121.6
Z964	1,2	12	12	-	-	1.41	4.23	11.28	240	720	1920
	3,4	12	12	-	-	1.41	4.23	11.28	240	720	1920
	1,2,3,4	-	-	24	24	0.125	0.375	1	61	183	488

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		sheet 9 of 10	

MODEL NUMBER	TERMINALS	Voc (V) (Uo)	Isc (mA) (Io)	Vt (V)	It (mA)	Groups Ca (µF)			Groups La(mH)		
						A,B (IIC)	C,E (IIB)	D,F,G (IIA)	A,B (IIC)	C,E (IIB)	D,F,G (IIA)
Z965	1,2	15	153	-	-	0.58	1.74	4.64	1.3	3.9	10.4
	3,4	15	153	-	-	0.58	1.74	4.64	1.3	3.9	10.4
	1,2,3,4	-	-	15	306	0.58	1.74	4.64	0.29	0.87	2.32
Z966	1,2	12	82	-	-	1.41	4.23	11.28	5.52	16.56	44.16
	3,4	12	82	-	-	1.41	4.23	11.28	5.52	16.56	44.16
	1,2,3,4	-	-	24	164	0.125	0.375	1	1.38	4.14	11.04
Z966.H	1,2	12	164	-	-	1.41	4.23	11.28	1.38	4.14	11.04
	3,4	12	164	-	-	1.41	4.23	11.28	1.38	4.14	11.04
	1,2,3,4	-	-	24	328	0.125	0.375	1	0.33	0.99	2.64
Z967	1,2	16.8	143	-	-	0.38	1.14	3.04	1.63	4.89	13.04
	3,4	16.8	143	-	-	0.38	1.14	3.04	1.63	4.89	13.04
	1,2,3,4	-	-	16.8	286	0.38	1.14	3.04	0.24	0.72	1.92
Z969	1,2	14.24	400	-	-	0.68	2.04	5.44	0.16	0.48	1.28
	3,4	17.6	349	-	-	0.33	0.99	2.64	0.14	0.42	1.12
	1,2,3,4	-	-	17.6	749	0.33	0.99	2.64	0.071	0.213	0.568
Z972	1,2	22	73	-	-	0.17	0.51	1.36	6.95	20.85	55.6
	3,4	22	73	-	-	0.17	0.51	1.36	6.95	20.85	55.6
	1,2,3,4	-	-	22	146	0.17	0.51	1.36	1.45	4.35	10.8
Z978	1,2	28	46	-	-	0.083	0.249	0.664	17.2	51.6	137.6
	3,4	28	46	-	-	0.083	0.249	0.664	17.2	51.6	137.6
	1,2,3,4	-	-	28	93	0.083	0.249	0.664	3.05	9.15	24.4

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		sheet 10 of 10	