

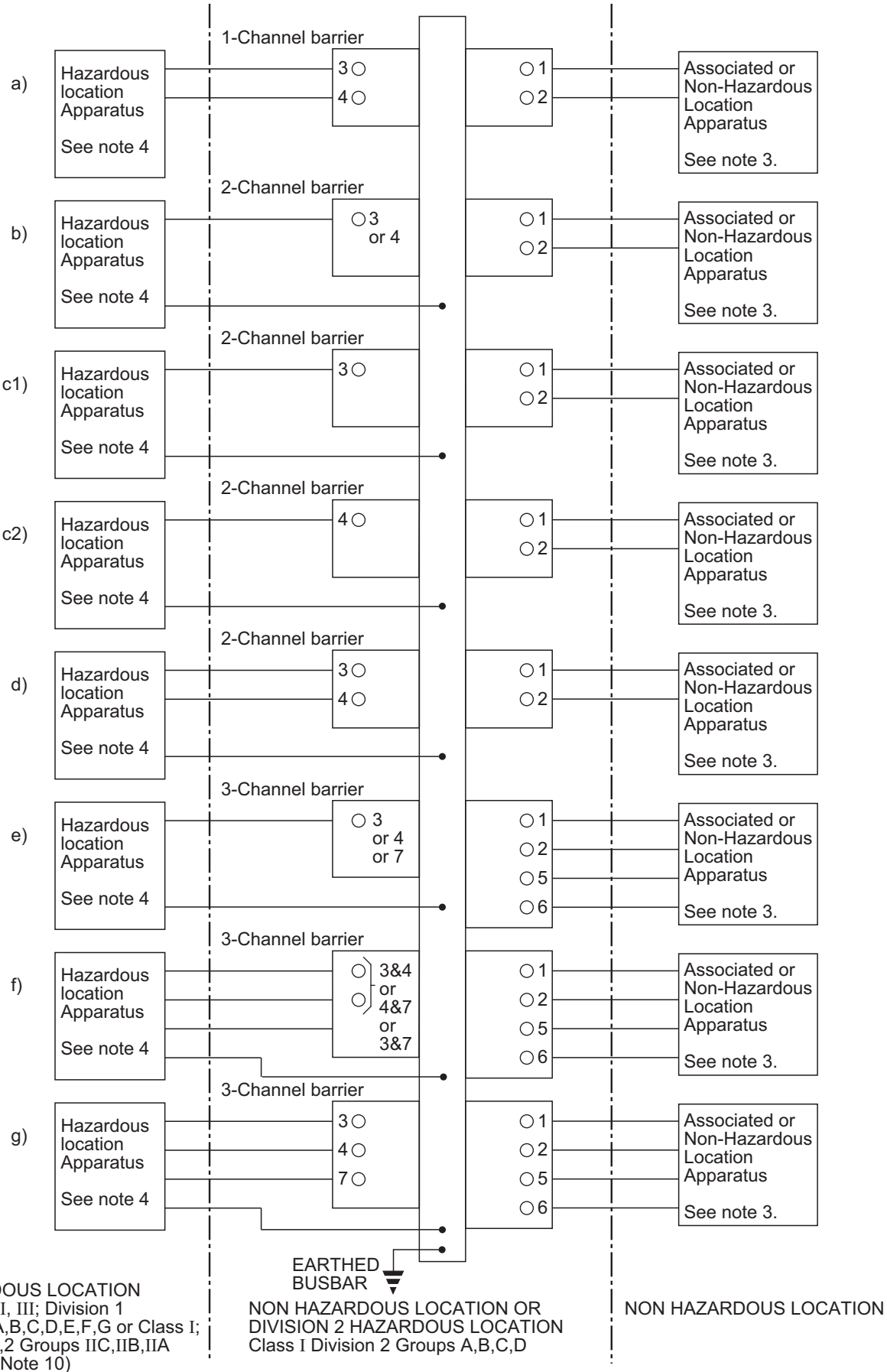
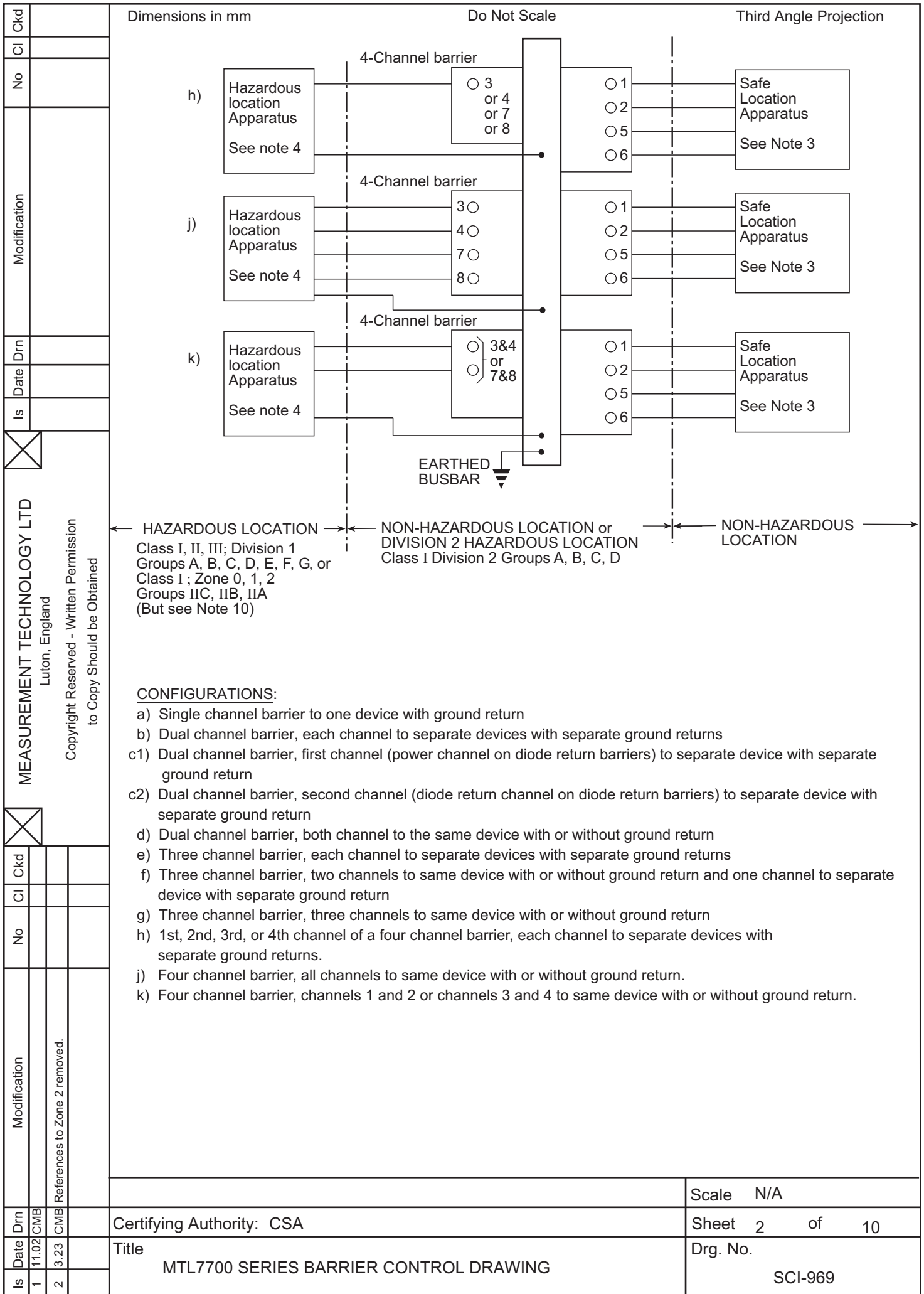


Ckd		Dimensions in mm		Do Not Scale		Third Angle Projection	
Cl							
No							
Modification							
Date Dnm							
Is							
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Ckd							
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Modification							
Date Dnm		SB					
Is		1		2			
		11.02		3.23		CMB	
						References to Zone 2 removed.	
HAZARDOUS LOCATION Class I, II, III; Division 1 Groups A,B,C,D,E,F,G or Class I; Zone 0,1,2 Groups IIC,IIB,IIA (But see Note 10)				EARTHED BUSBAR		NON HAZARDOUS LOCATION OR DIVISION 2 HAZARDOUS LOCATION Class I Division 2 Groups A,B,C,D	
				Scale		N/A	
Certifying Authority: CSA				Sheet		1 of 10	
Title				Drg. No.		SCI-969	
MTL7700 SERIES BARRIER CONTROL DRAWING							







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**CONFIGURATIONS:**

- a) Single channel barrier to one device with ground return
- b) Dual channel barrier, each channel to separate devices with separate ground returns
- c1) Dual channel barrier, first channel (power channel on diode return barriers) to separate device with separate ground return
- c2) Dual channel barrier, second channel (diode return channel on diode return barriers) to separate device with separate ground return
- d) Dual channel barrier, both channel to the same device with or without ground return
- e) Three channel barrier, each channel to separate devices with separate ground returns
- f) Three channel barrier, two channels to same device with or without ground return and one channel to separate device with separate ground return
- g) Three channel barrier, three channels to same device with or without ground return
- h) 1st, 2nd, 3rd, or 4th channel of a four channel barrier, each channel to separate devices with separate ground returns.
- j) Four channel barrier, all channels to same device with or without ground return.
- k) Four channel barrier, channels 1 and 2 or channels 3 and 4 to same device with or without ground return.

Is	1	11.02	CMB
Date	2	3.23	CMB
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Modification			References to Zone 2 removed.
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Certifying Authority: CSA		Scale	N/A
Title		Sheet	2 of 10
MTL7700 SERIES BARRIER CONTROL DRAWING		Drg. No.	SCI-969

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Drn		SB		CMB											
Date		11.02		3.23											
Is		1		2											
				<p><b>Note 1</b>  MTL7700 Series Shunt Diode Barriers must be secured to a DIN 'T' section (35x27x7.5mm) mounting rail. Rails constructed of aluminium or aluminium-based alloys must not be used. The mounting rail must be provided with at least one grounding terminal (two are recommended) which should be situated at each end of the rail. These terminals are to be used for the intrinsic safety grounding and must be capable of accommodating conductors up to 4mm in cross-section (12 AWG).</p> <p><b>Note 2</b>  The intrinsic safety grounding system must be such that when installed the ground loop impedance (including the mounting rail) does not exceed 1.0Ω.</p> <p><b>Note 3</b>  The Non-Hazardous (Safe) Location or Division 2 equipment must not generate or use voltages (Um) in excess of 250V rms or dc.</p> <p><b>Note 4</b>  The Hazardous Location equipment may be CSA approved devices suitable for the locations which it is to be installed and with correct Entity parameters or Simple Apparatus (but see note 9). If the Simple Apparatus consists only of switches, then the entity parameter table on subsequent pages of this drawing applies without any temperature limitation. If the Simple Apparatus consists of thermocouples (TC's), Light Emitting Diodes (LED's) or Resistance Temperature Devices (RTD's), with or without switches, then the maximum output power (Po) from the barrier connected to simple apparatus must not exceed the following:</p> <table border="1" data-bbox="384 891 1206 1102"> <thead> <tr> <th>Maximum barrier output power (Po)</th> <th>Maximum ambient Temperature (Ta) where simple apparatus is located</th> </tr> </thead> <tbody> <tr> <td>1.3 Watts</td> <td>40°C</td> </tr> <tr> <td>1.2 Watts</td> <td>60°C</td> </tr> <tr> <td>1.0 Watts</td> <td>80°C</td> </tr> </tbody> </table> <p><b>Note 5</b>  Barriers must be installed in suitable equipment enclosure meeting requirements of CSA Standard C22.2 No.1010.1-92 or in compliance with the enclosure, mounting, spacing, and segregation requirements of the ultimate application.</p> <p><b>Note 6</b>  The MTL7700 Series Shunt Diode safety barriers are Associated Apparatus, and when mounted in an appropriate enclosure may be installed in the following locations:</p> <ul style="list-style-type: none"> <li>i Non-Hazardous (Safe) Locations</li> <li>ii Class I, Division 2, Groups A,B,C, and D and T4 Temperature code.</li> </ul> <p>When installed in a CSA Approved or NRTL Listed, dust-ignition proof enclosure, the barriers may also be installed in the following locations:</p> <ul style="list-style-type: none"> <li>iii Class II Division 2, Groups F and G Hazardous Locations and T4 Temperature code.</li> <li>iv Class III, Division 2 Hazardous Locations and T4 Temperature code.</li> </ul>				Maximum barrier output power (Po)	Maximum ambient Temperature (Ta) where simple apparatus is located	1.3 Watts	40°C	1.2 Watts	60°C	1.0 Watts	80°C
Maximum barrier output power (Po)	Maximum ambient Temperature (Ta) where simple apparatus is located														
1.3 Watts	40°C														
1.2 Watts	60°C														
1.0 Watts	80°C														
				Scale		N/A									
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						SCI-969									



Is	Date	Drn	Modification	No	Ckd	Is	Date	Drn	Modification	No	Ckd
1	11.02	SB									
2	3.23	CMB	References to Zone 2 removed.								

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Dimensions in mm

Do Not Scale

Third Angle Projection

BARRIER Model Terminals	C O N F I G	Voc or Uo (V)	Isc or Io (mA)	Ro (ohms)	Po (W)	Ca or Co (μF) AB(IIC)/CE(IIB)/DFG(IIA)	La or Lo (mH) AB(IIC)/CE(IIB)/DFG(IIA)	La/Ra or Lo/Ro (μH/Ω) AB(IIC)/CE(IIB)/DFG(IIA)
MTL7706+ 3 & 4	a	28	93	300	0.65	0.083/0.65/2.15	4.2/12.6/33.6	56/210/444
MTL7707+ 3 & GND	c1	28	93	300	0.65	0.083/0.65/2.15	4.2/12.6/33.6	56/210/444
MTL7707+ 4 & GND	c2	28	0	diode	—	0.083/0.65/2.15	—	—
MTL7707+ 3 & 4	d	29.4	93	300	0.65	0.071/0.587/1.91	4.2/12.6/33.6	56/210/444
MTL7707P+ 3 & GND	c1	28	171	164	1.2	*0.65/2.15	*5.34/10.73	*1/25/256
MTL7707P+ 4 & GND	c2	28	0	diode	—	0.083/0.65/2.15	—	—
MTL7707P+ 3 & 4	d	29.4	171	164	1.2	*0.587/1.91	*5.34/10.73	*1/25/256
MTL7710+/- 3 & 4	a	10	200	50	0.5	3.0/20/100	0.91/2.72/7.25	74/310/627
MTL7715+/- 3 & 4	a	15	150	100	0.56	0.58/3.55/14	1.45/7.22/14	66/263/544
MTL7715P+/- 3 & 4	a	15	291	51	1.09	0.58/3.55/14.0	0.33/0.99/2.64	28/140/280
MTL7722+/- 3 & 4	a	22	147	150	0.81	0.165/1.14/4.2	1.45/7.22/14	45/180/373
MTL7728+/-/ac 3 & 4	a	28	93	300	0.65	0.083/0.65/2.15	4.2/12.6/33.6	56/210/444
MTL7728P+/- 3 & 4	a	28	119	234.6	0.83	0.083/0.65/2.15	2.51/7.53/20	44/168/354

\* Not permitted for Groups A/B(IIC)

Certifying Authority: CSA

Scale N/A

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Title  
MTL7700 SERIES BARRIER CONTROL DRAWING

Drg. No.  
SCI-969

Is	Date	Drn	Modification	No	Ckd	No	Cl	Ckd	Is	Date	Drn	Modification	No	Cl	Ckd
1	11.02	SB													
2	3.23	CMB	References to Zone 2 removed.												

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Dimensions in mm Do Not Scale Third Angle Projection

BARRIER Model Terminals	C O N F I G	Voc or Uo (V)	Isc or Io (mA)	Ro (ohms)	Po (W)	Ca or Co (µF) AB(IIC)/CE(IIB)/DFG(IIA)	La or Lo (mH) AB(IIC)/CE(IIB)/DFG(IIA)	La/Ra or Lo/Ro (µH/Ω) AB(IIC)/CE(IIB)/DFG(IIA)
MTL7729P+/- 3 & 4	a	28	170	164	1.19	* /0.65/2.15	* /5.65/11.34	* /127/260
MTL7741 3 & 4	d	10	19	—	0.039	2.86 /20.0/100	96 /365/696	742/1900/1900
MTL7742 3 & 4	d	10	19	—	0.039	2.86 /20.0/100	96 /365/696	742/1900/1900
MTL7743 3 & 4 or 7 & 8	k	10	19	—	0.039	2.86 /20.0/100	96 /365/696	742/1900/1900
MTL7743 3,4,7 & 8	j	10	38	—	0.078	2.73 /19.9/100	25 /91/193	184/694/1323
MTL7744 3 & 4 or 7 & 8	k	10	19	—	0.039	2.86 /20.0/100	96 /365/696	742/1900/1900
MTL7744 3,4,7 & 8	j	10	38	—	0.078	2.73 /19.9/100	25 /91/193	184/694/1323
MTL7745 3 & 4	d	10	19	—	0.039	2.86 /20.0/100	96 /365/696	742/1900/1900
MTL7755ac 3 & GND or 4 & GND	b	3	300	10	0.225	100/1000/1000	0.46/1.37/3.66	145/722/1442
MTL7755ac 3 & 4	d	6	600	5	0.45	40/1000/1000	0.13/0.39/1000	69/206/548

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MTL7700 SERIES BARRIER CONTROL DRAWING		Drg. No.	SCI-969

\* Not permitted for Groups A/B(IIC)

Is	Date	Drn	Modification	No	Cl	Ckd
1	11.02	SB				
2	3.23	CMB	References to Zone 2 removed.			

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Dimensions in mm						
Do Not Scale						
Third Angle Projection						

BARRIER Model Terminals	C O N F I G	Voc or Uo (V)	Isc or Io (mA)	Ro (ohms)	Po (W)	Ca or Co (µF) AB(IIC)/CE(IIB)/DFG(IIA)	La or Lo (mH) AB(IIC)/CE(IIB)/DFG(IIA)	La/Ra or Lo/Ro (µH/Ω) AB(IIC)/CE(IIB)/DFG(IIA)
MTL7756ac 3 & GND or 4 & GND or 7 & GND	e	3	300	10	0.225	100/1000/1000	0.46/1.37/3.66	145/722/1442
MTL7756ac 3 & 4 or 4 & 7 or 3 & 7	f	6	600	5	0.45	40/1000/1000	0.13/0.39/1.03	69/206/548
MTL7756ac 3 & 4 & 7	g	6	900	3.3	0.675	40/1000/1000	0.06/0.19/0.49	44/131/349
MTL7758+/- 3 & GND	c1	7.5	750	10	1.4	11.1/174/1000	0.07/0.20/0.54	26/77/206
MTL7758+/- 4 & GND	c2	7.5	750	10	1.4	11.1/174/1000	0.07/0.20/0.54	26/77/206
MTL7758+/- 3 & 4	d	7.9	1500	5	2.8	8.8/115/1000	0.02/0.05/0.14	10/30/81
MTL7760ac 3 & GND or 4 & GND	b	10	200	50	0.5	3.0/20.2/100	0.91/2.72/7.25	74/310/627
MTL7760ac 3 & 4	d	10	400	25	1.0	3.0/20.2/100	0.2/1.0/1.8	35.6/142.2/284.4
MTL7761ac 3 & GND or 4 & GND	b	9	100	90	0.225	4.9/40/500	3.72/15/500	163/616/1299
MTL7761ac 3 & 4	d	18	200	45	0.45	0.31/1.78/7.6	0.91/2.72/7.2	62/258/522
MTL7761Pac 3 & GND or 4 & GND	b	9	26	351.5	0.058	4.9/40/500	56/208/419	613/2382/2778
MTL7761Pac 3 & 4	d	18	52	175.75	0.115	0.31/1.78/7.6	14/55/116	236/870/1747

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MTL7700 SERIES BARRIER CONTROL DRAWING		Dr. No.	SCI-969

Is	Date	Dm	Modification	No	Cl	Ckd	MEASUREMENT TECHNOLOGY LTD Luton, England Copyright Reserved - Written Permission to Copy Should be Obtained	Is	Date	Dm	Modification	No	Cl	Ckd
1	11.02	SB												
2	3.23	CMB	References to Zone 2 removed.											

Dimensions in mm										Do Not Scale					Third Angle Projection					
BARRIER Model	C	Voc or Uo (V)	Isc or Io (mA)	Ro (ohms)	Po (W)	Ca or Co (µF)	La or Lo (mH)	La/Ra or Lo/Ro (µH/Ω)												
Terminals																				
MTL7764+/- 3 & GND or 4 & GND	b	12	12	1000	0.036	1.41/9/36	240/932/1000	1000/1000/1000												
MTL7764+/- 3 & 4	d	13	24	500	0.072	1.0/6.2/22.5	61/226/452	360/1398/1500												
MTL7764ac 3 & GND or 4 & GND	b	12	12	1000	0.036	1.41/9/36	240/932/1000	1000/1000/1000												
MTL7764ac 3 & 4	d	24	24	500	0.072	0.125/0.93/3.35	61/226/452	360/1398/1500												
MTL7765ac 3 & GND or 4 & GND	b	15	150	100	0.56	0.58/3.55/14.0	1.45/7.22/14.0	66/263/544												
MTL7765ac 3 & 4	d	15	300	50	1.12	0.58/3.55/14.0	0.32/0.95/2.54	31.6/126.4/252.8												
MTL7766ac 3 & GND or 4 & GND	b	12	80	150	0.24	1.41/9/36	5.8/23/48	151/556/1174												
MTL7766ac 3 & 4	d	24	160	75	0.48	0.125/0.93/3.35	1.47/4.4/11	58/234/481												
MTL7766Pac 3 & GND or 4 & GND	b	12	157	76.4	0.471	1.41/9/36	1.47/44/11	78/313/644												
MTL7766Pac 3 & 4	d	24	314	38.2	0.942	0.125/0.93/3.35	0.34/1.02/2.71	29/87/231												
MTL7767+/- 3 & GND or 4 & GND	b	15	150	100	0.56	0.58/3.55/14	1.45/7.22/14	66/263/544												
MTL7767+/- 3 & 4	d	15	300	50	1.125	0.58/3.55/14	0.32/0.95/2.54	22/108/216												

\* Not permitted for Groups A/B(IIC)

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Title MTL7700 SERIES BARRIER CONTROL DRAWING		Sheet 8 of 10	
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Is	Date	Drn	Modification	No	Cl	Ckd
1	8.01	CMB	MEASUREMENT TECHNOLOGY LTD Luton, England Copyright Reserved - Written Permission to Copy Should be Obtained	No	Cl	Ckd
2	3.23	CMB				

Dimensions in mm		Do Not Scale		Third Angle Projection				
BARRIER Model	C O N F I G	Voc or Uo (V)	Isc or Io (mA)	Ro (ohms)	Po (W)	Ca or Co (μF)	La or Lo (mH)	La/Ra or Lo/Ro (μH/Ω)
MTL7778ac 3 & GND or 4 & GND	b	28	47	600	0.33	0.083/0.65/2.15	16/62/130	107/398/789
MTL7778ac 3 & 4	d	28	93	300	0.654	0.083 /0.65/2.15	4.2/12.6/33.6	56/210/444
MTL7779+/- 3 & GND or 4 & GND	b	28	93	300	0.65	0.083/0.65/2.15	4.2/12.6/33.6	56/210/444
MTL7779+/- 3 & 4	d	28.3	186	150	1.3	* /0.63/2.09	* /4.1/7.9	* /108/217
MTL7787+/- 3 & GND	c1	28	93	300	0.65	0.083/0.65/2.15	4.2/12.6/33.6	56/210/444
MTL7787+/- 4 & GND	c2	28	0	diode	—	0.083/0.65/2.15	—	—
MTL7787+/- 3 & 4	d	29.4	93	300	0.65	0.071/0.587/1.91	4.2/12.6/33.6	56/210/444
MTL7787P+/- 3 & GND	c1	28	119	234.6	0.835	0.083/0.65/2.15	2.51/7.53/20	44/168/354
MTL7787P+/- 4 & GND	c2	28	0	diode	—	0.083/0.65/2.15	—	—
MTL7787P+/- 3 & 4	d	28.5	119	234.6	0.835	0.078/0.627/2.05	2.51/7.53/20	44/168/354

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Title		Sheet	g of 10
MTL7700 SERIES BARRIER CONTROL DRAWING		Dr. No.	SCI-969

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1	11.02	SB				
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Dimensions in mm

Do Not Scale

Third Angle Projection

BARRIER Model Terminals	C O N F I G	Voc or Uo (V)	Isc or Io (mA)	Ro (ohms)	Po (W)	Ca or Co ( $\mu$ F) AB(IIC)/CE(IIB)/DFG(IIA)	La or Lo (mH) AB(IIC)/CE(IIB)/DFG(IIA)	La/Ra or Lo/Ro ( $\mu$ H/ $\Omega$ ) AB(IIC)/CE(IIB)/DFG(IIA)
MTL7788+/- MTL7788R+/- 3 & GND	c1	28	93	300	0.65	0.083/0.65/2.15	4.2/12.6/33.6	56/210/444
MTL7788+/- MTL7788R+/- 4 & GND	c2	10	200	50	0.5	3.0/20/100	0.91/2.72/7.25	74/310/627
MTL7788+/- MTL7788R+/- 3 & 4	d	28	294	42.85	0.92	0.083/0.65/2.15	0.33/0.99/2.64	25/124/253
MTL7789+/- 3 & GND or 7 & GND	h	28	46.5	600	0.33	0.083/0.65/2.15	16/63/133	106/393/781
MTL7789+/- 4 & GND or 8 & GND	h	28	0	diode	0	0.083/0.65/2.15	—	—
MTL7789+/- 3 & 4 & 7 & 8	j	28	93	300	0.65	0.083/0.65/2.15	4.2/12.6/33.6	56/210/444
MTL7789+/- 3 & 4 or 7 & 8	k	28	46.5	600	0.33	0.083/0.65/2.15	16/63/133	106/393/781
MTL7796+/- 3 & GND	c1	26	87	300	0.56	0.1/0.77/2.6	4.91/20/40	64/239/505
MTL7796+/- 4 & GND	c2	20	51	390	0.26	0.22/1.41/5.5	13/51/108	136/501/1014
MTL7796+/- 3 & 4	d	26.4	138	169.56	0.81	0.096/0.74/2.48	1.94/8.5/16	34/136/282

Refer to Note 12 for Information about MTL7798 Power Feed Module.

Certifying Authority: CSA Title <b>MTL7700 SERIES BARRIER CONTROL DRAWING</b>	Scale N/A Sheet 10 of 10 Drg. No. <b>SCI-969</b>
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