

Performance Specification

Model	V _{max} (V dc)	I _{max} (A)	I _{hold} @25°C (A)	I _{trip} @25°C (A)	P _d Typ. (W)	Maximum Time To Trip		Resistance	
						Current (A)	Time (Sec)	R _{i min} (Ω)	R _{1max} (Ω)
JSMD1210-150L/12	12.0	50.0	1.5	3.0	1.2	8.0	2.0	0.01	0.06
JSMD1210-175L/12	12.0	50.0	1.75	3.5	1.2	8.0	2.0	0.01	0.04
JSMD1210-200L	6.0	50.0	2.0	4.0	1.2	8.0	3.0	0.006	0.035
JSMD1210-200L/12	12.0	50.0	2.0	4.0	1.2	8.0	3.0	0.006	0.035
JSMD1210-260L	6.0	50.0	2.6	5.2	1.2	8.0	5.0	0.003	0.025
JSMD1210-260L/12	12.0	50.0	2.6	5.2	1.2	8.0	5.0	0.003	0.025
JSMD1210-300L	6.0	50.0	3.0	6.0	1.2	15.0	2.0	0.003	0.02
JSMD1210-300L/12	12.0	50.0	3.0	6.0	1.2	15.0	2.0	0.003	0.02
JSMD1210-350L	6.0	50.0	3.5	7.0	1.2	17.5	2.0	0.002	0.018
JSMD1210-350L/12	12.0	50.0	3.5	7.0	1.2	17.5	2.0	0.002	0.018
JSMD1210-380L	6.0	50.0	3.8	7.6	1.2	19.0	2.0	0.002	0.016
JSMD1210-380L/12	12.0	50.0	3.8	7.6	1.2	19.0	2.0	0.002	0.016
JSMD1210-400L	6.0	50.0	4.0	8.0	1.4	20.0	2.0	0.002	0.014
JSMD1210-400L/12	12.0	50.0	4.0	8.0	1.4	20.0	2.0	0.002	0.014
JSMD1210-450L	6.0	50.0	4.5	9.0	1.4	22.5	2.0	0.001	0.013
JSMD1210-450L/12	12.0	50.0	4.5	9.0	1.4	22.5	2.0	0.001	0.013
JSMD1210-500L	6.0	50.0	5.0	10.0	1.4	25.0	2.0	0.001	0.012
JSMD1210-500L/12	12.0	50.0	5.0	10.0	1.4	25.0	2.0	0.001	0.012
JSMD1210-550L	6.0	50.0	5.5	11.0	1.4	27.5	2.0	0.001	0.011
JSMD1210-550L/12	12.0	50.0	5.5	11.0	1.4	27.5	2.0	0.001	0.011
JSMD1210-600L	6.0	50.0	6.0	12.0	1.4	30.0	2.0	0.0009	0.01
JSMD1210-600L/12	12.0	50.0	6.0	12.0	1.4	30.0	2.0	0.0009	0.01
JSMD1210-650L	6.0	50.0	6.5	13.0	1.4	32.5	2.0	0.0008	0.009
JSMD1210-650L/12	12.0	50.0	6.5	13.0	1.4	32.5	2.0	0.0008	0.009
JSMD1210-700L	6.0	50.0	7.0	14.0	1.4	35.0	2.0	0.0007	0.008
JSMD1210-700L/12	12.0	50.0	7.0	14.0	1.4	35.0	2.0	0.0007	0.008
JSMD1210-750L	6.0	50.0	7.5	15.0	1.4	37.5	2.0	0.0006	0.007
JSMD1210-750L/12	12.0	50.0	7.5	15.0	1.4	37.5	2.0	0.0006	0.007
JSMD1210-800L	6.0	50.0	8.0	16.0	1.4	40.0	2.0	0.0005	0.006
JSMD1210-800L/12	12.0	50.0	8.0	16.0	1.4	40.0	2.0	0.0005	0.006

V_{max} = Maximum operating voltage device can withstand without damage at rated current (I_{max}).

I_{max} = Maximum fault current device can withstand without damage at rated voltage (V_{max}).

I_{hold} = Hold Current. Maximum current device will not trip in 25°C still air.

I_{trip} = Trip Current. Minimum current at which the device will always trip in 25°C still air.

P_d = Power dissipation when device is in the tripped state in 25°C still air environment at rated voltage.

R_{i min/max} = Minimum/Maximum device resistance prior to tripping at 25°C.



R_{1max} = Maximum device resistance is measured one hour post reflow.

CAUTION : Operation beyond the specified ratings may result in damage and possible arcing and flame.

Environmental Specifications

Test	Conditions	Resistance change
Passive aging	+85°C, 1000 hrs.	±5% typical
Humidity aging	+85°C, 85% R.H. , 168 hours	±5% typical
Thermal shock	+85°C to -40°C, 20 times	±33% typical
Resistance to solvent	MIL-STD-202,Method 215	No change
Vibration	MIL-STD-202,Method 201	No change
Ambient operating conditions : - 40 °C to +85 °C		
Maximum surface temperature of the device in the tripped state is 125 °C		

Agency Approval and Environmental Compliance

Agency	File Number	Regulation	Standard
UL	E217453		2002/95/EC
TUV	pending		EN14582

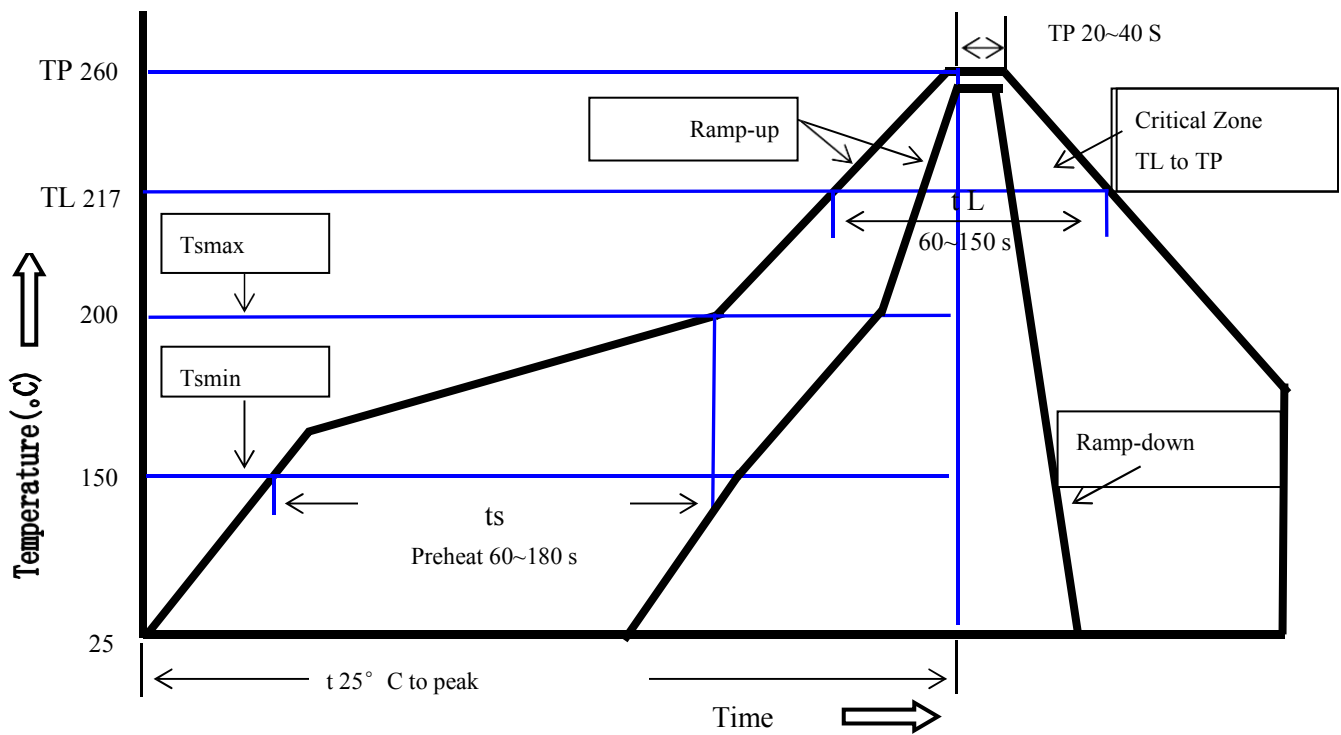
Thermal Derating Chart

Model	Ambient Operation Temperature								
	-40°C	-20°C	0°C	25°C	40°C	50°C	60°C	70°C	85°C
JSMD1210-150L/12	2.25	2.0	1.75	1.5	1.33	1.15	1.05	0.93	0.7
JSMD1210-175L/12	2.55	2.33	2.02	1.75	1.53	1.35	1.23	1.07	0.85
JSMD1210-200L	2.96	2.67	2.32	2.0	1.76	1.55	1.41	1.23	0.96
JSMD1210-200L/12	2.96	2.67	2.32	2.0	1.76	1.55	1.41	1.23	0.96
JSMD1210-260L	3.85	3.47	3.02	2.6	2.29	2.01	1.84	1.59	1.25
JSMD1210-260L/12	3.85	3.47	3.02	2.6	2.29	2.01	1.84	1.59	1.25
JSMD1210-300L	4.44	4.0	3.48	3.0	2.64	2.32	2.12	1.84	1.44
JSMD1210-300L/12	4.44	4.0	3.48	3.0	2.64	2.32	2.12	1.84	1.44
JSMD1210-350L	5.18	4.67	4.06	3.5	3.08	2.71	2.47	2.15	1.68
JSMD1210-350L/12	5.18	4.67	4.06	3.5	3.08	2.71	2.47	2.15	1.68
JSMD1210-380L	5.62	5.07	4.41	3.8	3.34	2.94	2.68	2.33	1.82
JSMD1210-380L/12	5.62	5.07	4.41	3.8	3.34	2.94	2.68	2.33	1.82
JSMD1210-400L	5.92	5.33	4.64	4.0	3.52	3.09	2.83	2.45	1.92
JSMD1210-400L/12	5.92	5.33	4.64	4.0	3.52	3.09	2.83	2.45	1.92
JSMD1210-450L	6.66	6.0	5.22	4.5	3.96	3.48	3.17	2.76	2.16
JSMD1210-450L/12	6.66	6.0	5.22	4.5	3.96	3.48	3.17	2.76	2.16
JSMD1210-500L	7.4	6.67	5.8	5.0	4.4	3.87	3.53	3.07	2.4
JSMD1210-500L/12	7.4	6.67	5.8	5.0	4.4	3.87	3.53	3.07	2.4
JSMD1210-550L	8.14	7.34	6.38	5.5	4.84	4.26	3.88	3.38	2.64
JSMD1210-550L/12	8.14	7.34	6.38	5.5	4.84	4.26	3.88	3.38	2.64

JSMD1210-600L	8.65	7.91	6.93	6.0	5.23	4.45	4.0	3.63	2.85
JSMD1210-600L/12	8.65	7.91	6.93	6.0	5.23	4.45	4.0	3.63	2.85
JSMD1210-650L	9.2	8.45	7.45	6.5	5.6	4.65	4.3	3.89	3.0
JSMD1210-650L/12	9.2	8.45	7.45	6.5	5.6	4.65	4.3	3.89	3.0
JSMD1210-700L	9.84	9.0	7.95	7.0	5.96	4.95	4.5	4.16	3.2
JSMD1210-700L/12	9.84	9.0	7.95	7.0	5.96	4.95	4.5	4.16	3.2
JSMD1210-750L	10.5	9.65	8.5	7.5	6.4	5.3	4.8	4.45	4.42
JSMD1210-750L/12	10.5	9.65	8.5	7.5	6.4	5.3	4.8	4.45	4.42
JSMD1210-800L	11.2	10.29	9.07	8.0	6.83	5.65	5.12	4.75	4.71
JSMD1210-800L/12	11.2	10.29	9.07	8.0	6.83	5.65	5.12	4.75	4.71

Recommended Hold Current(A) at Ambient Temperature(°C)

Soldering Parameters



Profile Feature	Pb-Free Assembly
Average Ramp-Up Rate(Ts max to T p)	3°C/second mac.
Preheat	
-Temperature Min(Ts min)	150°C
-Temperature Max(Ts max)	200°C
-Time(Ts min to Ts max)	60~180 seconds
Time maintained above:	
-Temperature(TL)	217°C
-Time(tL)	60~150 seconds
Peak Temperature(Tp)	260°C
Ramp-Down Rate	6°C/second max.
Time 25°C to Peak Temperature	8 minutes max
Storage Condition	0°C~35°C, ≤70%RH

Recommended reflow methods: IR, vapor phase oven, hot air oven, N2 environment for lead-free

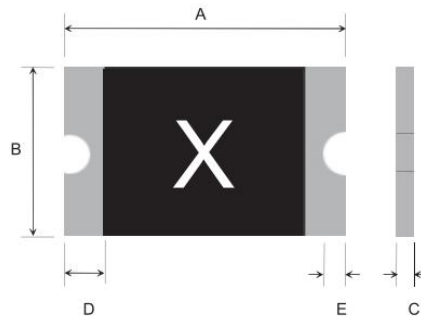
Recommended maximum paste thickness is 0.25mm

Devices can be cleaned using standard industry methods and solvents.

Note 1: All temperature refer to topside of the package, measured on the package body surface.

Note 2: If reflow temperatures exceed the recommended profile, devices may not meet the performance requirements.

Physical Dimensions(mm.)



Model	A		B		C		D	E
	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Min.
JSMD1210-150L/12	3.0	3.43	2.35	2.8	0.3	0.7	0.25	0.1
JSMD1210-175L/12	3.0	3.43	2.35	2.8	0.3	0.7	0.25	0.1
JSMD1210-200L	3.0	3.43	2.35	2.8	0.3	0.7	0.25	0.1
JSMD1210-200L/12	3.0	3.43	2.35	2.8	0.3	0.7	0.25	0.1
JSMD1210-260L	3.0	3.43	2.35	2.8	0.3	0.7	0.25	0.1
JSMD1210-260L/12	3.0	3.43	2.35	2.8	0.3	0.7	0.25	0.1
JSMD1210-300L	3.0	3.43	2.35	2.8	0.3	0.7	0.25	0.1
JSMD1210-300L/12	3.0	3.43	2.35	2.8	0.3	0.7	0.25	0.1
JSMD1210-350L	3.0	3.43	2.35	2.8	0.3	0.7	0.25	0.1
JSMD1210-350L/12	3.0	3.43	2.35	2.8	0.3	0.7	0.25	0.1

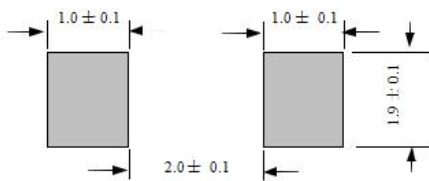
JSMD1210-380L	3.0	3.43	2.35	2.8	0.3	0.7	0.25	0.1
JSMD1210-380L/12	3.0	3.43	2.35	2.8	0.3	0.7	0.25	0.1
JSMD1210-400L	3.0	3.43	2.35	2.8	0.3	0.7	0.25	0.1
JSMD1210-400L/12	3.0	3.43	2.35	2.8	0.3	0.7	0.25	0.1
JSMD1210-450L	3.0	3.43	2.35	2.8	0.3	0.7	0.25	0.1
JSMD1210-450L/12	3.0	3.43	2.35	2.8	0.3	0.7	0.25	0.1
JSMD1210-500L	3.0	3.43	2.35	2.8	0.4	1.1	0.25	0.1
JSMD1210-500L/12	3.0	3.43	2.35	2.8	0.4	1.1	0.25	0.1
JSMD1210-550L	3.0	3.43	2.35	2.8	0.4	1.1	0.25	0.1
JSMD1210-550L/12	3.0	3.43	2.35	2.8	0.4	1.1	0.25	0.1
JSMD1210-600L	3.0	3.43	2.35	2.8	0.5	1.1	0.25	0.1
JSMD1210-600L/12	3.0	3.43	2.35	2.8	0.5	1.1	0.25	0.1
JSMD1210-650L	3.0	3.43	2.35	2.8	0.5	1.1	0.25	0.1
JSMD1210-650L/12	3.0	3.43	2.35	2.8	0.5	1.1	0.25	0.1
JSMD1210-700L	3.0	3.43	2.35	2.8	0.6	1.4	0.25	0.1
JSMD1210-700L/12	3.0	3.43	2.35	2.8	0.6	1.4	0.25	0.1
JSMD1210-750L	3.0	3.43	2.35	2.8	0.6	1.4	0.25	0.1
JSMD1210-750L/12	3.0	3.43	2.35	2.8	0.6	1.4	0.25	0.1
JSMD1210-800L	3.0	3.43	2.35	2.8	0.6	1.4	0.25	0.1
JSMD1210-800L/12	3.0	3.43	2.35	2.8	0.6	1.4	0.25	0.1

Termination Pad Characteristics

Terminal pad materials: Tin-plated Nickel-Copper

Terminal pad solder ability: Meets EIA specification RS186-9E and ANSI/J-STD-002 Category 3

Recommended Pad Layout (mm.)



Packaging Quantity

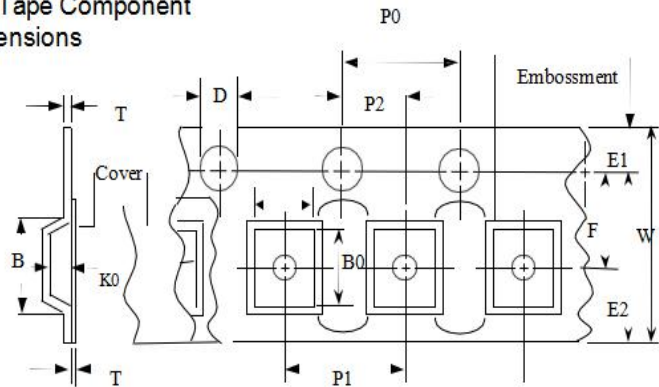
Tape & reel packaging per EIA481-1

Part Number	Quantity
JSMD 1210 LoR Series	4,000 pcs/reel

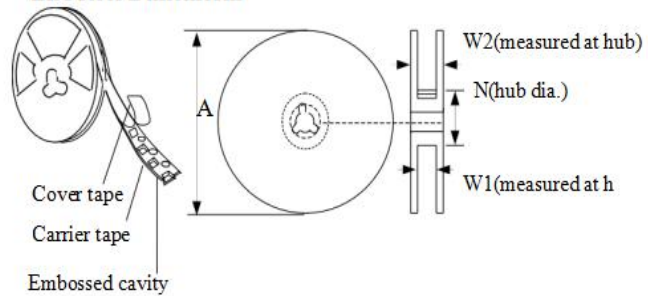
Tape And Reel Specifications (mm)

Governing Specifications	EIA 481-1
W	8.15 ± 0.3
P0	4.0 ± 0.10
P1	4.0 ± 0.10
P2	2.0 ± 0.05
A0	2.82± 0.10
B0	3.52 ± 0.10
B1max	4.35
D0	1.50 + 0.10,-0
F	3.5 ± 0.05
E1	1.75 ± 0.10
E2min.	6.25
T	0.6
T1max.	0.1
K0	1.04 ± 0.1
Leader min.	390
Trailer min.	160
Reel Dimensions	
A max.	178
N min.	60
W1	9.0 ± 0.5
W2	12.6 ± 0.05

EIA Tape Component Dimensions



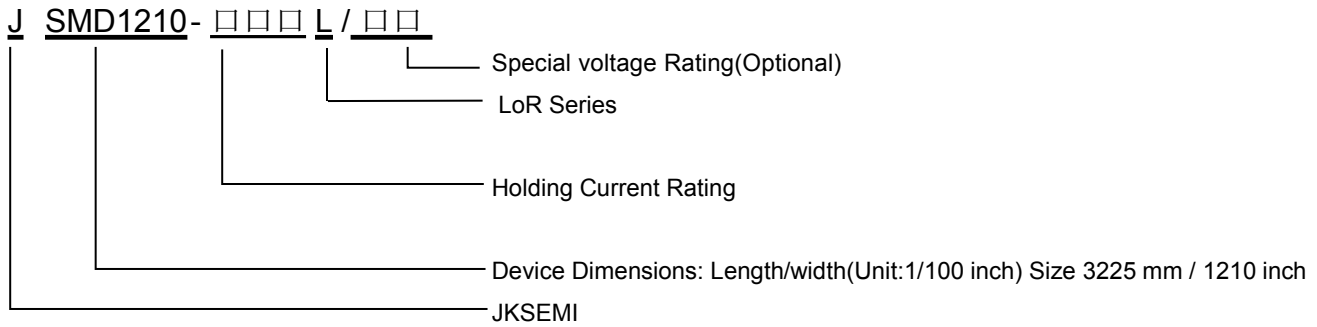
EIA Reel Dimensions



Storage And Handling

- Storage conditions: 35°C max, 70% R.H.
- Devices may not meet specified performance if storage conditions are exceeded.

Part Number System



Cross Reference

JKSEMI	Cross Reference				
	Littelfuse	Bourns/Multifuse®	Polytronics /EVERFUSE®	Wayon	TLC
JSMD1210-150L/12	1210L150/12	MF-USMF150/16X	SMD1210P150TF/12	LP-USML150/6	TLC-USML150/12
JSMD1210-175L/12	1210L175SL/6	MF-USML175/12	SMD1210P175SLR/12	LP-USML175/12	TLC-USML175/12
JSMD1210-200L	1210L200SL/6	MF-USML200/6	SMD1210P200SLR/6	LP-USML200/6	TLC-USML200/6
JSMD1210-200L/12	-	MF-USML200/12	SMD1210P200SLR/12	LP-USML200/12	TLC-USML200/12
JSMD1210-260L	1210L260SL/6	MF-USML260/6	SMD1210P260SLR/6	LP-USML260/6	TLC-USML260/6
JSMD1210-260L/12	-	MF-USML260/12	SMD1210P260SLR/12	LP-USML260/12	TLC-USML260/12
JSMD1210-300L	1210L300SL/6	MF-USML300/6	SMD1210P300SLR/6	LP-USML300/6	TLC-USML300/6
JSMD1210-300L/12	-	MF-USML300/12	SMD1210P300SLR/12	LP-USML300/12	TLC-USML300/12
JSMD1210-350L	1210L350SL/6	MF-USML350/6	SMD1210P350SLR/6	LP-USML350/6	TLC-USML350/6
JSMD1210-350L/12	-	MF-USML350/12	SMD1210P350SLR/12	LP-USML350/12	TLC-USML350/12
JSMD1210-380L	1210L380SL/6	MF-USML380/6	SMD1210P380SLR/6	LP-USML380/6	TLC-USML380/6
JSMD1210-380L/12	-	MF-USML380/12	SMD1210P380SLR/12	LP-USML380/12	TLC-USML380/12
JSMD1210-400L	1210L400SL/6	MF-USML400/6	SMD1210P400SLR/6	LP-USML400/6	TLC-USML400/6
JSMD1210-400L/12	-	MF-USML400/12	-	LP-USML400/12	TLC-USML400/12
JSMD1210-450L	1210L450SL/6	MF-USML450/6	SMD1210P450SLR/6	LP-USML450/6	TLC-USML450/6
JSMD1210-450L/12	-	MF-USML450/12	-	LP-USML450/12	TLC-USML450/12
JSMD1210-500L	1210L500SL/6	MF-USML500/6	SMD1210P500SLR/6	LP-USML500/6	TLC-USML500/6
JSMD1210-500L/12	-	MF-USML500/12	SMD1210P500SLR/12	LP-USML500/12	TLC-USML500/12
JSMD1210-550L	1210L550SL/6	MF-USML550/6	SMD1210P550SLR/6	LP-USML550/6	TLC-USML550/6
JSMD1210-550L/12	-	MF-USML550/12	-	LP-USML550/12	TLC-USML550/12
JSMD1210-600L	1210L600SL/6	MF-USML600/6	SMD1210P600HT/6	LP-USML600/6	TLC-USML600/6
JSMD1210-600L/12	-	-	-	LP-USML600/12	TLC-USML600/12
JSMD1210-650L	1210L650SL/6	MF-USML650/6	SMD1210P650SLR/6	LP-USML650/6	TLC-USML650/6
JSMD1210-650L/12	-	-	-	-	TLC-USML650/12
JSMD1210-700L	1210L700SL/6	MF-USML700/6	SMD1210P700SLR/6	LP-USML700/6	TLC-USML700/6

JSMD1210-700L/12	-	-	-	-	TLC-USML700/12
JSMD1210-750L	1210L750SL/6	MF-USML750/6	SMD1210P750SLR/6	LP-USML750/6	TLC-USML750/6
JSMD1210-750L/12	-	-	-	-	TLC-USML750/12
JSMD1210-800L	1210L800SL/6	MF-USML800/6	SMD1210P800SLR/6	-	-
JSMD1210-800L/12	-	-	-	-	TLC-USML800/12

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