Chipsmall Limited consists of a professional team with an average of over 10 year of expertise in the distribution of electronic components. Based in Hongkong, we have already established firm and mutual-benefit business relationships with customers from,Europe,America and south Asia,supplying obsolete and hard-to-find components to meet their specific needs.

With the principle of “Quality Parts,Customers Priority,Honest Operation,and Considerate Service”,our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip,ALPS,ROHM,Xilinx,Pulse,ON,Everlight and Freescale. Main products comprise IC,Modules,Potentiometer,IC Socket,Relay,Connector.Our parts cover such applications as commercial,industrial, and automotives areas.

We are looking forward to setting up business relationship with you and hope to provide you with the best service and solution. Let us make a better world for our industry!

Contact us

Tel: +86-755-8981 8866 Fax: +86-755-8427 6832
Email & Skype: info@chipsmall.com Web: www.chipsmall.com
Address: A1208, Overseas Decoration Building, #122 Zhenhua RD., Futian, Shenzhen, China

1N5283UR-1 thru 1N5314UR-1 & 1N7048UR-1 thru 1N7055UR-1

0.5 W Current Regulators

Rev. V1

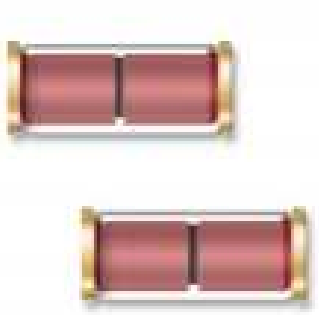
Features

- High Source Impedance
- Internal Metallurgical Bond
- Double Plug Construction
- Regulates Current over Broad Operating Range
- JAN, JANTX, JANTXV and JANS Qualification per MIL-PRFUR-19500/463 Available
- Hermetically Sealed Glass, DO-213AB
- Flexible Axial-lead Mounting Terminals
- RoHS* Compliant
- Non Sensitive to ESD

Description

The popular 1N5283UR-1 thru 1N5314UR-1 and 1N7041UR-1 thru 1N7055UR-1 series of 0.5 watt current regulators provides a selection from 0.22 mA to 10 mA in standard 10% tolerances. These devices regulate current over a broad voltage range as a counter part offering to Zeners that regulate voltage over a broad current range. The somewhat larger D0-7 packaging option offers a double-plug internal bond connection with a larger active die element for its unique function as a current limiter.

Hermetically Sealed Glass, DO-213AB



Absolute Maximum Ratings[1,2]

Parameter	Absolute Maximum
Steady State Power Dissipation (T_L = +50°C, L = 3/8[3])	500 mV
Working Peak Voltage	100 V
Thermal Impedance	25°C/W
Thermal Resistance (junction to lead @ L = 0.375 in.)	100°C/W
Junction & Storage Temperature	-65°C to +175°C
Solder Pad Temperature @ 10 s	+260°C

1. Exceeding any one or combination of these limits may cause permanent damage to this device.
2. MACOM does not recommend sustained operation near these survivability limits.
3. Derate @ 10 mW/°C above +125°C.

* Restrictions on Hazardous Substances, European Union Directive 2011/65/EU.

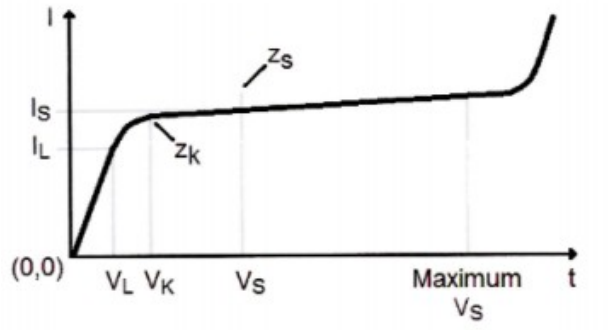
Electrical Specifications: T_A = +25°C (unless otherwise specified)

Part #	Regulator Current I_P (mA) @ V_S = 25 V			Dynamic Impedance[4] V_S = 25 V Z_S (M)	Knee Impedance[5] V_K = 6 V Z_K (MΩ)	Limiting Voltage I_L = 0.8 I_S V_L (V)	Peak Operating Voltage (V)
	Nom.	Min.	Max.	Min.	Min.	Max.	
1N5283UR-1	0.22	0.198	0.242	25	2.75		
1N5284UR-1	0.24	0.216	0.264	19	2.35		
1N5285UR-1	0.27	0.243	0.297	14	1.95	1.00	100
1N5286UR-1	0.30	0.270	0.330	9	1.60		
1N5287UR-1	0.33	0.297	0.363	8	1.35		
1N5288UR-1	0.39	0.351	0.429	4.10	1.000	1.05	
1N5289UR-1	0.43	0.387	0.473	3.30	0.870	1.05	
1N5290UR-1	0.47	0.423	0.517	2.70	0.750	1.05	100
1N5291UR-1	0.56	0.504	0.616	1.90	0.560	1.10	
1N5292UR-1	0.62	0.558	0.682	1.55	0.470	1.13	
1N5293UR-1	0.68	0.612	0.748	1.35	0.400	1.15	
1N5294UR-1	0.75	0.675	0.825	1.15	0.335	1.20	
1N5295UR-1	0.82	0.738	0.902	1.00	0.290	1.25	100
1N5296UR-1	0.91	0.819	1.001	0.88	0.240	1.29	
1N5297UR-1	1.00	0.900	1.100	0.80	0.205	1.35	
1N5298UR-1	1.10	0.99	1.21	0.70	0.180	1.40	
1N5299UR-1	1.20	1.08	1.32	0.64	0.155	1.45	
1N5300UR-1	1.30	1.17	1.43	0.58	0.135	1.50	100
1N5301UR-1	1.40	1.26	1.54	0.54	0.115	1.55	
1N5302UR-1	1.50	1.35	1.65	0.51	0.105	1.60	
1N5303UR-1	1.60	1.44	1.76	0.475	0.092	1.65	
1N5304UR-1	1.80	1.62	1.98	0.420	0.074	1.75	
1N5305UR-1	2.00	1.80	2.20	0.395	0.061	1.85	100
1N5306UR-1	2.20	1.98	2.42	0.370	0.052	1.95	
1N5307UR-1	2.40	2.16	2.54	0.345	0.044	2.00	
1N5308UR-1	2.70	2.43	2.97	0.320	0.035	2.15	
1N5309UR-1	3.00	2.70	3.30	0.300	0.029	2.25	
1N5310UR-1	3.30	2.97	3.63	0.280	0.024	2.35	100
1N5311UR-1	3.60	3.24	3.96	0.265	0.020	2.50	
1N5312UR-1	3.90	3.51	4.29	0.255	0.017	2.60	
1N5313UR-1	4.30	3.87	4.73	0.245	0.014	2.75	100
1N5314UR-1	4.70	4.23	5.17	0.235	0.012	2.90	
1N7048UR-1	5.10	4.59	5.61	100	4.0	3.67	80
1N7049UR-1	5.60	5.04	6.16	90	4.0	4.03	80
1N7050UR-1	6.20	5.58	6.82	80	3.0	4.46	70
1N7051UR-1	6.80	6.12	7.48	70	2.0	4.90	70
1N7052UR-1	7.50	6.75	8.25	50	1.5	5.40	60
1N7053UR-1	8.20	7.38	9.02	30	1.5	5.90	60
1N7054UR-1	9.10	8.19	10.01	20	1.0	6.55	50
1N7055UR-1	10.00	9.00	11.10	10	1.0	7.20	50

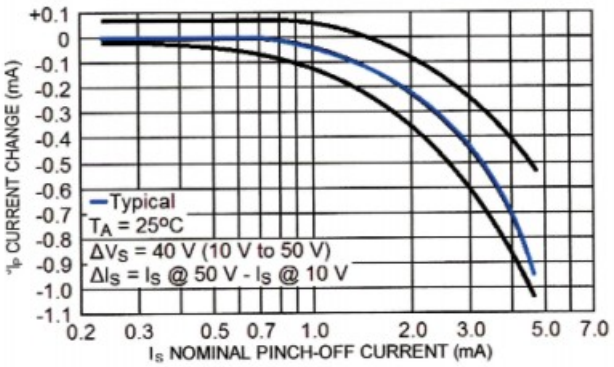
4. Z_S is derived by superimposing a 90 Hz RMS signal equal to 10% of V_S on V_S.
5. Z_K is derived by superimposing a 90 HZ RMS signal equal to 10% of V_K on V_K.

Typical Performance Curves

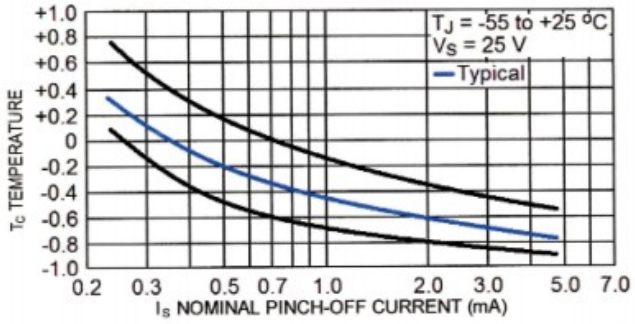
Current Regulator Characteristics



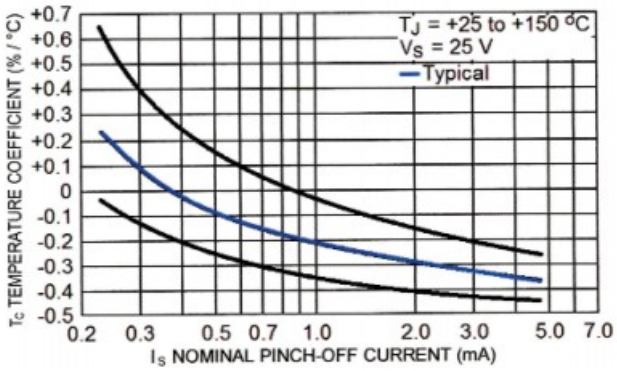
Current Regulator Factor



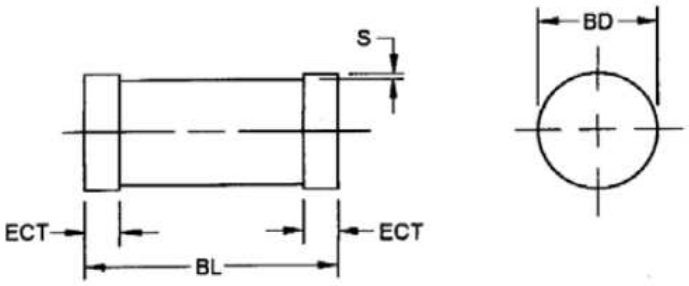
Temperature Coefficient



Output Return Loss



Hermetically Sealed Glass, DO-213AB (MELF, LL41)



Dimensions

Dim.	Inches		Millimeters	
	Min.	Max.	Min.	Max.
BD	0.94	0.105	2.39	2.67
BL	0.189	0.205	4.80	5.21
ECT	0.016	0.022	0.41	0.55
S	0.001 min.		0.03 min.	

Lead Material: copper clad steel
Lead Finish: tin/lead
Marking: part number and cathode band
Weight: 0.2 grams
Polarity: diode to be operated with the cathode band end negative
Mounting Surface Selection: the Axial Coefficient of Expansion (COE) of this device is approximately +6 PPM/°C. The COE of the Mounting Surface System should be selected to provide a suitable match with this device.