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TECHNICAL DATA SHEET

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CURRENT REGULATOR DIODES – LEADLESS PACKAGE FOR SURFACE MOUNT
– METALLURGICALLY BONDED

Qualified per MIL-PRF-19500/463

DEVICES

1N5283UR-1 Thru 1N5314UR-1
CDLL5283 Thru CDLL5314

QUALIFIED LEVELS

JAN
JANTX
JANTXV
JANS

MAXIMUM RATING AT 25°C

Operating Temperature: -65°C to +175°C
Storage Temperature: -65°C to +175°C
DC Power Dissipation: 500mW @ +75°C @ $T_{EC} = +125^{\circ}\text{C}$
Power Derating: 10mW / °C above $T_{EC} = +125^{\circ}\text{C}$
Peak Operating Voltage: 100 Volts

ELECTRICAL CHARACTERISTICS ($T_A = 25^{\circ}\text{C}$, unless otherwise specified)

TYPE NUMBER	REGULATOR CURRENT I_p (mA) @ $V_s = 25\text{V}$			MINIMUM DYNAMIC IMPEDANCE @ $V_s = 25$ Z_s (M) (Note 1)	MINIMUM KNEE IMPEDANCE @ $V_K = 6.0\text{V}$ Z_K (M) (Note 2)	MAXIMUM LIMITING VOLTAGE @ $I_L = 0.8 I_p$ (min) V_L (VOLTS)
	NOM	MIN	MAX			
CDLL5283	0.22	0.198	0.242	25.0	2.75	1.00
CDLL5284	0.24	0.216	0.264	19.0	2.35	1.00
CDLL5285	0.27	0.243	0.297	14.0	1.95	1.00
CDLL5286	0.30	0.270	0.330	9.0	1.60	1.00
CDLL5287	0.33	0.297	0.363	6.6	1.35	1.00
CDLL5288	0.39	0.351	0.429	4.10	1.00	1.05
CDLL5289	0.43	0.387	0.473	3.30	0.870	1.05
CDLL5290	0.47	0.423	0.517	2.70	0.750	1.05
CDLL5291	0.56	0.504	0.616	1.90	0.560	1.10
CDLL5292	0.62	0.558	0.682	1.55	0.470	1.13
CDLL5293	0.68	0.612	0.748	1.35	0.400	1.15
CDLL5294	0.75	0.675	0.825	1.15	0.335	1.20
CDLL5295	0.82	0.738	0.902	1.00	0.290	1.25
CDLL5296	0.91	0.819	1.001	0.880	0.240	1.29
CDLL5297	1.00	0.900	1.100	0.800	0.205	1.35
CDLL5298	1.10	0.990	1.210	0.700	0.180	1.40
CDLL5299	1.20	1.08	1.32	0.640	0.155	1.45
CDLL5300	1.30	1.17	1.43	0.580	0.135	1.50
CDLL5301	1.40	1.26	1.54	0.540	0.115	1.55
CDLL5302	1.50	1.35	1.65	0.510	0.105	1.60
CDLL5303	1.60	1.44	1.76	0.475	0.092	1.65
CDLL5304	1.80	1.62	1.98	0.420	0.074	1.75
CDLL5305	2.00	1.80	2.20	0.395	0.061	1.85
CDLL5306	2.20	1.98	2.42	0.370	0.052	1.95
CDLL5307	2.40	2.16	2.64	0.345	0.044	2.00
CDLL5308	2.70	2.43	2.97	0.320	0.035	2.15
CDLL5309	3.00	2.70	3.30	0.300	0.029	2.25
CDLL5310	3.30	2.97	3.63	0.280	0.024	2.35
CDLL5311	3.60	3.24	3.96	0.265	0.020	2.50
CDLL5312	3.90	3.51	4.29	0.255	0.017	2.60
CDLL5313	4.30	3.87	4.73	0.245	0.014	2.75
CDLL5314	4.70	4.23	5.17	0.235	0.012	2.90

NOTE 1: Z_s is derived by superimposing A 90Hz RMS signal equal to 10% of V_s on V_s

NOTE 2: Z_K is derived by superimposing A 90Hz RMS signal equal to 10% of V_K on V_K



DO-213AB

GRAPHS

FIGURE 2: TEMPERATURE COEFFICIENT

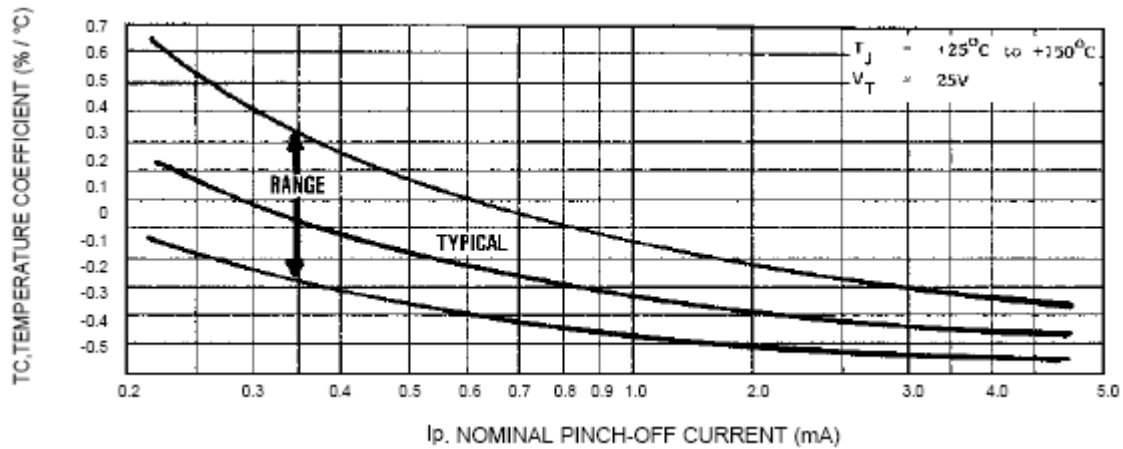


FIGURE 3: TEMPERATURE COEFFICIENT

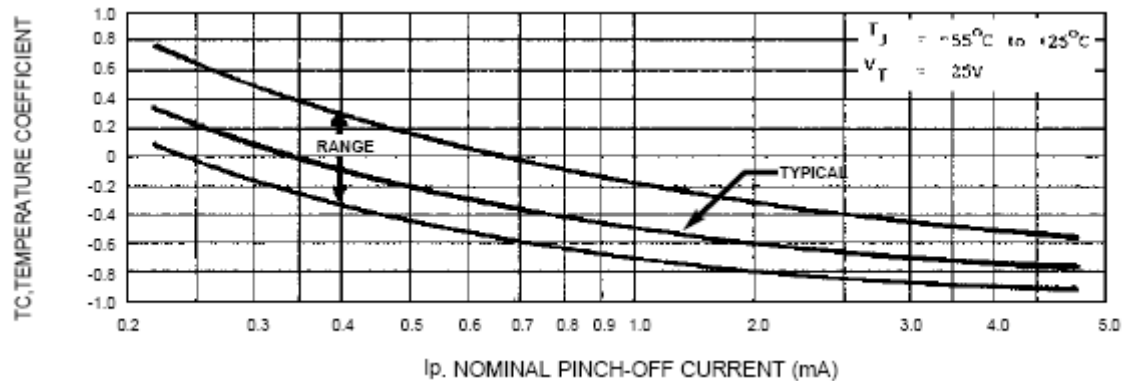
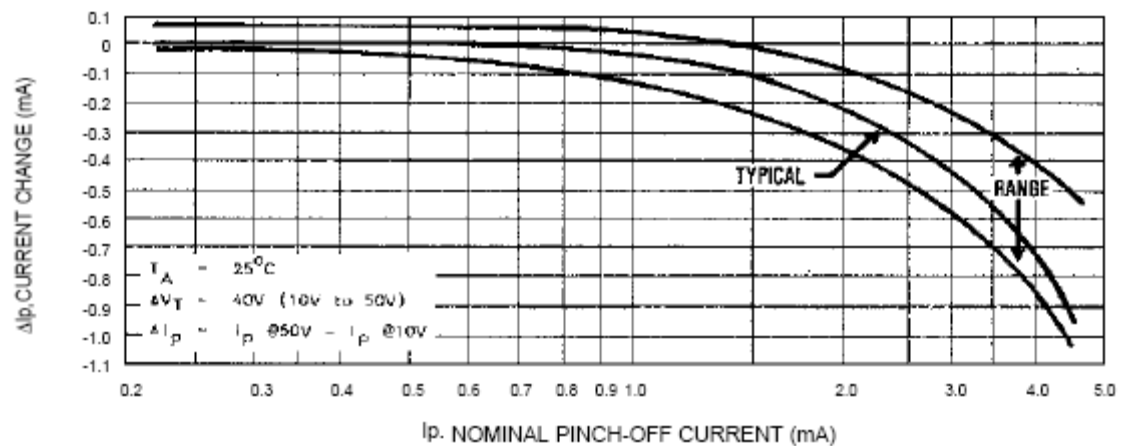
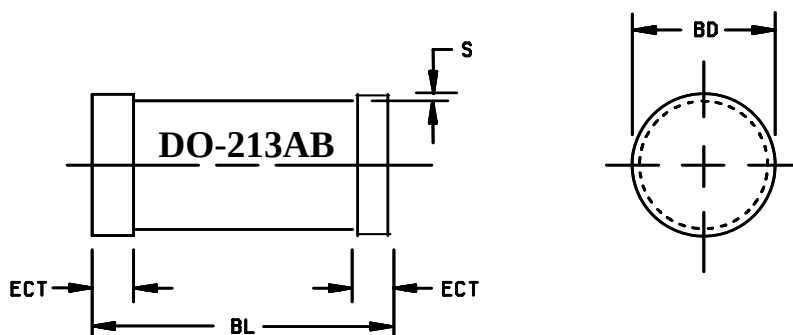


FIGURE 4: CURRENT REGULATION FACTOR



PACKAGE DIMENSIONS



NOTE:

1. Dimensions are in inches.
2. Millimeters are given for general information only.
3. In accordance with ASME Y14.5M, diameters are equivalent to Φ x symbology.

Ltr	Dimensions			
	Inches		Millimeters	
	Min	Max	Min	Max
BD	.094	.105	2.39	2.67
BL	.189	.205	4.80	5.21
ECT	.016	.022	0.41	0.55
S	.001 min		0.03 min	

FIGURE 1. Physical dimensions (DO-213AB).

DESIGN DATA

CASE: DO-213AB, Hermetically sealed glass case. (MELF, LL41).

LEAD FINISH: Tin / Lead

THERMAL RESISTANCE: ($R_{\theta JC}$): 50°C/W maximum at L = 0 inch

THERMAL IMPEDANCE: ($Z_{\theta JX}$): 25°C/W maximum

POLARITY: Diode to be operated with the banded (Cathode) end negative.

MOUNTING SURFACE SELECTION: The Axial Coefficient of Expansion (COE) of this device is approximately +6PPM/°C. The COE of the Mounting Surface System should be selected to provide A suitable match with this device.