



# DC COMPONENTS CO., LTD.

## INTEGRATED CIRCUIT

DE7815  
DE7815A

### TECHNICAL SPECIFICATIONS OF 3-TERMINAL POSITIVE VOLTAGE REGULATOR

#### Description

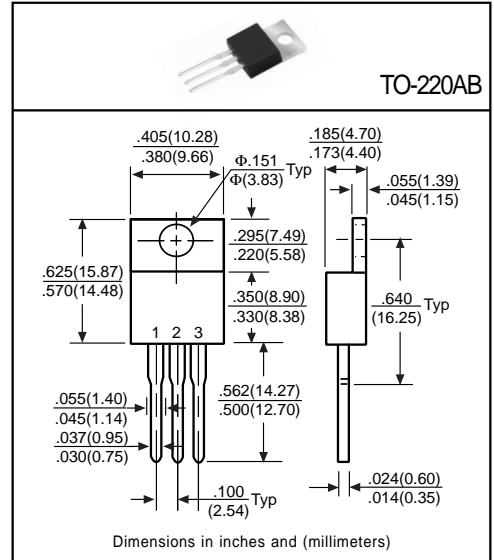
These regulators employ internal current limiting and thermal shutdown, making them essentially indestructible. They can deliver over 1A output current with adequate heatsinking. They are intended as fixed voltage regulators in a wide range of applications including local, on-card regulation for elimination of noise and distribution problems associated with single-point regulation.

#### Pinning

- 1 = Input
- 2 = Ground
- 3 = Output

#### Absolute Maximum Ratings (T<sub>A</sub>=25°C)

Characteristic	Symbol	Rating	Unit
Input Voltage	V <sub>I</sub>	35	V
Total Power Dissipation	P <sub>D</sub>	Internal limit	W
Operating Temperature Range	T <sub>opr</sub>	0 to +125	°C
Maximum Junction Temperature	T <sub>J</sub>	125	°C
Storage Temperature Range	T <sub>STG</sub>	-55 to +150	°C
Lead Temperature(Soldering 10 Sec.)	T <sub>L</sub>	230	°C



#### Electrical Characteristics

(V<sub>in</sub>=23V, I<sub>out</sub>=500mA, 0°C ≤ T<sub>J</sub> ≤ 125°C, unless otherwise specified)

Characteristic		Symbol	Min	Typ	Max	Unit	Test Conditions
Output Voltage	DE7815A	V <sub>O</sub>	14.45	15.00	15.45	V	T <sub>J</sub> =25°C P <sub>D</sub> ≤ 15W, 5mA ≤ I <sub>o</sub> ≤ 1A
	DE7815		14.40	15.00	15.60		
	DE7815A		14.45	15.00	15.45		
	DE7815		14.25	15.00	15.60		
Line Regulation	DE7815A	Reg <sub>line</sub>	-	-	150	mV	T <sub>J</sub> =25°C, 17.5V ≤ V <sub>in</sub> ≤ 30V T <sub>J</sub> =25°C, 20V ≤ V <sub>in</sub> ≤ 26V
	DE7815		-	11	300		
	DE7815A		-	-	75		
	DE7815		-	3.0	150		
Load Regulation	DE7815A	Reg <sub>load</sub>	-	-	150	mV	T <sub>J</sub> =25°C, 5mA ≤ I <sub>o</sub> ≤ 1.5A T <sub>J</sub> =25°C, 250mA ≤ I <sub>o</sub> ≤ 750mA
	DE7815		-	-	300		
	DE7815A		-	-	75		
	DE7815		-	-	150		
Input Bias Current		I <sub>IB</sub>	-	5.5	8.0	mA	T <sub>J</sub> =25°C, I <sub>o</sub> ≤ 1A
Input Bias Current Change		ΔI <sub>IB</sub>	-	-	0.5	1.3	mA 5mA ≤ I <sub>o</sub> ≤ 1A 17.5V ≤ V <sub>in</sub> ≤ 30V
Output Noise Voltage	DE7815A	V <sub>n</sub>	-	-	200	μV	T <sub>A</sub> =25°C, 10Hz ≤ f ≤ 100KHz
	DE7815		-	-	300		
Ripple Rejection	DE7815A	RR	-	68	-	dB	18.5V ≤ V <sub>in</sub> ≤ 28.5V, f=120Hz
	DE7815		62	73	-		
Dropout Voltage	DE7815A	V <sub>D</sub>	-	2.0	-	V	T <sub>J</sub> =25°C, I <sub>o</sub> =1A
	DE7815		-	2.5	-		
Short Circuit Current		I <sub>sc</sub>	-	1.5	-	A	T <sub>J</sub> =25°C
Peak Output Current		I <sub>max</sub>	1.7	-	-	A	T <sub>J</sub> =25°C
Average T <sub>c</sub> of V <sub>out</sub>		ΔV <sub>O</sub> / ΔT	-	-0.8	-	mV / °C	0°C ≤ T <sub>J</sub> ≤ +125°C, I <sub>o</sub> =5mA