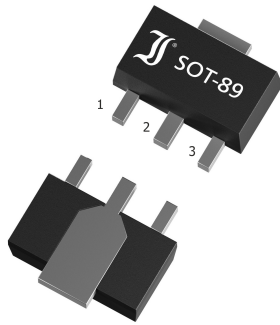


DI78LxxUAB
Positive Fixed Voltage Regulators
Positive Festspannungs-Regler

V_{IN} = 30 ... 40 V
 V_{Out} = 3.3 ... 24 V
 $V_{Out (tol.)}$ = \pm 5%

I_o = 0.1 A
 T_{jmax} = 125°C

Version 2021-01-26

SOT-89**Pin configuration**

1 = OUT
 2 = GND
 3 = IN

Marking

Type code

HS Code 85423990**Typical Applications**

High efficiency linear regulators,
 Active SCSI termination regulator,
 Post regulators for switch mode
 DC-DC converters,
 Battery backed-up regulated supply
 Commercial grade ¹⁾

Features

Thermal overload protection
 Short circuit protection
 Fixed voltage range:
 3.3V, 5.0V, 6.0V, 8.0V, 9.0V
 10V, 12V, 15V, 18V, 24V
 Also available in SO-8, TO-92 packages
 Compliant to RoHS (w/o exemp.)
 REACH, Conflict Minerals ¹⁾

Mechanical Data ¹⁾

Taped and reeled

Weight approx.

Case material

Solder & assembly conditions

Typische Anwendungen
 Hocheffiziente Linearregler
 Aktive SCSI-Abschluss-Regler
 Ausgangsregler für getaktete
 Gleichstromwandler
 Batterie-gestützte Spannungsversorgung
 Standardausführung¹⁾

Besonderheiten

Thermische Überlastsicherung
 Kurzschlussfest
 Festspannungswerte:
 3.3V, 5.0V, 6.0V, 8.0V, 9.0V
 10V, 12V, 15V, 18V, 24V
 Auch erhältlich im SO-8, TO-92 Gehäuse
 Konform zu RoHS (ohne Ausn.)
 REACH, Konfliktmineralien ¹⁾

Mechanische Daten ¹⁾

1000 / 7"

0.05 g

UL 94V-0

260°C/10s

MSL = 3

Gegurtet auf Rolle

Gewicht ca.

Gehäusematerial

Löt- und Einbaubedingungen

Maximum ratings ²⁾

| Maximum ratings ²⁾ | | Grenzwerte ²⁾ | |
|--|--|--------------------------|---|
| Input voltage Eingangsspannung | $V_{Out} = 3.3 \dots 9V$ $V_{Out} = 12 \dots 15V$ $V_{Out} = 18 \dots 24V$ | V_{IN} | 30 V 35 V 40 V |
| Power dissipation Verlustleistung | | P_{tot} | Internally limited ³⁾ Intern begrenzt ³⁾ |
| Junction temperature Sperrschichttemperatur | DI78LxxUAB | T_j | -40 ... +125°C |
| Storage temperature Lagerungstemperatur | | T_s | -55...+150°C |

- 1 Please note the [detailed information on our website](#) or at the beginning of the data book
 Bitte beachten Sie die [detaillierten Hinweise auf unserer Internetseite](#) bzw. am Anfang des Datenbuches
- 2 $T_A = 25^\circ\text{C}$, unless otherwise specified – $T_A = 25^\circ\text{C}$, wenn nicht anders angegeben
- 3 The maximum power dissipation at ambient temperature: $P_{tot} = (T_{jmax} - T_A)/R_{thA}$
 Maximale Verlustleistung bei Umgebungstemperatur: $P_{tot} = (T_{jmax} - T_A)/R_{thA}$

Characteristics ¹⁾
Kennwerte ^{1, 2)}

| Type Code: B33U | DI78L3.3UAB | Min. | Typ. | Max. |
|---|------------------|----------------------|------------------|--------------------|
| Output voltage – Ausgangsspannung | V_{OUT} | 3.168 V | 3.3 V | 3.432 V |
| Output voltage – Ausgangsspannung $I_{OUT} = 1.0$ to 40 mA, $V_{IN} = 5.3$ to 20 V $I_{OUT} = 1.0$ to 70 mA, $V_{IN} = 8.3$ V | V_{OUT} | 3.135 V 3.135 V | - - | 3.465 V 3.465 V |
| Line Regulation – Betriebsspannungsdurchgriff $V_{IN} = 5.3$ to 20 V $V_{IN} = 6.3$ to 20 V | ΔV_{OUT} | - | - | 150 mV 100 mV |
| Load Regulation – Lastregelung $I_{OUT} = 1.0$ to 100 mA $I_{OUT} = 1.0$ to 40 mA | ΔV_{OUT} | - | - | 60 mV 30 mV |
| Quiescent current – Ruhestrom $T_j = 25^\circ\text{C}$ $T_j = 125^\circ\text{C}$ | I_Q | - | - | 6.0 mA 5.5 mA |
| Quiescent current Change – Ruhestromänderung $I_{OUT} = 1.0$ to 40 mA $V_{IN} = 6.3$ to 20 V | ΔI_Q | - | - | 0.2 mA 1.5 mA |
| Ripple Rejection – Störspannungsunterdrückung $I_{OUT} = 40$ mA, $V_{IN} = 6.3$ to 16.3 V, $F = 120$ Hz | V_{RR} | 41 dB | 49 dB | - |
| Output Noise Voltage – Ausgangs-Rauschspannung $10\text{Hz} \leq B \leq 100\text{kHz}$ | | - | 40 μV | - |
| Dropout voltage - Spannungsabfall | V_D | - | 1.7 V | - |
| Typical thermal resistance junction to case Typischer Wärmewiderstand Sperrschicht – Gehäuse | R_{thc} | 15 K/W ²⁾ | | |

- 1 $T_j = 25^\circ\text{C}$ and $V_{IN} = 8.3$ V, $I_o = 40$ mA, $C_i = 0.33\mu\text{F}$, $C_o = 0.1\mu\text{F}$, unless otherwise specified
 $T_j = 25^\circ\text{C}$ and $V_{IN} = 8.3$ V, $I_o = 40$ mA, $C_i = 0.33\mu\text{F}$, $C_o = 0.1\mu\text{F}$, wenn nicht anders angegeben
- 2 Mounted on P.C. board with 3 mm² copper pad at each terminal
 Montage auf Leiterplatte mit 3 mm² Kupferbelag (Löt-pad) an jedem Anschluss

Characteristics ¹⁾**Kennwerte ^{1, 2)}**

| Type Code: B05U | DI78L05UAB | Min. | Typ. | Max. |
|--|------------------|----------------------|------------------|------------------|
| Output voltage – Ausgangsspannung | V_{OUT} | 4.8 V | 5 V | 5.2 V |
| Output voltage – Ausgangsspannung $I_{OUT} = 1.0$ to 40 mA, $V_{IN} = 7$ to 20 V $I_{OUT} = 1.0$ to 70 mA, $V_{IN} = 10$ V | V_{OUT} | 4.75 V 4.75 V | - - | 5.25 V 5.25 V |
| Line Regulation – Betriebsspannungsdurchgriff $V_{IN} = 7.0$ to 20 V $V_{IN} = 8.0$ to 20 V | ΔV_{OUT} | - | - | 150 mV 100 mV |
| Load Regulation – Lastregelung $I_{OUT} = 1.0$ to 100 mA $I_{OUT} = 1.0$ to 40 mA | ΔV_{OUT} | - | - | 60 mV 30 mV |
| Quiescent current – Ruhestrom $T_j = 25^\circ\text{C}$ $T_j = 125^\circ\text{C}$ | I_Q | - | - | 6 mA 5.5 mA |
| Quiescent current Change – Ruhestromänderung $I_{OUT} = 1.0$ to 40 mA $V_{IN} = 8$ to 20 V | ΔI_Q | - | - | 0.2 mA 1.5 mA |
| Ripple Rejection – Störspannungsunterdrückung $I_{OUT} = 40$ mA, $V_{IN} = 8$ to 18 V, $F = 120$ Hz | V_{RR} | 41 dB | 49 dB | - |
| Output Noise Voltage – Ausgangs-Rauschspannung $10\text{Hz} \leq B \leq 100\text{kHz}$ | | - | 40 μV | - |
| Dropout voltage - Spannungsabfall | V_D | - | 1.7 V | - |
| Typical thermal resistance junction to case Typischer Wärmewiderstand Sperrschicht – Gehäuse | R_{thc} | 15 K/W ²⁾ | | |

- 1 $T_j = 25^\circ\text{C}$ and $V_{IN} = 10$ V, $I_O = 40$ mA, $C_i = 0.33\mu\text{F}$, $C_o = 0.1\mu\text{F}$, unless otherwise specified
 $T_j = 25^\circ\text{C}$ and $V_{IN} = 10$ V, $I_O = 40$ mA, $C_i = 0.33\mu\text{F}$, $C_o = 0.1\mu\text{F}$, wenn nicht anders angegeben
- 2 Mounted on P.C. board with 3 mm² copper pad at each terminal
 Montage auf Leiterplatte mit 3 mm² Kupferbelag (Löt-pad) an jedem Anschluss

Characteristics ¹⁾
Kennwerte ^{1, 2)}

| Type Code: B06U | DI78L06UAB | Min. | Typ. | Max. |
|--|------------------|----------------------|------------------|------------------|
| Output voltage – Ausgangsspannung | V_{OUT} | 5.76 V | 6 V | 6.24 V |
| Output voltage – Ausgangsspannung $I_{OUT} = 1.0$ to 40 mA, $V_{IN} = 8.5$ to 20 V $I_{OUT} = 1.0$ to 70 mA, $V_{IN} = 12$ V | V_{OUT} | 5.7 V 5.7 V | - - | 6.3 V 6.3 V |
| Line Regulation – Betriebsspannungsdurchgriff $V_{IN} = 8.5$ to 20 V $V_{IN} = 9.0$ to 20 V | ΔV_{OUT} | - | - | 150 mV 100 mV |
| Load Regulation – Lastregelung $I_{OUT} = 1.0$ to 100 mA $I_{OUT} = 1.0$ to 40 mA | ΔV_{OUT} | - | - | 60 mV 30 mV |
| Quiescent current – Ruhestrom $T_j = 25^\circ\text{C}$ $T_j = 125^\circ\text{C}$ | I_Q | - | - | 6 mA 5.5 mA |
| Quiescent current Change – Ruhestromänderung $I_{OUT} = 1.0$ to 40 mA $V_{IN} = 9.0$ to 20 V | ΔI_Q | - | - | 0.2 mA 1.5 mA |
| Ripple Rejection – Störspannungsunterdrückung $I_{OUT} = 40$ mA, $V_{IN} = 9.0$ to 20 V, $F = 120$ Hz | V_{RR} | 39 dB | 46 dB | - |
| Output Noise Voltage – Ausgangs-Rauschspannung $10\text{Hz} \leq B \leq 100\text{kHz}$ | | - | 50 μV | - |
| Dropout voltage - Spannungsabfall | V_D | - | 1.7 V | - |
| Typical thermal resistance junction to case Typischer Wärmewiderstand Sperrschicht – Gehäuse | R_{thc} | 15 K/W ²⁾ | | |

- 1 $T_j = 25^\circ\text{C}$ and $V_{IN} = 12$ V, $I_o = 40$ mA, $C_i = 0.33\mu\text{F}$, $C_o = 0.1\mu\text{F}$, unless otherwise specified
 $T_j = 25^\circ\text{C}$ and $V_{IN} = 12$ V, $I_o = 40$ mA, $C_i = 0.33\mu\text{F}$, $C_o = 0.1\mu\text{F}$, wenn nicht anders angegeben
- 2 Mounted on P.C. board with 3 mm² copper pad at each terminal
 Montage auf Leiterplatte mit 3 mm² Kupferbelag (Lötpad) an jedem Anschluss

Characteristics ¹⁾**Kennwerte ^{1, 2)}**

| Type Code: B08U | DI78L08UAB | Min. | Typ. | Max. |
|---|------------------|----------------------|------------------|------------------|
| Output voltage – Ausgangsspannung | V_{OUT} | 7.68 V | 8 V | 8.32 V |
| Output voltage – Ausgangsspannung $I_{OUT} = 1.0$ to 40 mA, $V_{IN} = 10.5$ to 23 V $I_{OUT} = 1.0$ to 70 mA, $V_{IN} = 14$ V | V_{OUT} | 7.6 V 7.6 V | - - | 8.4 V 8.4 V |
| Line Regulation – Betriebsspannungsdurchgriff $V_{IN} = 10.5$ to 23 V $V_{IN} = 11$ to 23 V | ΔV_{OUT} | - | - | 175 mV 125 mV |
| Load Regulation – Lastregelung $I_{OUT} = 1.0$ to 100 mA $I_{OUT} = 1.0$ to 40 mA | ΔV_{OUT} | - | - | 80 mV 40 mV |
| Quiescent current – Ruhestrom $T_j = 25^\circ\text{C}$ $T_j = 125^\circ\text{C}$ | I_Q | - | - | 6 mA 5.5 mA |
| Quiescent current Change – Ruhestromänderung $I_{OUT} = 1.0$ to 40 mA $V_{IN} = 11$ to 23 V | ΔI_Q | - | - | 0.2 mA 1.5 mA |
| Ripple Rejection – Störspannungsunterdrückung $I_{OUT} = 40$ mA, $V_{IN} = 12$ to 23 V, $F = 120$ Hz | V_{RR} | 37 dB | 45 dB | - |
| Output Noise Voltage – Ausgangs-Rauschspannung $10\text{Hz} \leq B \leq 100\text{kHz}$ | | - | 60 μV | - |
| Dropout voltage - Spannungsabfall | V_D | - | 1.7 V | - |
| Typical thermal resistance junction to case Typischer Wärmewiderstand Sperrschicht – Gehäuse | R_{thc} | 15 K/W ²⁾ | | |

- 1 $T_j = 25^\circ\text{C}$ and $V_{IN} = 14$ V, $I_o = 40$ mA, $C_i = 0.33\mu\text{F}$, $C_o = 0.1\mu\text{F}$, unless otherwise specified
 $T_j = 25^\circ\text{C}$ and $V_{IN} = 14$ V, $I_o = 40$ mA, $C_i = 0.33\mu\text{F}$, $C_o = 0.1\mu\text{F}$, wenn nicht anders angegeben
- 2 Mounted on P.C. board with 3 mm² copper pad at each terminal
 Montage auf Leiterplatte mit 3 mm² Kupferbelag (Lötpad) an jedem Anschluss

Characteristics ¹⁾**Kennwerte ^{1, 2)}**

| Type Code: B09U | DI78L09UAB | Min. | Typ. | Max. |
|---|------------------|----------------------|------------------|------------------|
| Output voltage – Ausgangsspannung | V_{OUT} | 8.64 V | 9.0 V | 9.36 V |
| Output voltage – Ausgangsspannung $I_{OUT} = 1.0$ to 40 mA, $V_{IN} = 11.5$ to 23 V $I_{OUT} = 1.0$ to 70 mA, $V_{IN} = 15$ V | V_{OUT} | 8.55 V 8.55 V | - - | 9.45 V 9.45 V |
| Line Regulation – Betriebsspannungsdurchgriff $V_{IN} = 11.5$ to 23 V $V_{IN} = 12$ to 23 V | ΔV_{OUT} | - | - | 225 mV 150 mV |
| Load Regulation – Lastregelung $I_{OUT} = 1.0$ to 100 mA $I_{OUT} = 1.0$ to 40 mA | ΔV_{OUT} | - | - | 80 mV 40 mV |
| Quiescent current – Ruhestrom $T_j = 25^\circ\text{C}$ $T_j = 125^\circ\text{C}$ | I_Q | - | - | 6 mA 5.5 mA |
| Quiescent current Change – Ruhestromänderung $I_{OUT} = 1.0$ to 40 mA $V_{IN} = 12$ to 23 V | ΔI_Q | - | - | 0.2 mA 1.5 mA |
| Ripple Rejection – Störspannungsunterdrückung $I_{OUT} = 40$ mA, $V_{IN} = 12$ to 23 V, $F = 120$ Hz | V_{RR} | 37 dB | 44 dB | - |
| Output Noise Voltage – Ausgangs-Rauschspannung $10\text{Hz} \leq B \leq 100\text{kHz}$ | | - | 70 μV | - |
| Dropout voltage - Spannungsabfall | V_D | - | 1.7 V | - |
| Typical thermal resistance junction to case Typischer Wärmewiderstand Sperrschicht – Gehäuse | R_{thc} | 15 K/W ²⁾ | | |

- 1 $T_j = 25^\circ\text{C}$ and $V_{IN} = 15$ V, $I_o = 40$ mA, $C_i = 0.33\mu\text{F}$, $C_o = 0.1\mu\text{F}$, unless otherwise specified
 $T_j = 25^\circ\text{C}$ and $V_{IN} = 15$ V, $I_o = 40$ mA, $C_i = 0.33\mu\text{F}$, $C_o = 0.1\mu\text{F}$, wenn nicht anders angegeben
- 2 Mounted on P.C. board with 3 mm² copper pad at each terminal
 Montage auf Leiterplatte mit 3 mm² Kupferbelag (Löt-pad) an jedem Anschluss

Characteristics ¹⁾**Kennwerte ^{1, 2)}**

| Type Code: B0AU | DI78L10UAB | Min. | Typ. | Max. |
|---|------------------|----------------------|------------------|------------------|
| Output voltage – Ausgangsspannung | V_{OUT} | 9.6 V | 10.0 V | 10.4 V |
| Output voltage – Ausgangsspannung $I_{OUT} = 1.0$ to 40 mA, $V_{IN} = 12.5$ to 23 V $I_{OUT} = 1.0$ to 70 mA, $V_{IN} = 16$ V | V_{OUT} | 9.5 V 9.5 V | - - | 10.5 V 10.5 V |
| Line Regulation – Betriebsspannungsdurchgriff $V_{IN} = 12.5$ to 23 V $V_{IN} = 13$ to 23 V | ΔV_{OUT} | - | - | 230 mV 170 mV |
| Load Regulation – Lastregelung $I_{OUT} = 1.0$ to 100 mA $I_{OUT} = 1.0$ to 40 mA | ΔV_{OUT} | - | - | 80 mV 40 mV |
| Quiescent current – Ruhestrom $T_j = 25^\circ\text{C}$ $T_j = 125^\circ\text{C}$ | I_Q | - | - | 6 mA 5.5 mA |
| Quiescent current Change – Ruhestromänderung $I_{OUT} = 1.0$ to 40 mA $V_{IN} = 13$ to 23 V | ΔI_Q | - | - | 0.2 mA 1.5 mA |
| Ripple Rejection – Störspannungsunterdrückung $I_{OUT} = 40$ mA, $V_{IN} = 14$ to 23 V, $F = 120$ Hz | V_{RR} | 37 dB | 45 dB | - |
| Output Noise Voltage – Ausgangs-Rauschspannung $10\text{Hz} \leq B \leq 100\text{kHz}$ | | - | 60 μV | - |
| Dropout voltage - Spannungsabfall | V_D | - | 1.7 V | - |
| Typical thermal resistance junction to case Typischer Wärmewiderstand Sperrschicht – Gehäuse | R_{thC} | 15 K/W ²⁾ | | |

- 1 $T_j = 25^\circ\text{C}$ and $V_{IN} = 16$ V, $I_o = 40$ mA, $C_i = 0.33\mu\text{F}$, $C_o = 0.1\mu\text{F}$, unless otherwise specified
 $T_j = 25^\circ\text{C}$ and $V_{IN} = 16$ V, $I_o = 40$ mA, $C_i = 0.33\mu\text{F}$, $C_o = 0.1\mu\text{F}$, wenn nicht anders angegeben
- 2 Mounted on P.C. board with 3 mm² copper pad at each terminal
 Montage auf Leiterplatte mit 3 mm² Kupferbelag (Lötpad) an jedem Anschluss

Characteristics ¹⁾**Kennwerte ^{1, 2)}**

| Type Code: BA2U | DI78L12UAB | Min. | Typ. | Max. |
|---|------------------|----------------------|------------------|------------------|
| Output voltage – Ausgangsspannung | V_{OUT} | 11.5 V | 12.0 V | 12.5 V |
| Output voltage – Ausgangsspannung $I_{OUT} = 1.0$ to 40 mA, $V_{IN} = 14.5$ to 27 V $I_{OUT} = 1.0$ to 70 mA, $V_{IN} = 19$ V | V_{OUT} | 11.4 V 11.4 V | - - | 12.6 V 12.6 V |
| Line Regulation – Betriebsspannungsdurchgriff $V_{IN} = 14.5$ to 27 V $V_{IN} = 16$ to 27 V | ΔV_{OUT} | - | - | 250 mV 200 mV |
| Load Regulation – Lastregelung $I_{OUT} = 1.0$ to 100 mA $I_{OUT} = 1.0$ to 40 mA | ΔV_{OUT} | - | - | 100 mV 50 mV |
| Quiescent current – Ruhestrom $T_j = 25^\circ\text{C}$ $T_j = 125^\circ\text{C}$ | I_Q | - | - | 6.5 mA 6.0 mA |
| Quiescent current Change – Ruhestromänderung $I_{OUT} = 1.0$ to 40 mA $V_{IN} = 16$ to 27 V | ΔI_Q | - | - | 0.2 mA 1.5 mA |
| Ripple Rejection – Störspannungsunterdrückung $I_{OUT} = 40$ mA, $V_{IN} = 15$ to 25 V, $F = 120$ Hz | V_{RR} | 37 dB | 42 dB | - |
| Output Noise Voltage – Ausgangs-Rauschspannung $10\text{Hz} \leq B \leq 100\text{kHz}$ | | - | 80 μV | - |
| Dropout voltage - Spannungsabfall | V_D | - | 1.7 V | - |
| Typical thermal resistance junction to case Typischer Wärmewiderstand Sperrschicht – Gehäuse | R_{thc} | 15 K/W ²⁾ | | |

- 1 $T_j = 25^\circ\text{C}$ and $V_{IN} = 19$ V, $I_o = 40$ mA, $C_i = 0.33\mu\text{F}$, $C_o = 0.1\mu\text{F}$, unless otherwise specified
 $T_j = 25^\circ\text{C}$ and $V_{IN} = 19$ V, $I_o = 40$ mA, $C_i = 0.33\mu\text{F}$, $C_o = 0.1\mu\text{F}$, wenn nicht anders angegeben
- 2 Mounted on P.C. board with 3 mm² copper pad at each terminal
 Montage auf Leiterplatte mit 3 mm² Kupferbelag (Löt-pad) an jedem Anschluss

Characteristics ¹⁾**Kennwerte ^{1, 2)}**

| Type Code: BA5U | DI78L15UAB | Min. | Typ. | Max. |
|---|------------------|----------------------|------------------|--------------------|
| Output voltage – Ausgangsspannung | V_{OUT} | 14.4 V | 15.0 V | 15.6 V |
| Output voltage – Ausgangsspannung $I_{OUT} = 1.0$ to 40 mA, $V_{IN} = 17.5$ to 30 V $I_{OUT} = 1.0$ to 70 mA, $V_{IN} = 23$ V | V_{OUT} | 14.25 V 14.25 V | - - | 15.75 V 15.75 V |
| Line Regulation – Betriebsspannungsdurchgriff $V_{IN} = 17.5$ to 30 V $V_{IN} = 20$ to 30 V | ΔV_{OUT} | - | - | 300 mV 250 mV |
| Load Regulation – Lastregelung $I_{OUT} = 1.0$ to 100 mA $I_{OUT} = 1.0$ to 40 mA | ΔV_{OUT} | - | - | 150 mV 75 mV |
| Quiescent current – Ruhestrom $T_j = 25^\circ\text{C}$ $T_j = 125^\circ\text{C}$ | I_Q | - | - | 6.5 mA 6.0 mA |
| Quiescent current Change – Ruhestromänderung $I_{OUT} = 1.0$ to 40 mA $V_{IN} = 20$ to 30 V | ΔI_Q | - | - | 0.2 mA 1.5 mA |
| Ripple Rejection – Störspannungsunterdrückung $I_{OUT} = 40$ mA, $V_{IN} = 18.5$ to 28.5 V, $F = 120$ Hz | V_{RR} | 34 dB | 39 dB | - |
| Output Noise Voltage – Ausgangs-Rauschspannung $10\text{Hz} \leq B \leq 100\text{kHz}$ | | - | 90 μV | - |
| Dropout voltage - Spannungsabfall | V_D | - | 1.7 V | - |
| Typical thermal resistance junction to case Typischer Wärmewiderstand Sperrschicht – Gehäuse | R_{thc} | 15 K/W ²⁾ | | |

- 1 $T_j = 25^\circ\text{C}$ and $V_{IN} = 23$ V, $I_o = 40$ mA, $C_i = 0.33\mu\text{F}$, $C_o = 0.1\mu\text{F}$, unless otherwise specified
 $T_j = 25^\circ\text{C}$ and $V_{IN} = 23$ V, $I_o = 40$ mA, $C_i = 0.33\mu\text{F}$, $C_o = 0.1\mu\text{F}$, wenn nicht anders angegeben
- 2 Mounted on P.C. board with 3 mm² copper pad at each terminal
 Montage auf Leiterplatte mit 3 mm² Kupferbelag (Löt-pad) an jedem Anschluss

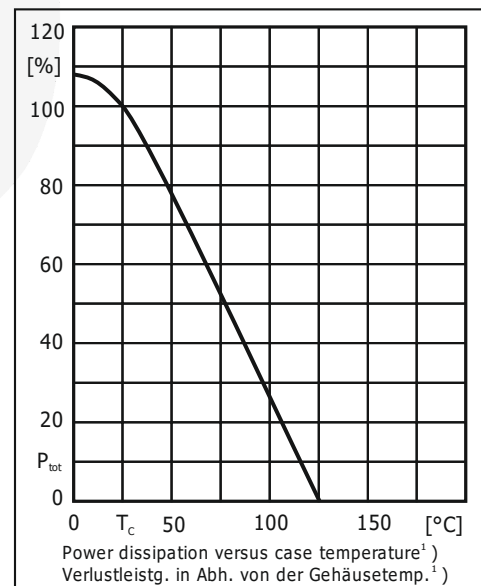
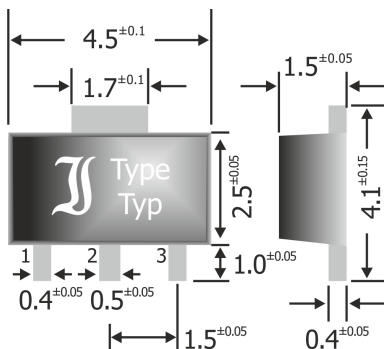
Characteristics ¹⁾
Kennwerte ^{1, 2)}

| Type Code: BA8U | DI78L18UAB | Min. | Typ. | Max. |
|---|------------------|----------------------|-------------------|------------------|
| Output voltage – Ausgangsspannung | V_{OUT} | 17.3 V | 18.0 V | 18.7 V |
| Output voltage – Ausgangsspannung $I_{OUT} = 1.0$ to 40 mA, $V_{IN} = 22$ to 33 V $I_{OUT} = 1.0$ to 70 mA, $V_{IN} = 27$ V | V_{OUT} | 17.1 V 17.1 V | - - | 18.9 V 18.9 V |
| Line Regulation – Betriebsspannungsdurchgriff $V_{IN} = 22$ to 33 V tbd | ΔV_{OUT} | - | - | 320 mV 270 mV |
| Load Regulation – Lastregelung $I_{OUT} = 1.0$ to 100 mA $I_{OUT} = 1.0$ to 40 mA | ΔV_{OUT} | - | - | 170 mV 85 mV |
| Quiescent current – Ruhestrom $T_j = 25^\circ\text{C}$ $T_j = 125^\circ\text{C}$ | I_Q | - | - | 6.5 mA 6.0 mA |
| Quiescent current Change – Ruhestromänderung $I_{OUT} = 1.0$ to 40 mA $V_{IN} = 23$ to 33 V | ΔI_Q | - | - | 0.2 mA 1.5 mA |
| Ripple Rejection – Störspannungsunterdrückung $I_{OUT} = 40$ mA, $V_{IN} = 23$ to 33 V, $F = 120$ Hz | V_{RR} | 33 dB | 38 dB | - |
| Output Noise Voltage – Ausgangs-Rauschspannung $10\text{Hz} \leq B \leq 100\text{kHz}$ | | - | 120 μV | - |
| Dropout voltage - Spannungsabfall | V_D | - | 1.7 V | - |
| Typical thermal resistance junction to case Typischer Wärmewiderstand Sperrschicht – Gehäuse | R_{thc} | 15 K/W ²⁾ | | |

- 1 $T_j = 25^\circ\text{C}$ and $V_{IN} = 27$ V, $I_o = 40$ mA, $C_i = 0.33\mu\text{F}$, $C_o = 0.1\mu\text{F}$, unless otherwise specified
 $T_j = 25^\circ\text{C}$ and $V_{IN} = 27$ V, $I_o = 40$ mA, $C_i = 0.33\mu\text{F}$, $C_o = 0.1\mu\text{F}$, wenn nicht anders angegeben
- 2 Mounted on P.C. board with 3 mm² copper pad at each terminal
 Montage auf Leiterplatte mit 3 mm² Kupferbelag (Löt-pad) an jedem Anschluss

Characteristics ¹⁾**Kennwerte ^{1, 2)}**

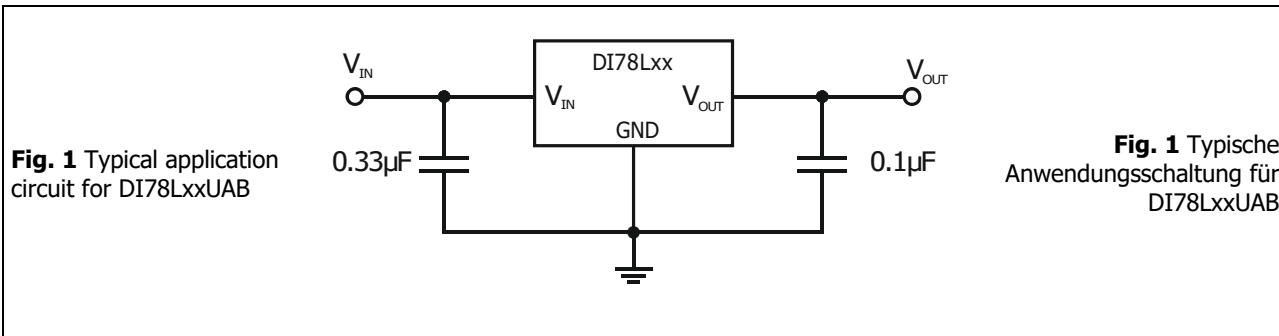
| Type Code: BB4U | DI78L24UAB | Min. | Typ. | Max. |
|---|------------------|----------------------|-------------------|------------------|
| Output voltage – Ausgangsspannung | V_{OUT} | 23.0 V | 24.0 V | 25.0 V |
| Output voltage – Ausgangsspannung $I_{OUT} = 1.0$ to 40 mA, $V_{IN} = 27$ to 38 V $I_{OUT} = 1.0$ to 70 mA, $V_{IN} = 33$ V | V_{OUT} | 22.8 V 22.8 V | - - | 25.2 V 25.2 V |
| Line Regulation – Betriebsspannungsdurchgriff $V_{IN} = 27$ to 38 V $V_{IN} = 28$ to 38 V | ΔV_{OUT} | - | - | 350 mV 300 mV |
| Load Regulation – Lastregelung $I_{OUT} = 1.0$ to 100 mA $I_{OUT} = 1.0$ to 40 mA | ΔV_{OUT} | - | - | 200 mV 100 mV |
| Quiescent current – Ruhestrom $T_j = 25^\circ\text{C}$ $T_j = 125^\circ\text{C}$ | I_Q | - | - | 6.5 mA 6.0 mA |
| Quiescent current Change – Ruhestromänderung $I_{OUT} = 1.0$ to 40 mA $V_{IN} = 28$ to 38 V | ΔI_Q | - | - | 0.2 mA 1.5 mA |
| Ripple Rejection – Störspannungsunterdrückung $I_{OUT} = 40$ mA, $V_{IN} = 23$ to 33 V, $F = 120$ Hz | V_{RR} | 31 dB | 37 dB | - |
| Output Noise Voltage – Ausgangs-Rauschspannung $10\text{Hz} \leq B \leq 100\text{kHz}$ | | - | 200 μV | - |
| Dropout voltage - Spannungsabfall | V_D | - | 1.7 V | - |
| Typical thermal resistance junction to case Typischer Wärmewiderstand Sperrschicht – Gehäuse | R_{thc} | 15 K/W ²⁾ | | |

Dimensions – Maße [mm]

- $T_j = 25^\circ\text{C}$ and $V_{IN} = 33$ V, $I_o = 40$ mA, $C_i = 0.33\mu\text{F}$, $C_o = 0.1\mu\text{F}$, unless otherwise specified
 $T_j = 25^\circ\text{C}$ and $V_{IN} = 33$ V, $I_o = 40$ mA, $C_i = 0.33\mu\text{F}$, $C_o = 0.1\mu\text{F}$, wenn nicht anders angegeben
- Mounted on P.C. board with 3 mm² copper pad at each terminal
Montage auf Leiterplatte mit 3 mm² Kupferbelag (Lötpad) an jedem Anschluss

Typical Applications notes

Applikationshinweise



Disclaimer: See data book page 2 or [website](#)
Haftungsschluss: Siehe Datenbuch Seite 2 oder [Internet](#)

