

FEATURES

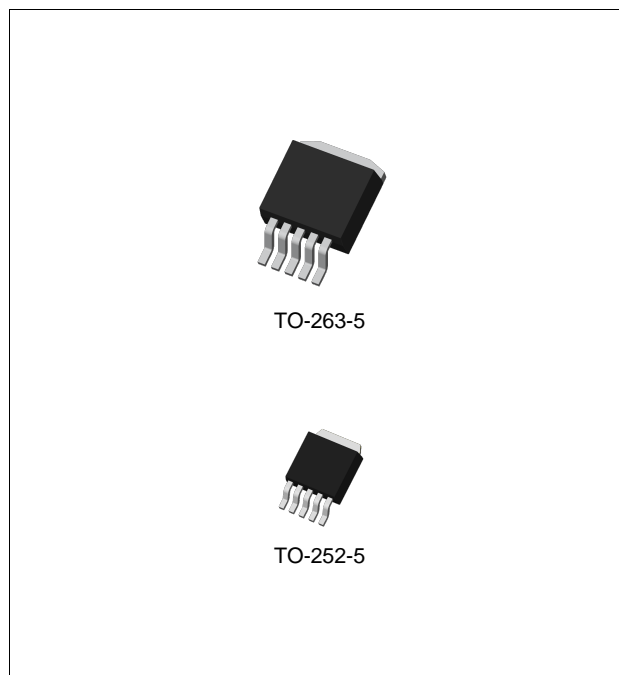
- 5.0V and Adjustable Output Versions
- Adjustable Version Output Voltage Range: Up to 20V
- Output Voltage Tolerance $\pm 4\%$
- 400mA Current Capability
- Enable Function
- Low Current Consumption
- Reverse Polarity Proof
- Thermal Shutdown and Current Protection
- Moisture Sensitivity Level 3

APPLICATIONS

- Low Dropout Battery-Powered Regulator
- Automotive Applications

DESCRIPTION

The TLE4276 is a low dropout voltage regulator in TO package. The IC regulates an input voltage up to 40V to 5.0V output, and adjustable output voltage. The maximum output current is 400mA. The IC can be switched off via the enable input, which causes the current consumption to drop below 10 μ A. The IC is short-circuit-proof and includes temperature protection which turns off the device at over-temperature.



ORDERING INFORMATION

Device	Package
TLE4276R-x.x	TO-263-5L
TLE4276RS-x.x	TO-252-5L

x.x: Output Voltage

ABSOLUTE MAXIMUM RATINGS ^(Note 1)

CHARACTERISTIC	SYMBOL	MIN	MAX	UNIT
IN Pin Voltage	V_{IN}	-42	45	V
EN Pin Input Voltage	V_{EN}	-42	45	V
ADJ Pin Input Voltage	V_{ADJ}	-0.3	10	V
OUT Pin Voltage	V_{OUT}	-1.0	40	V
GND Pin Current	I_{GND}	-	100	mA
Power Dissipation	P_D	-	Internally Limited	W
ESD Rating, HBM	-	1000	-	V
Maximum Junction Temperature	T_J	-40	150	$^{\circ}$ C
Storage Temperature	T_{STG}	-50	150	$^{\circ}$ C

Note 1. Stresses beyond those listed under *Absolute Maximum Ratings* may cause permanent damage to the device. These are stress ratings only and functional operation of the device at these or any other conditions beyond those indicated under *Recommended Operating Conditions* is not implied.

RECOMMENDED OPERATING RATINGS (Note 2)

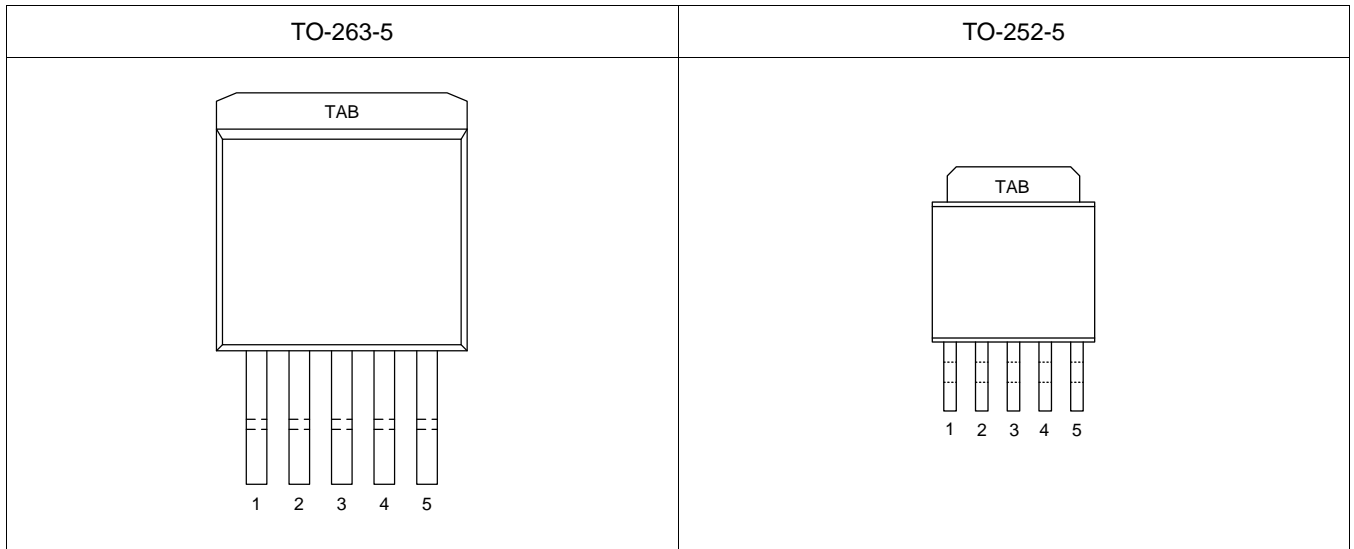
CHARACTERISTIC	SYMBOL	MIN	MAX	UNIT
Supply Voltage (ADJ Output Version, $V_{OUT} < 4.0$ V)	V_{IN}	4.5	40	V
Supply Voltage (ADJ Output Version)	V_{IN}	$V_{OUT} + 0.5$	40	V
Supply Voltage (5.0V Output Version)	V_{IN}	5.7	40	V
Adjustable Output Voltage (ADJ Output Version)	V_{OUT}	V_{ADJ}	20	V
Operating Junction Temperature	T_J	-40	150	°C

Note 2. The device is not guaranteed to function outside its operating ratings.

ORDERING INFORMATION

VOUT	Package	Order No.	Description	Supplied As	Status
ADJ	TO-263-5L	TLE4276R-ADJ	Adjustable Output	Tape & Reel	Active
	TO-252-5L	TLE4276RS-ADJ	Adjustable Output	Tape & Reel	Active
5.0V	TO-263-5L	TLE4276R-5.0	5.0 V Fixed Output	Tape & Reel	Contact Us
	TO-252-5L	TLE4276RS-5.0	5.0 V Fixed Output	Tape & Reel	Contact Us

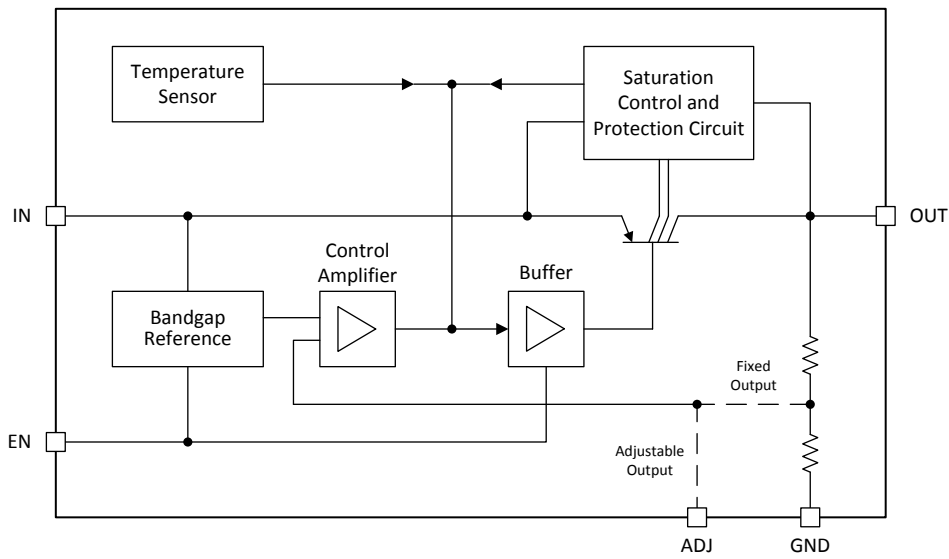
PIN CONFIGURATION



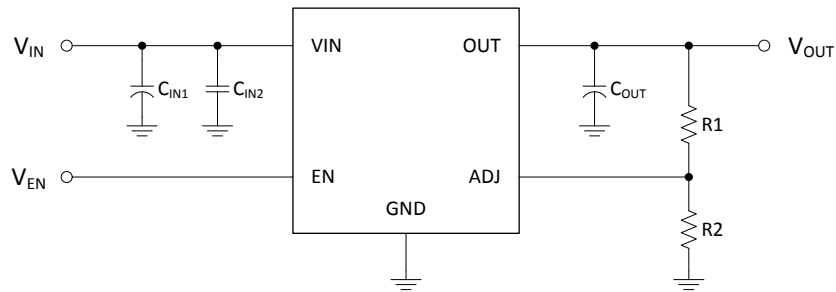
PIN DESCRIPTION

Pin No.		Pin Name	Pin Function
TO-263-5	TO-252-5		
1	1	IN	Input Voltage.
2	2	EN	Enable Voltage.
3	3	GND	Ground.
4	4	ADJ	Output Voltage Adjust Input for Adjustable Output Version. Connect an external voltage divider to determine the output voltage.
		N.C.	No Connection for Fixed Output Version.
5	5	OUT	Output Voltage.
TAB	TAB	TAB	Connect to GND. Put a copper plane connected to this pin as a thermal relief.

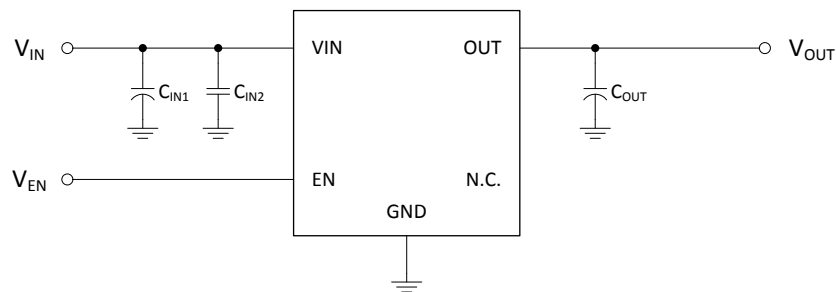
BLOCK DIAGRAM



TYPICAL APPLICATION CIRCUIT



< Adjustable Output Voltage Version >



< Fixed Output Voltage Version >

* C_{IN} required for compensation of line influences.

** C_{OUT} required for the stability. Stability is guaranteed at values $C_{OUT} \geq 22 \mu F$ and an ESR of $\leq 3 \Omega$.

*** $V_{OUT} = V_{ADJ} (1 + R1 / R2)$

ELECTRICAL CHARACTERISTICS

Unless otherwise noted: $V_{IN} = 13.5V$, $-40^{\circ}C \leq T_J \leq 150^{\circ}C$, $C_{IN1} = 100 \mu F$, $C_{IN2} = 100 nF$, $C_{OUT} = 22 \mu F$

PARAMETER	SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
Output Voltage (5.0V Output)	V_{OUT}	$6.0 V \leq V_{IN} \leq 28 V$, $5.0 mA \leq I_{OUT} \leq 400 mA$	4.8	5.0	5.2	V
		$6.0 V \leq V_{IN} \leq 40 V$, $5.0 mA \leq I_{OUT} \leq 200 mA$	4.8	5.0	5.2	V
Adjustable Voltage	V_{ADJ}	R2 (lower) < 50 k Ω , $V_{OUT} + 1.0 V \leq V_{IN} \leq 40 V$, $V_{IN} > 4.5 V$, $5.0 mA \leq I_{OUT} \leq 400 mA$	2.4	2.5	2.6	V
Maximum Output Current	I_{OUT}	(Note 3)	400	-	1100	mA
Load Regulation	LDR	$5.0 mA \leq I_{OUT} \leq 400 mA$	-	-	0.7	%
Line Regulation	LNR	$12 V \leq V_{IN} \leq 32 V$, $I_{OUT} = 5.0 mA$	-	-	0.5	%
Dropout Voltage	V_{DROP}	(5.0V Output) ^(Note 3) $I_{OUT} = 250 mA$	-	-	500	mV
		(Adjustable Output) $I_{OUT} = 250 mA$, $V_{IN} > 4.5 V$	-	-	500	mV
Ground Current	I_{GND}	$V_{EN} = 0 V$, $T_J \leq 100^{\circ}C$	-	-	10	μA
		$I_{OUT} = 1.0 mA$	-	-	0.22	mA
		$I_{OUT} = 250 mA$	-	-	10	mA
		$I_{OUT} = 400 mA$	-	-	25	mA
Enable Logic High Voltage	V_{ENH}	$V_{OUT} \geq 4.9 V$	-	-	3.5	V
Enable Logic Low Voltage	V_{ENL}	$V_{OUT} \leq 0.1 V$	0.5	-	-	V
Enable Pin Input Current	I_{EN}	$V_{EN} = 5.0 V$	5.0	-	20	μA
Power Supply Ripple Rejection	PSRR	$f_r = 100 Hz$, $I_{OUT} = 100 mA$, $V_r = 0.5 V_{pp}$	-	54	-	dB
Temperature Output Voltage Drift	$\Delta V_{OUT}/\Delta T$		-	0.01	-	mV/ $^{\circ}C$

Note 3. Measured when V_{OUT} has dropped 100mV from the nominal value obtained at $V_{IN} = 13.5 V$.

TYPICAL OPERATING CHARACTERISTICS

T.B.D.

APPLICATION INFORMATION

T.B.D.

REVISION NOTICE

The description in this datasheet is subject to change without any notice to describe its electrical characteristics properly.