ACER7805HA
Regulator circuit

Description

ACER7805HA is a tri-terminals positive voltage regulator integrated circuit. ACER7805HA has built-in short circuit protection and thermal protection circuit. ACER7805HA is a fixed output voltage device. It is application to TV sets, tape recorders, electronic instruments and other equipment for voltage stabilization. ACER7805HA uses tri-leads plastic heat sink with TO-220 package.

Features

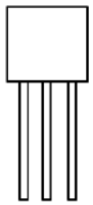
- Fixed output voltage: 5V
- Built-in short circuit protection circuit
- Built-in thermal protection circuit
- Output protection circuit

Absolute Maximum Ratings T_A=25℃ Unless otherwise noted

Parameter	Symbol	Typical	Unit
Input voltage	Vi	35	V
Package thermal resistance	$R_{\theta JC}$	5	°C/W
	$R_{\theta JA}$	65	°C/W
Ambient temperature	T_{OPR}	0~125	°C
Storage temperature	T_{STG}	-65~150	°C

Packaging Type

TO-220



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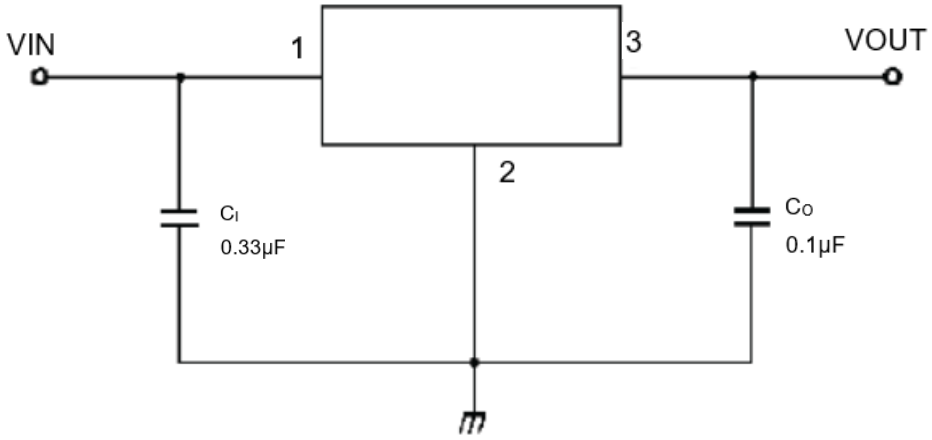
Ordering information

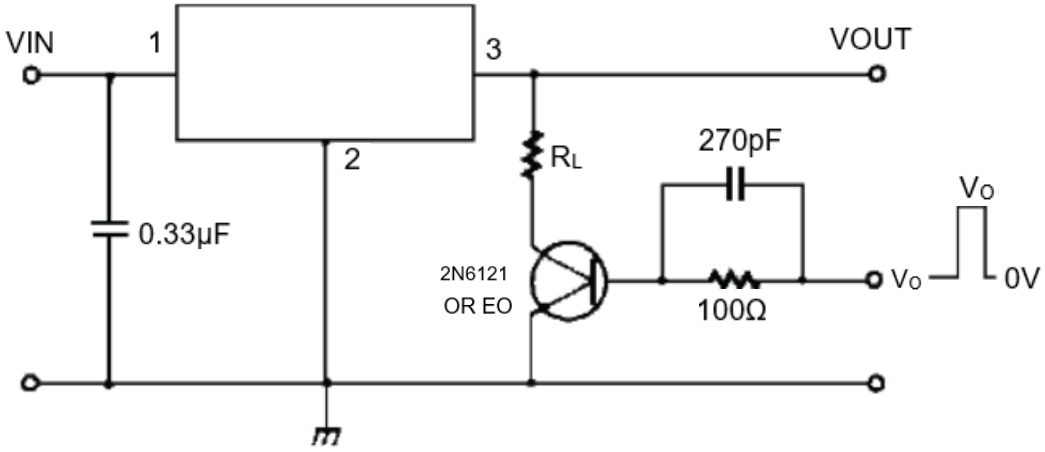
ACER7805HA XX + H

- H: Halogen - free
- P: Pb - free
- ZM: TO-220

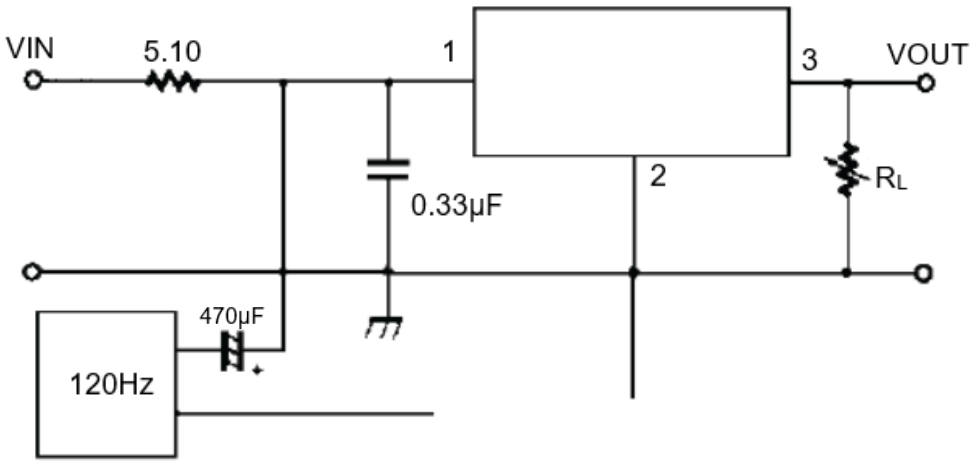
Typical Application Circuits



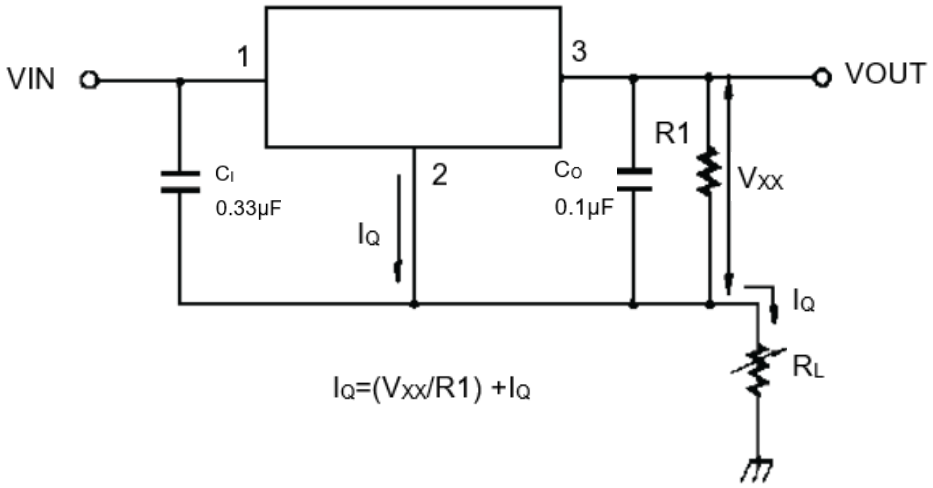
Fixed Output



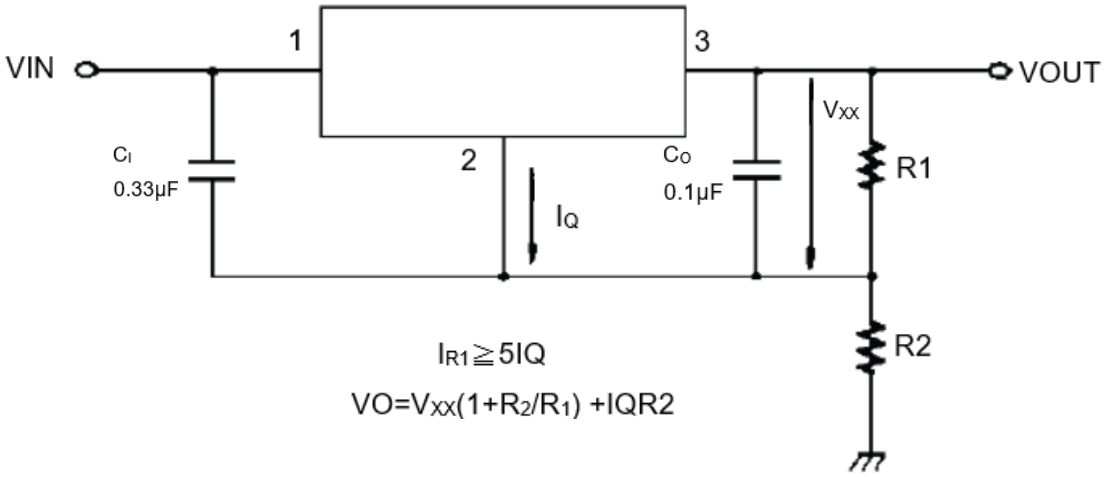
Adjustment Output



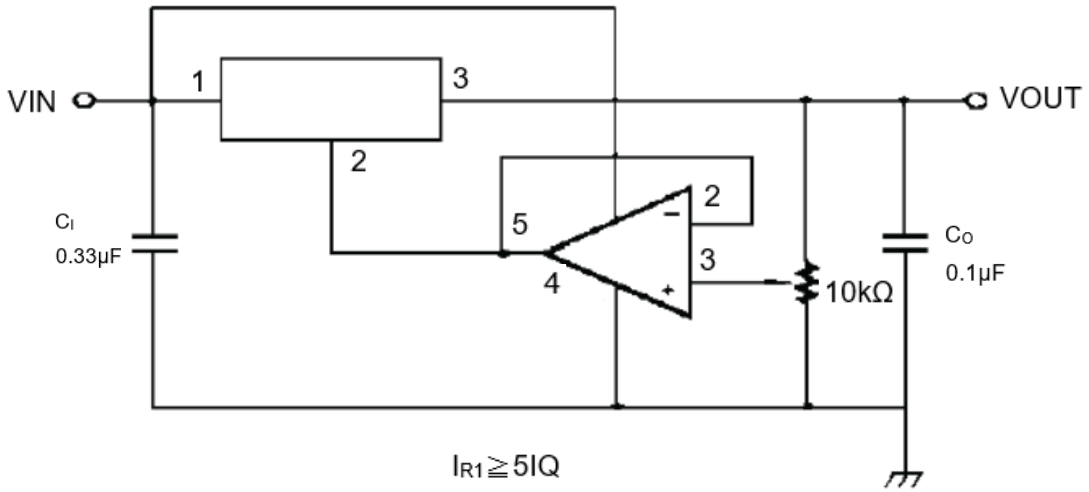
Ripple Rejection



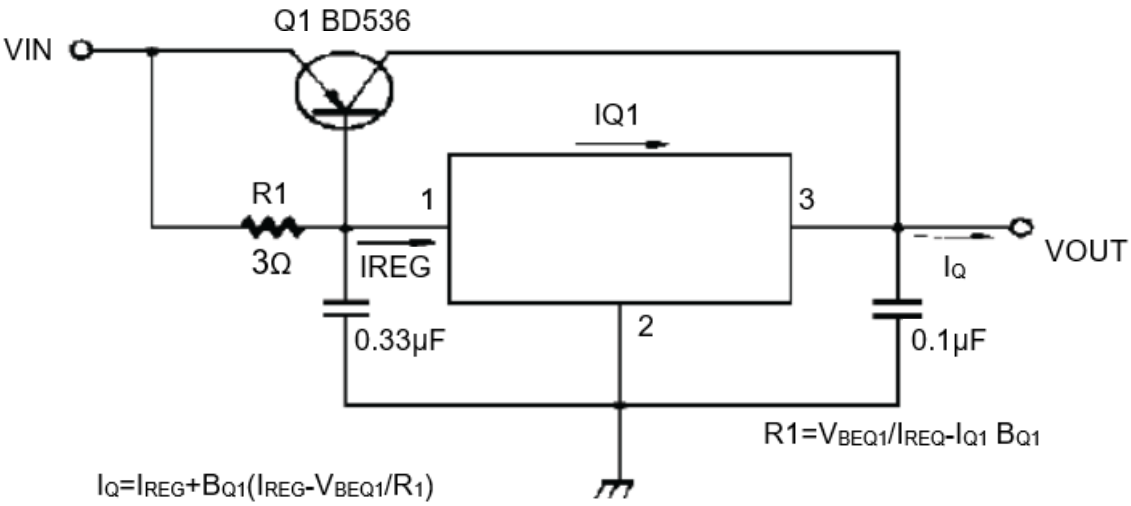
Constant Current Adjustment



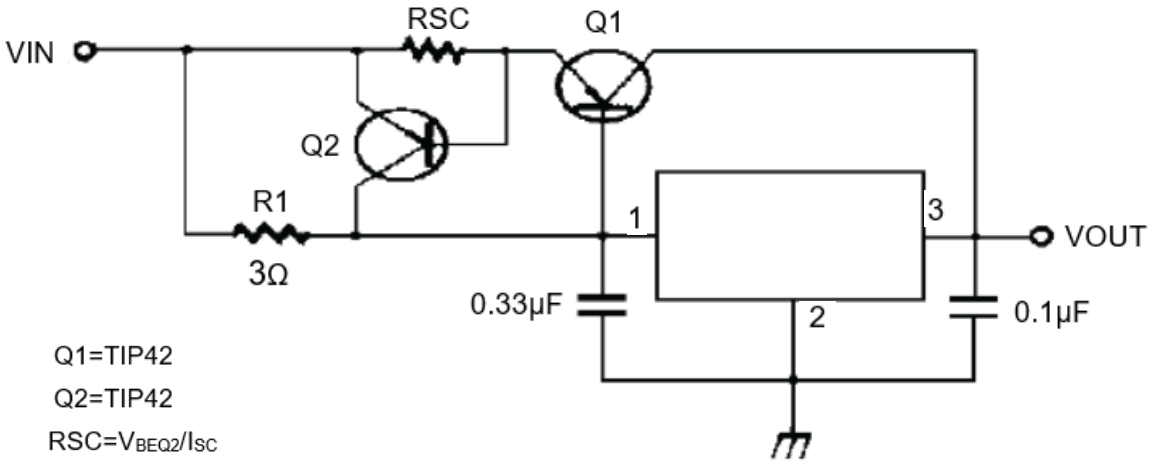
Output Voltage Boost Circuit



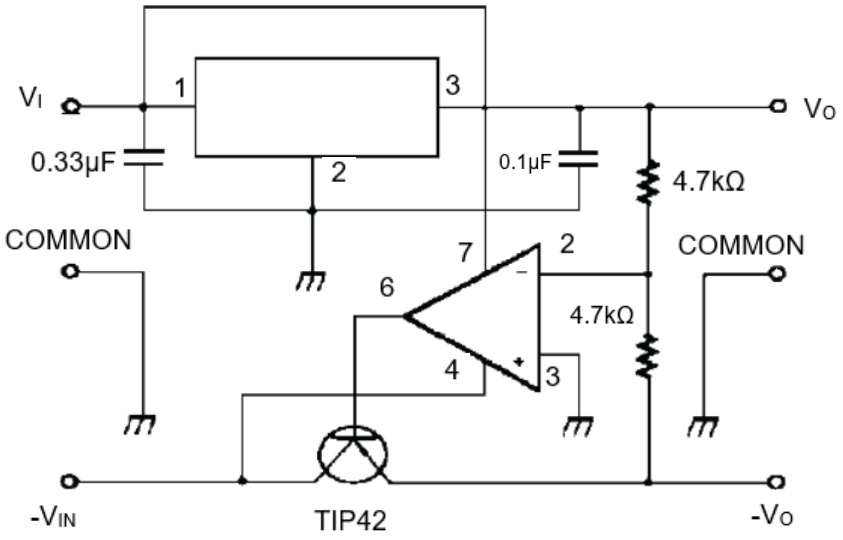
Output Voltage Adjustment (7V~30V)



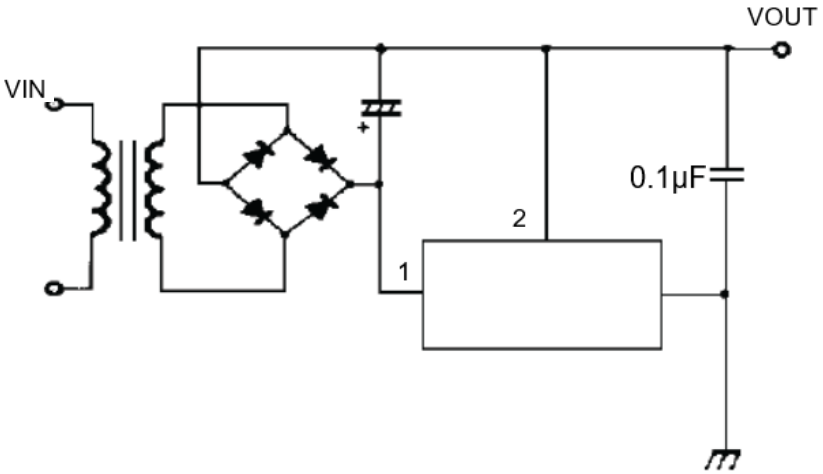
High Current Voltage Adjustment



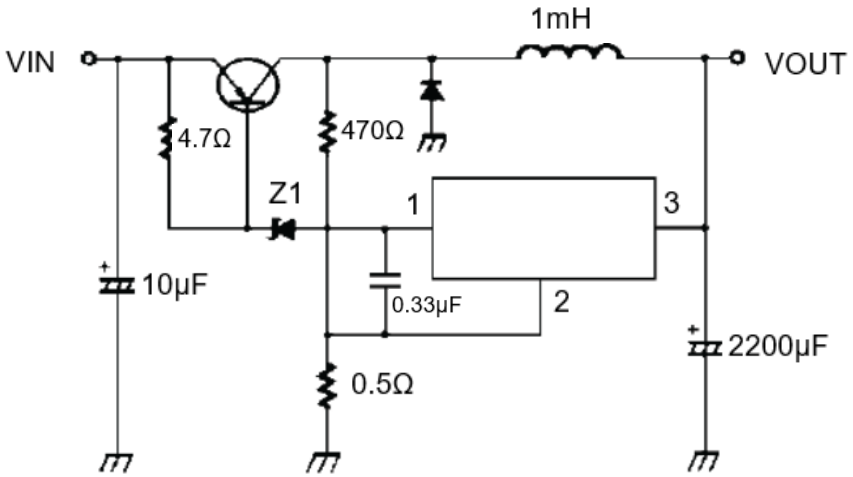
Short Circuit Protection With High Output Current



Tracking Voltage Adjustment

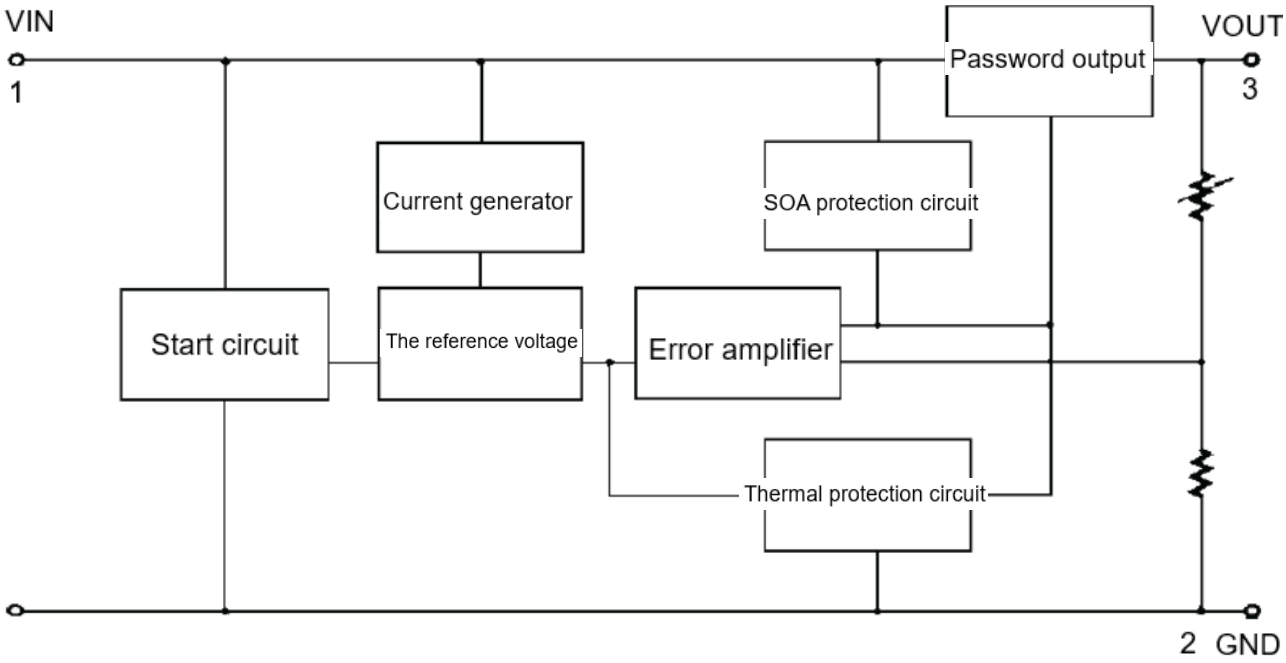


Negative Output Voltage Circuit



DC Switch Adjustment

Block Diagram

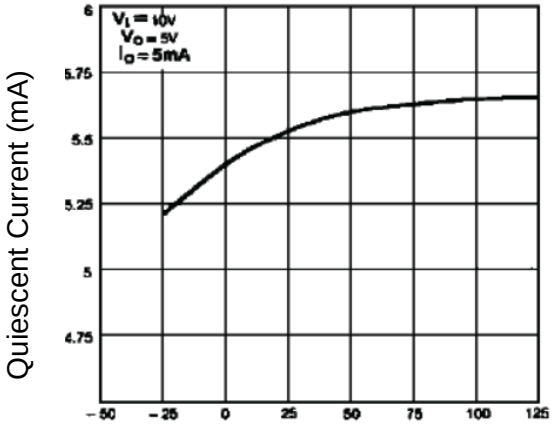


Electrical Characteristics

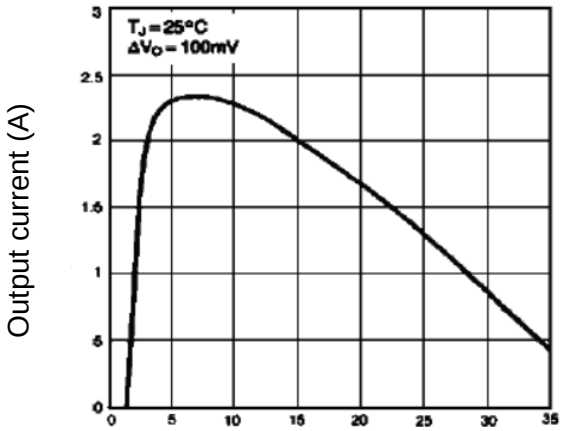
0°C<T_J<125°C, V_I=10V, C_I=0.33μF, C_O=0.1μF unless otherwise stated

Parameter	Symbol	Condition		Min	Typ	Max	Unit
Output voltage	Vo	T J =25°C		4.8	5.0	5.2	V
		5.0mA ≤ Io≤ 1.0A, Po≤ 15W Vi=7V to 20V		4.75	5.0	5.25	
Linear Regulation	Regline	T J =25°C	Vi =7V to 25V Io=500mA		4.0	50	mV
			Vi =8V to 12V Io=1.2A		1.6	25	
Load Regulation	Regload	T J =25°C	Io=5.0mA to 1.5A		9	50	mV
			Io=250mA to 750mA		4	25	
Quiescent Current	I_Q	T J =25°C			5.0	8.0	mA
Quiescent current change	Δ I_Q	Io=5.0m A to 1.0A			0.03	0.5	mA
		Vi =7V to 25V			0.3	1.0	
Output voltage drift	Δ Vo/Δ T	Io=5.0mA			-0.8		mV/ °C
Output noise voltage	V_N	f=10Hz to 100KHz, T_A =25°C			42		μV/ Vo
Ripple rejection	RR	f= 120Hz Vi = 8V to 18V		62	73		dB
Leakage voltage	V_{Drop}	Io = 1.2A, TJ=25°C			2		V
Output resistance	rO	f =1KHz			15		mΩ
Short circuit current	I_{SC}	Vi = 35V, TJ=25°C			230		mA
Maximum current	I_{max}	T J =25°C			2.2		A

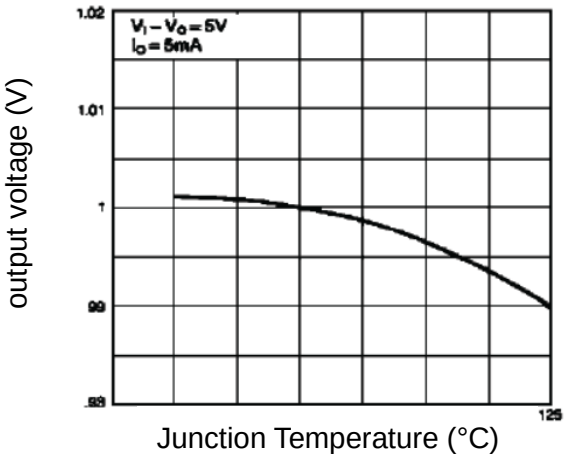
Characteristics Curves



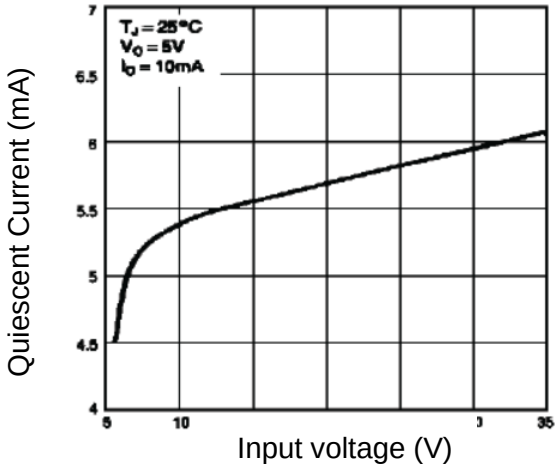
Quiescent Current



Peak Output Current



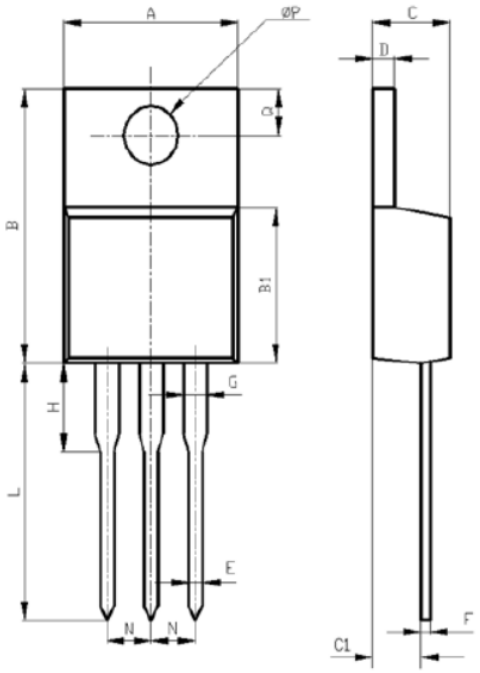
Output Voltage



Quiescent Current

Packing Information

TO-220



Items	Values(mm)	
	MIN	MAX
A	9.60	10.6
B	15.0	16.0
B1	8.90	9.50
C	4.30	4.80
C1	2.30	3.10
D	1.20	1.40
E	0.70	0.90
F	0.30	0.60
G	1.17	1.37
H	2.70	3.80
L	12.6	14.8
N	2.34	2.74
Q	2.40	3.00
Φ P	3.50	3.90

Notes

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2. A critical component is any component of a life support device or system whose failure to perform can be reasonably expected to cause the failure of the life support device or system, or to affect its safety or effectiveness.