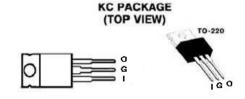


Shandhai Beelind Tosiave votage regulato

1. Features

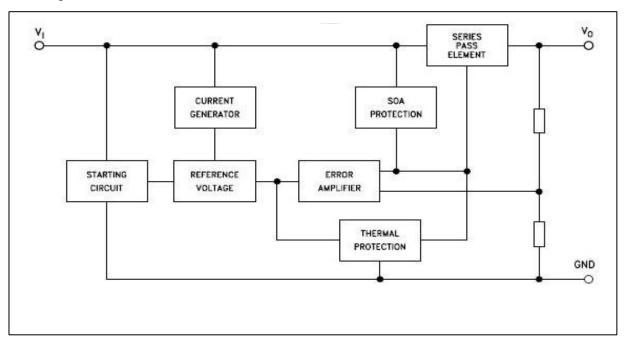
- Output current to 1.5 A
- Output voltage of 5V
- Thermal overload protection
- Short circuit protection
- Output transition SOA protection



2. Description

The BL78A05 of three-terminal positive regulators is available in TO-220 package, making it useful in a wide range of applications. These regulators can provide lacal on-card regulation, eliminating the distribution problems associated with single point regulation. Each type employs internal current limiting, thermal shut-down and safe area protection, making it essentially indestructible. If adequate heat sinking is provided, they can deliver over 1.5 A output current. Although designed primarily as fixed voltage regulators, these devices can be used with external components to obtain adjustable voltage and currents

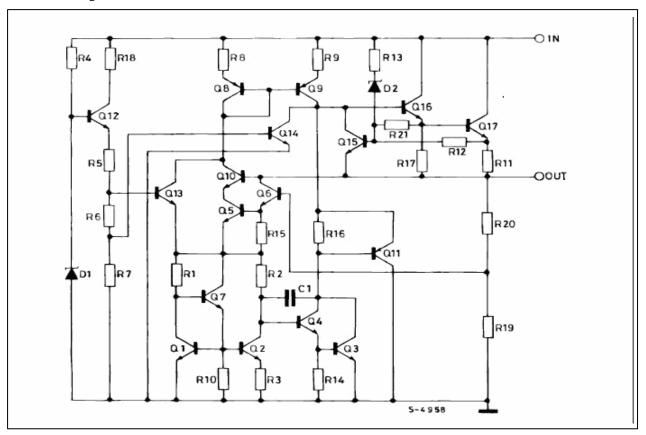
Block diagram





Positive voltage regulators

Schematic diagram



3. Maximum ratings

Absolute maximum ratings

Symbol	Parameter	Value	Unit		
VI	DC input voltage	V _O = 5 V	35	V	
Io	Output current	Internally limited			
P_{D}	Power dissipation	Internally limited			
T _{STG}	Storage temperature range	-40 to 125	°C		
T _{OP}	Operating junction temperature range	BL78A05	0 to 125	°C	

Note: Absolute maximum ratings are those values beyond which damage to the device may occur. Functional operation under these condition is not implied.



Positive voltage regulators

4. Electrical characteristics

Electrical characteristics of BL78A05 (refer to the test circuits, T_J = -40 to 125°C, V_I = 11 V_I , I_O = 500mA, C_I = 0.33 μ F, C_O = 0.1 μ F unless otherwise specified)

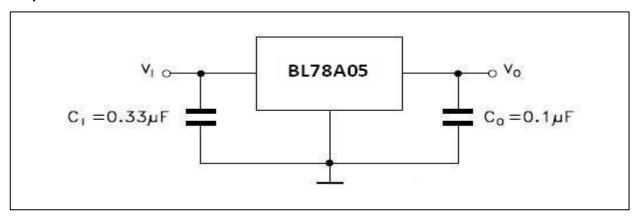
Symbol	Parameter	Test conditions	Min.	Тур.	Max.	Unit
Vo	Output voltage	T _J = 25°C	4.85	5	5.15	V
Vo	Output voltage	Io = 5 mA to 1 A, Po ≤15 W VI = 8 to 20 V	4.65	5	5.35	V
Δ VO(1)	Line regulation	VI = 7 to 25 V, TJ = 25°C		3	50	- mV
		VI = 8 to 12 V, TJ = 25°C		1	25	
Δ VO(1)	Load regulation	Io = 5 mA to 1.5 A, T _J = 25°C			100	- mV
		Io = 250 to 750 mA, TJ = 25°C			25	
ld	Quiescent current	T _J = 25°C			8	mA
Δla	Quiescent current change	Io = 5 mA to 1 A			0.5	- mA
2 10		VI = 8 to 25 V			0.8	
Δ Vo/ÄT	Output voltage drift	Io = 5 mA		0.6		mV/°C
eN	Output noise voltage	B =10 Hz to 100 kHz, T _J = 25°C			40	μV/Vo
SVR	Supply voltage rejection	VI = 8 to 18 V, f = 120 Hz	68			dB
Vd	Dropout voltage	Io = 1 A, T _J = 25°C		2	2.5	V
Ro	Output resistance	f = 1 kHz		17		mÙ
Isc	Short circuit current	VI = 35 V, TJ = 25°C		0.75	1.2	А
Iscp	Short circuit peak current	T _J = 25°C	1.3	1.9	2.2	А

^{1.} Load and line regulation are specified at constant junction temperature. Changes in V_O due to heating effects must be taken into account separately. Pulse testing with low duty cycle is used.

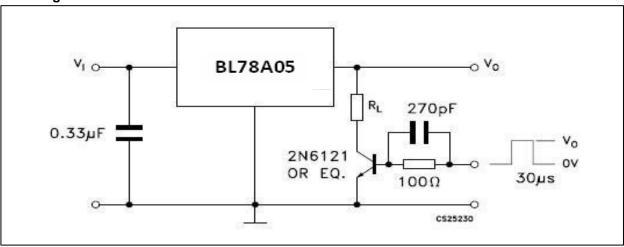


5. Test circuits

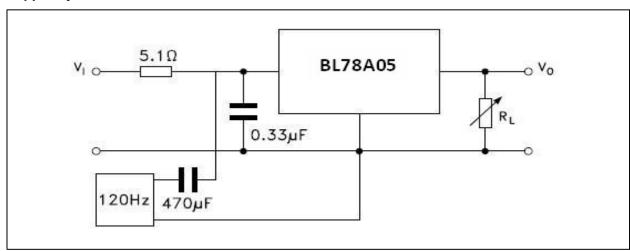
DC parameter



Load regulation

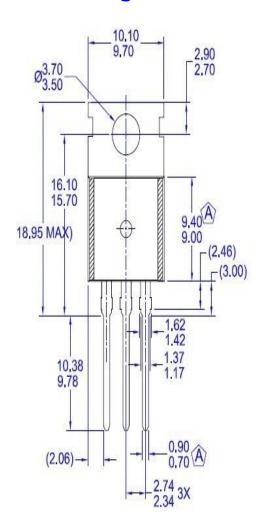


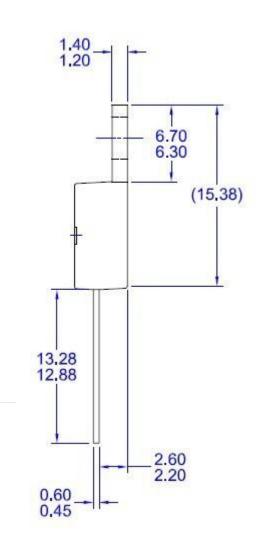
Ripple rejection

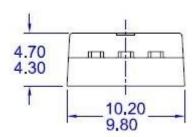




6. Package mechanical data







NOTES:

- A) CONFIRMS TO JEDEC TO-220 VARIATION AB EXCEPT WHERE NOTED
- B) ALL DIMENSIONS ARE IN MILLIMETERS.
- C) DIMENSIONS ARE EXCLUSIVE OF BURRS, MOLD FLASH, AND TIE BAR EXTRUSIONS.