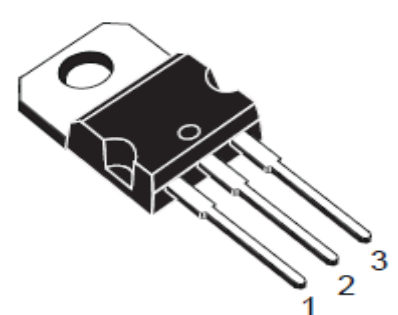


Three-terminal positive voltage regulator  
 OUTPUT CURRENT TO 1.2A  
 OUTPUT VOLTAGES OF 5; 6; 8; 9; 12V  
 THERMAL OVERLOAD PROTECTION  
 SHORT CIRCUIT PROTECTION  
 OUTPUT TRANSITION SOA PROTECTION

### 1、 Absolute Maximum Ratings $T_c=25^{\circ}\text{C}$

Symbol	Parameter	Value	UNIT
VI	Input Voltage	35	V
TOPR	Operating Temperature Range	0 ~ +125	$^{\circ}\text{C}$
TSTG	Storage Temperature Range	-65 ~ +150	$^{\circ}\text{C}$



**TO-220**  
1 Input 2 Gnd 3 Out

### 2、 Electrical Characteristics ( $T_c=25^{\circ}\text{C}$ ) Of 7805 (refer to the test circuits, $T_J = -55$ to $150^{\circ}\text{C}$ $V_I = 10\text{V}$ , $I_O = 500\text{ mA}$ , $C_I = 0.33\ \mu\text{F}$ , $C_O = 0.1\ \mu\text{F}$ unless otherwise specified).

Parameter	Symbol	Test Condition	MIN	TYP	MAX	UNIT
Output Voltage	VO	$T_J = +25^{\circ}\text{C}$	4.8	5	5.2	V
		$I_O = 5\text{mA to } 1\text{A}$ , $P_O \leq 15\text{W}$ $V_I = 8\text{V to } 20\text{V}$	4.75	5	5.25	
Line Regulation (Note1)	$\Delta V_O$	$T_J = +25^{\circ}\text{C}$	$V_I = 7\text{V to } 25\text{V}$		100	mV
			$V_I = 8\text{V to } 12\text{V}$		50	
Load Regulation (Note1)	$\Delta V_O$	$T_J = +25^{\circ}\text{C}$ $I_O = 5\text{mA to } 1.2\text{A}$			100	mV
		$T_J = +25^{\circ}\text{C}$ $I_O = 250\text{mA to } 750\text{mA}$			50	
Quiescent Current	IQ	$T_J = +25^{\circ}\text{C}$			6	mA
Quiescent Current Change	$\Delta I_Q$	$I_O = 5\text{mA to } 1\text{A}$			0.5	mA
		$V_I = 8\text{V to } 25\text{V}$			0.8	
Quiescent Current Change	$\Delta V_O/\Delta T$	$I_O = 5\text{mA}$		0.6		mV/ $^{\circ}\text{C}$
Short Circuit Current	ISC	$T_J = +25^{\circ}\text{C}$ , $V_I = 35\text{V}$		0.75	1.2	A

3、Electrical Characteristics (Tc=25°C) Of 7806(refer to the test circuits,TJ = -55 to 150°C VI = 11V ,  
IO = 500 mA , CI = 0.33 μ F , CO = 0.1 μ F unless otherwise specified)。

Parameter	Symbol	Test Condition	MIN	TYP	MAX	UNIT
Output Voltage	VO	TJ = +25°C	5.75	6	6.25	V
		IO = 5mA to 1A, PO ≤ 15W VI = 9V to 21V	5.65	6	6.35	
Line Regulation (Note1)	Δ VO	TJ = +25°C	VI = 8V to 25V		100	mV
			VI = 9V to 13V		50	
Load Regulation (Note1)	Δ VO	TJ = +25°C IO = 5mA to 1.2A			100	mV
		TJ = +25°C IO = 250mA to 750mA			50	
Quiescent Current	IQ	TJ = +25°C			6	mA
Quiescent Current Change	Δ IQ	IO = 5mA to 1A			0.5	mA
		VI = 9V to 25V			0.8	
Quiescent Current Change	Δ VO/Δ T	IO = 5mA		0.7		mV/°C
Short Circuit Current	ISC	TJ = +25° C, VI = 35V		0.75	1.2	A

4、Electrical Characteristics (Tc=25°C) Of 7808(refer to the test circuits, Tj = -55 to 150°C VI = 14V, IO = 500 mA, CI = 0.33 μ F, CO = 0.1 μ F unless otherwise specified)。

Parameter	Symbol	Test Condition	MIN	TYP	MAX	UNIT	
Output Voltage	VO	TJ = +25°C	7.7	8	8.3	V	
		IO = 5mA to 1A, PO ≤ 15W VI = 11.5V to 23V	7.6	8	8.4		
Line Regulation (Notel)	Δ VO	TJ = +25°C	VI = 10.5V to 25V			100	mV
			VI = 11V to 17V			50	
Load Regulation (Notel)	Δ VO	TJ = +25°C IO = 5mA to 1.2A			100	mV	
		TJ = +25°C IO = 250mA to 750mA			50		
Quiescent Current	IQ	TJ = +25°C			6	mA	
Quiescent Current Change	Δ IQ	IO = 5mA to 1A			0.5	mA	
		VI = 11.5V to 25V			1		
Quiescent Current Change	Δ Vo/Δ T	IO = 5mA		1		mV/°C	
Short Circuit Current	ISC	TJ = +25° C, VI = 35V		0.75	1.2	A	

5、Electrical Characteristics (Tc=25°C) Of 7809(refer to the test circuits, TJ = -55 to 150°C VI = 15V, IO = 500 mA, CI = 0.33 μ F, CO = 0.1 μ F unless otherwise specified)。

Parameter	Symbol	Test Condition	MIN	TYP	MAX	UNIT
Output Voltage	VO	TJ = +25°C	8.64	9	9.36	V
		IO = 5mA to 1A, PO ≤ 15W VI = 11.5V to 26V	8.55	9	9.45	
Line Regulation (Note1)	Δ VO	TJ = +25°C	VI = 11.5V to 26V		100	mV
			VI = 12V to 18V		50	
Load Regulation (Note1)	Δ VO	TJ = +25°C IO = 5mA to 1.2A			100	mV
		TJ = +25°C IO = 250mA to 750mA			50	
Quiescent Current	IQ	TJ = +25°C			6	mA
Quiescent Current Change	Δ IQ	IO = 5mA to 1A			0.5	mA
		VI = 11.5V to 26V			1	
Quiescent Current Change	Δ VO/Δ T	IO = 5mA		1		mV/°C
Short Circuit Current	ISC	TJ = +25° C, VI = 35V		0.75	1.2	A

**6、Electrical Characteristics** ( $T_c=25^{\circ}\text{C}$ ) Of 7812 (refer to the test circuits,  $T_J = -55$  to  $150^{\circ}\text{C}$   $V_I = 19\text{V}$ ,  $I_O = 500\text{ mA}$ ,  $C_I = 0.33\ \mu\text{F}$ ,  $C_O = 0.1\ \mu\text{F}$  unless otherwise specified)。

Parameter	Symbol	Test Condition	MIN	TYP	MAX	UNIT
Output Voltage	$V_O$	$T_J = +25^{\circ}\text{C}$	11.5	12	12.5	V
		$I_O = 5\text{mA to } 1\text{A}$ , $P_O \leq 15\text{W}$ $V_I = 15.5\text{V to } 27\text{V}$	11.4	12	12.6	
Line Regulation (Note1)	$\Delta V_O$	$T_J = +25^{\circ}\text{C}$	$V_I = 14.5\text{V to } 30\text{V}$		100	mV
			$V_I = 16\text{V to } 22\text{V}$		50	
Load Regulation (Note1)	$\Delta V_O$	$T_J = +25^{\circ}\text{C}$ $I_O = 5\text{mA to } 1.2\text{A}$			100	mV
		$T_J = +25^{\circ}\text{C}$ $I_O = 250\text{mA to } 750\text{mA}$			50	
Quiescent Current	$I_Q$	$T_J = +25^{\circ}\text{C}$			6	mA
Quiescent Current Change	$\Delta I_Q$	$I_O = 5\text{mA to } 1\text{A}$			0.5	mA
		$V_I = 15\text{V to } 30\text{V}$			1	
Quiescent Current Change	$\Delta V_O/\Delta T$	$I_O = 5\text{mA}$		1.5		mV/ $^{\circ}\text{C}$
Short Circuit Current	ISC	$T_J = +25^{\circ}\text{C}$ , $V_I = 35\text{V}$		0.75	1.2	A

## 7、Typical Characteristics

Figure 1: Dropout Voltage vs Junction Temperature

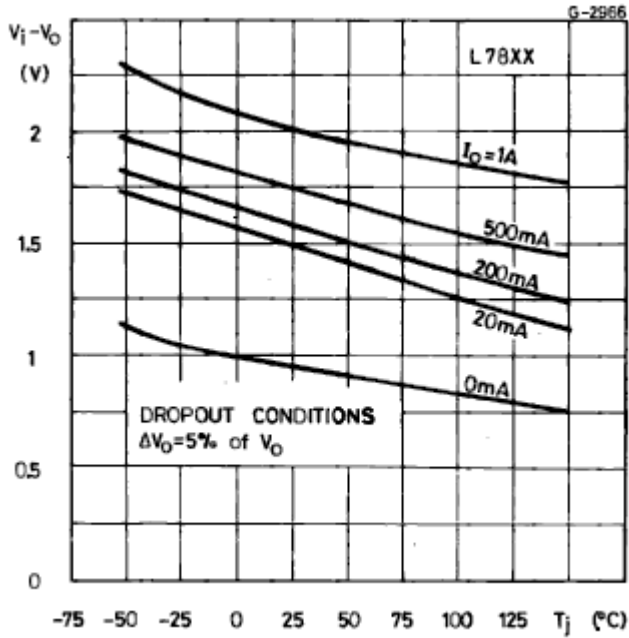


Figure 2: Peak Output Current vs Input/output Differential Voltage

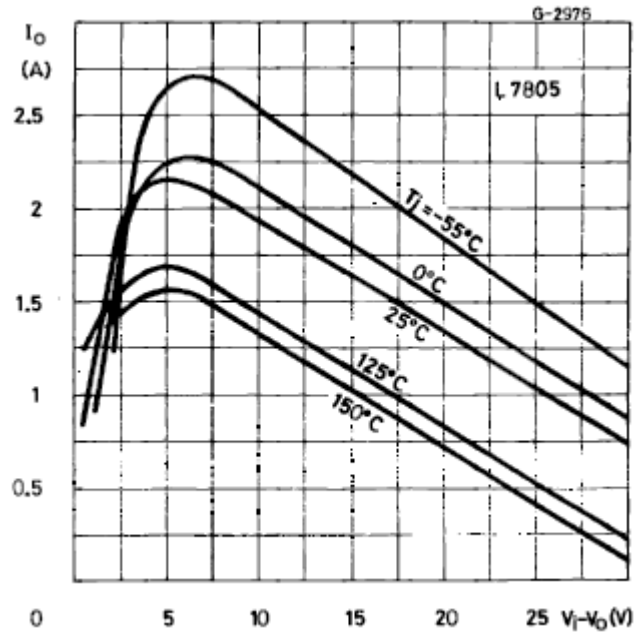


Figure3: Supply Voltage Rejection vs Frequency Temperature

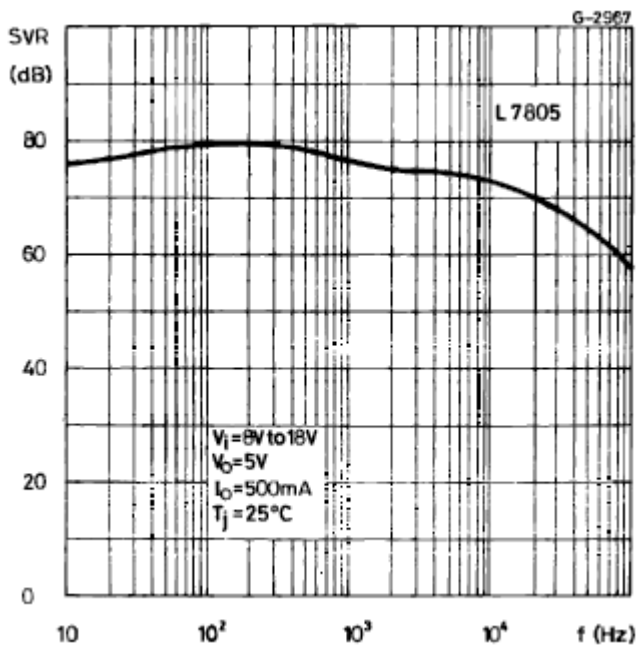


Figure 4: Quiescent Current vs Junction

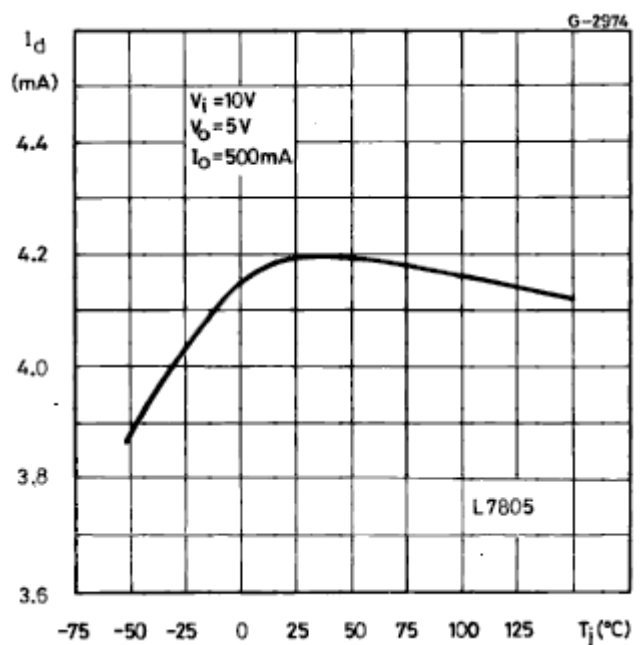


Figure 5: Output Voltage vs Junction Temperature

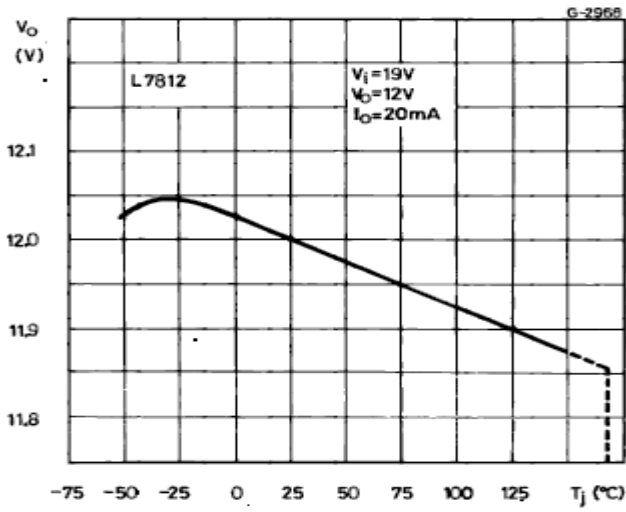


Figure 6: Load Transient Response

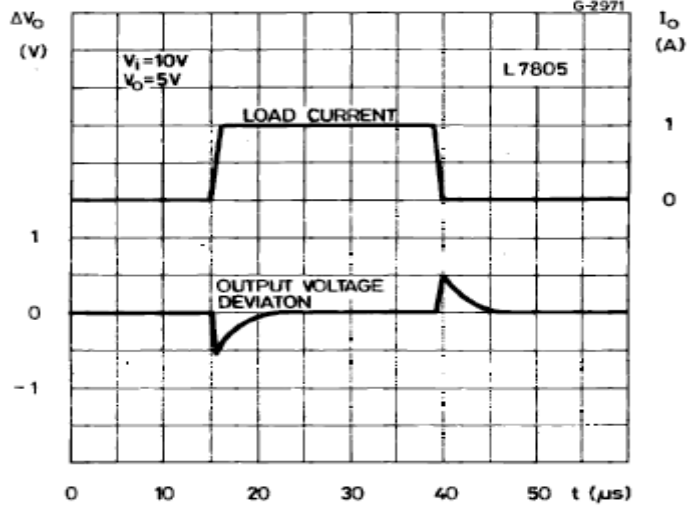


Figure 7: Output Impedance vs Frequency

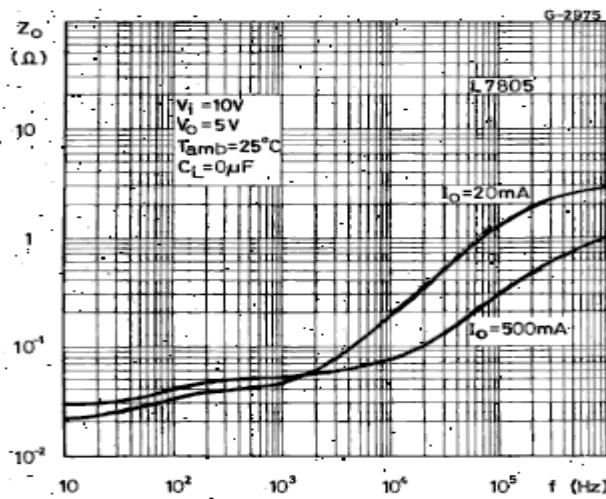


Figure 8: Line Transient Response

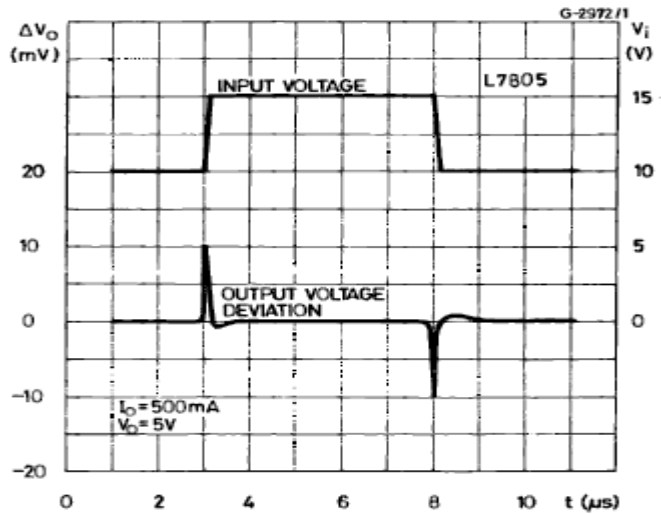
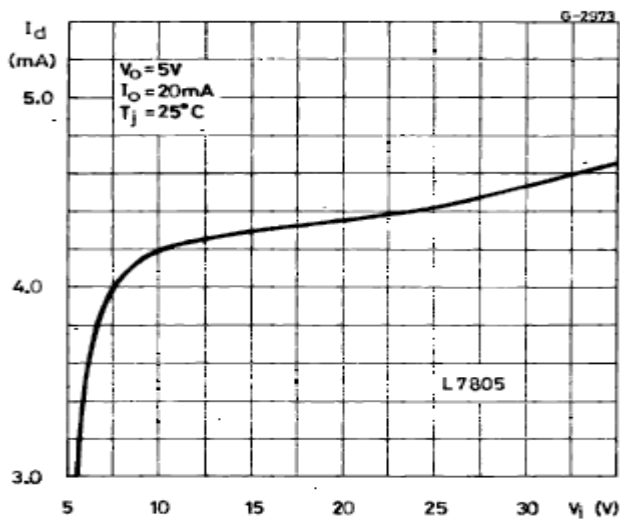


Figure 9: Quiescent Current vs Input Voltage

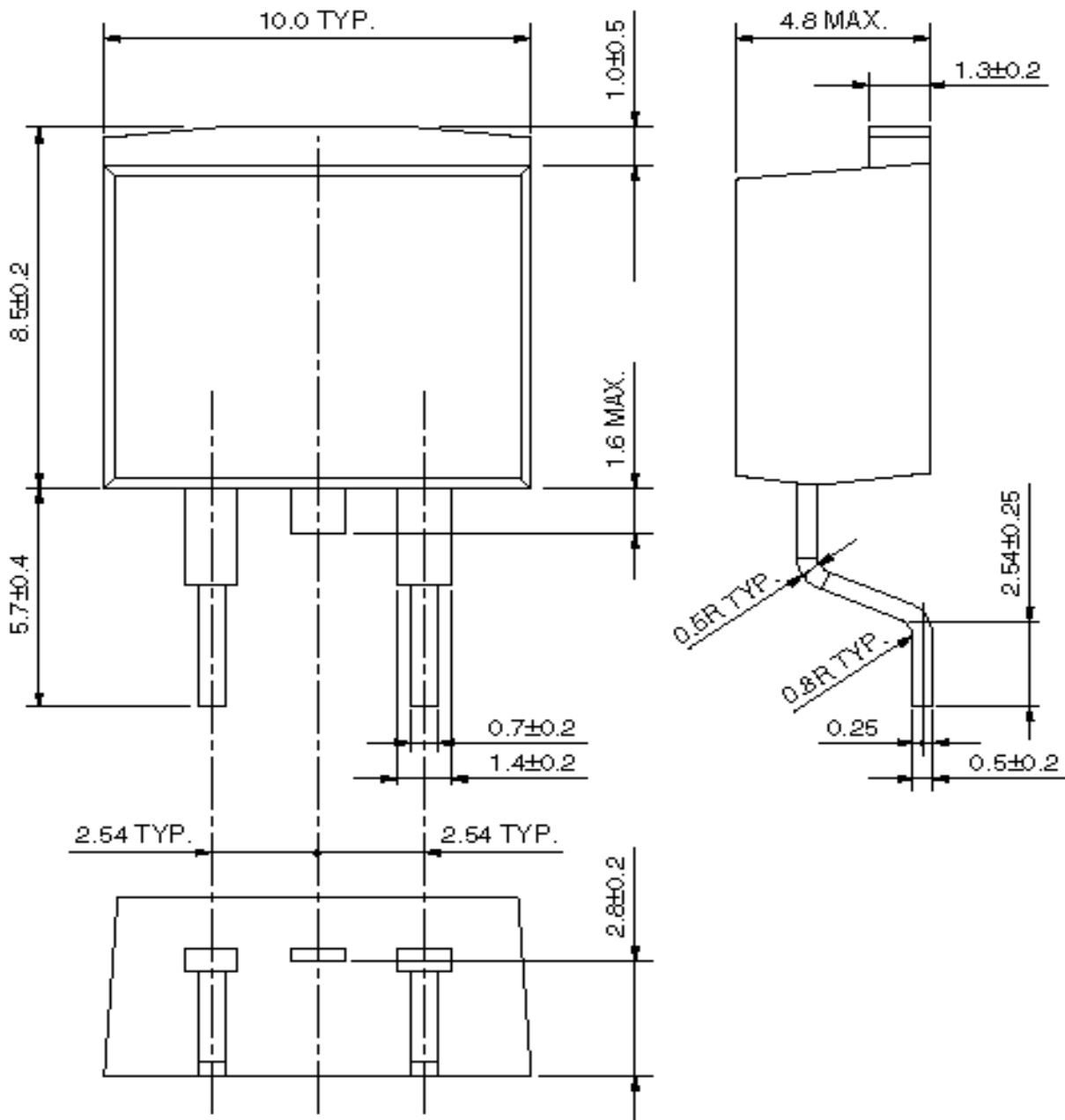


8、Package Demensions

T0-263-3

T0-263封装尺寸:

UNIT: mm



: The area without solder plated



单击下面可查看定价，库存，交付和生命周期等信息

[>>UMW\(友台半导体\)](#)