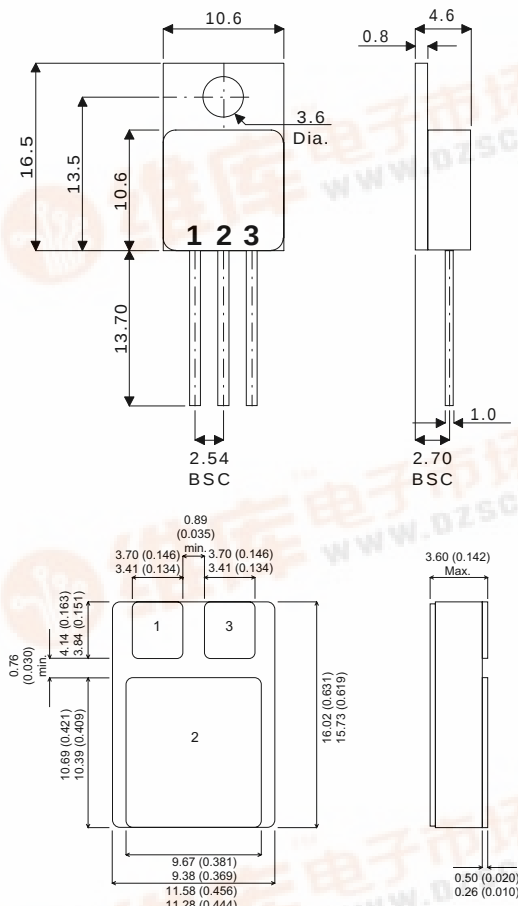


LM7800 - 220M SERIES

LM7800 - SMD SERIES

MECHANICAL DATA

Dimensions in mm



PIN 1 - Input

PIN 2 -Ground

PIN 3 - Output

TO220M
SMD1

-TO220 Metal Package - Isolated
-Ceramic Surface Mount Package

POSITIVE VOLTAGE REGULATOR TO 220 M

FEATURES

- HERMETIC TO220 METAL OR CERAMIC SURFACE MOUNT PACKAGES
- SCREENING OPTIONS AVAILABLE
- ALL LEADS ISOLATED FROM CASE (METAL PACKAGE)
- OUTPUT CURRENT UP TO 1.5A
- OUTPUT VOLTAGES OF 5, 12, 15, 24V
- THERMAL OVERLOAD PROTECTION
- SHORT CIRCUIT PROTECTION
- OUTPUT TRANSISTOR SOA PROTECTION

ABSOLUTE MAXIMUM RATINGS ($T_{case} = 25^{\circ}C$ unless otherwise stated)

V_I	DC Input Voltage (for $V_O = 5$ to 15V) (for $V_O = 24V$)	35V 40V
I_O	Output Current	Internally limited
P_D	Power Dissipation	Internally limited
T_j	Junction Temperature	0 to 125°C
T_{stg}	Storage Temperature	-65 to 150°C

ELECTRICAL CHARACTERISTICS ($T_{case} = 25^{\circ}C$ unless stated)

OUTPUT VOLTAGE		5			12			15			24			
INPUT VOLTAGE (unless otherwise specified)		10			19			23			33			
Parameter	Test Conditions	Min.	Typ.	Max.	Min.	Typ.	Max.	Min.	Typ.	Max.	Min.	Typ.	Max.	Unit
V _O Output Voltage	T _j = 25°C	4.8	5	5.2	11.5	12	12.5	14.4	15	15.6	23	24	25	V
	I _O = 5mA to 1A P _O ≤ 15W	4.75	5	5.25 (V _I = 7 to 20V)	11.4	12	12.6 (V _I = 14.5 to 27V)	14.25	15	15.75 (V _I = 17.5 to 30V)	22.8	24	25.2 (V _I = 27 to 38V)	
ΔV _O Line Regulation	T _j = 25°C	3 100 (V _I = 7 to 25V)			240 (V _I = 14.5 to 30V)			300 (V _I = 17.5 to 30V)			480 (V _I = 27 to 38V)			mV
		1 50 (V _I = 8 to 12V)			120 (V _I = 16 to 22V)			150 (V _I = 20 to 26V)			240 (V _I = 30 to 36V)			
ΔV _O Load Regulation	T _j = 25°C I _O = 5mA to 1.5A	100			240			300			480			mV
	T _j = 25°C I _O = 250 to 750 mA	50			120			150			240			
I _d Quiescent Current	T _j = 25°C	8			8			8			8			mA
ΔI _d Quiescent Current Change	I _O = 5mA to 1A	0.5			0.5			0.5			0.5			mA
		1.3 (V _I = 7 to 25V)			1 (V _I = 14.5 to 30V)			1 (V _I = 17.5 to 30V)			1 (V _I = 27 to 38V)			mA
$\frac{\Delta V_O}{\Delta T}$ Output Voltage Drift	I _O = 5mA	−1.1			−1			−1			−1.5			mV / °C
e _N Output Noise Voltage	B = 10Hz to 100kHz T _j = 25°C	40			75			90			170			μV
SVR Supply Voltage Rejection	f = 120Hz I _o = 500mA	62 (V _I = 8 to 18V)			55 (V _I = 15 to 25V)			54			50			dB
V _d Dropout Voltage	T _j = 25°C I _O = 1A ΔV _O = 100mV	2			2			2			2			V
I _{sc} Short Circuit Current	T _j = 25°C V _I = 35V	750			350			230			150			mA
I _{scp} Short Circuit Peak Current	T _j = 25°C V _I -V _O <10V 5mS	2.2			2.2			2.1			2.1			A

THERMAL DATA (for TO220M and SMD1)

$R_{THj-case}$	Thermal Resistance Junction – Case	Max. $3^{\circ}C / W$
$R_{THj-amb}$	Thermal Resistance Junction – Ambient	Max. $50^{\circ}C / W$