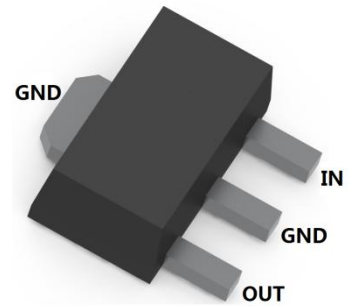


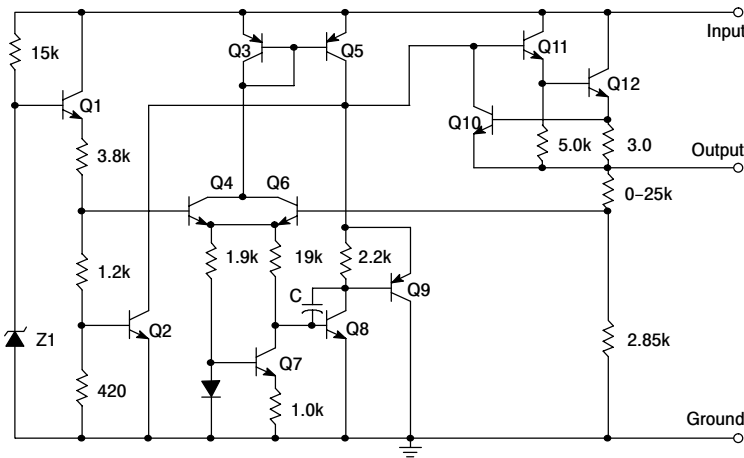
**PLASTIC-ENCAPSULATE VOLTAGE REGULATORS**

**FEATURES**

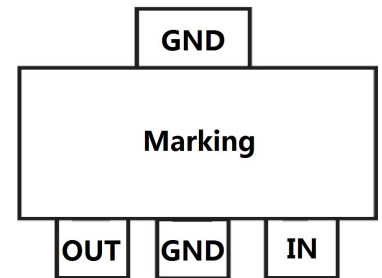
- Maximum Output Current  $I_o$ : 0.1 A
- Output Voltage  $V_o$ : 6 V
- Surface Mount device



**SCHEMATIC DIAGRAM**



**SOT-89**



**MECHANICAL DATA**

- Case: SOT-89
- Case Material: Molded Plastic. UL flammability
- Classification Rating: 94V-0
- Weight: 0.055 grams (approximate)

**MAXIMUM RATINGS (Operating temperature range applies unless otherwise specified)**

Parameter	Symbol	Value	Unit
Input Voltage	$V_i$	30	V
Power Dissipation	$P_d$	Internally Limited	
Thermal Resistance from Junction to Ambient	$R_{\theta JA}$	166.7	$^{\circ}C/W$
Operating Temperature	$T_{opr}$	-25~+125	$^{\circ}C$
Storage Temperature Range	$T_{STG}$	-65 ~+150	$^{\circ}C$

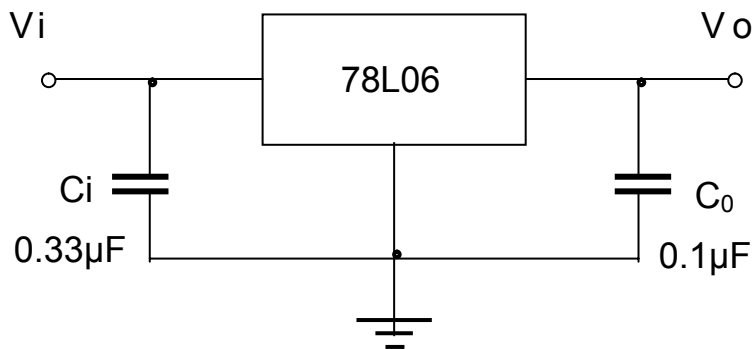
**PLASTIC-ENCAPSULATE VOLTAGE REGULATORS**

**ELECTRICAL CHARACTERISTICS AT SPECIFIED VIRTUAL JUNCTION TEMPERATURE  
( $V_i=11V, I_o=40mA, C_i=0.33\mu F, C_o=0.1\mu F$ , unless otherwise specified )**

Parameter	Symbol	Min	Typ	Max	Unit	Conditions
Output voltage	$V_o$	5.75	6.0	6.25	V	$T_J=+25^\circ C$
		5.7	6.0	6.3	V	$8V \leq V_i \leq 20V, I_o=1mA \sim 40mA, 0^\circ C \leq T_J \leq +125^\circ C$
		5.7	6.0	6.3	V	$8V \leq V_i \leq 20V, I_o=1mA \sim 70mA, 0^\circ C \leq T_J \leq +125^\circ C$
Load Regulation	$\Delta V_o$		16	80	mV	$I_o=1mA \sim 100mA, T_J=+25^\circ C$
			9	40	mV	$I_o=1mA \sim 40mA, T_J=+25^\circ C$
Line regulation	$\Delta V_o$		35	175	mV	$8V \leq V_i \leq 20V$
			29	125	mV	$9V \leq V_i \leq 20V, T_J=+25^\circ C$
Quiescent Current	$I_q$		3.9	6	mA	$T_J=+25^\circ C$
Quiescent Current Change	$\Delta I_q$			1.5	mA	$9V \leq V_i \leq 20V, 0^\circ C \leq T_J \leq +125^\circ C$
				0.1	mA	$1mA \leq I_i \leq 40mA, 0^\circ C \leq T_J \leq +125^\circ C$
Output Noise Voltage	$V_N$		46		$\mu V/V_o$	$10Hz \leq f \leq 100kHz, T_J=+25^\circ C$
Ripple Rejection	RR	40	48		dB	$9V \leq V_i \leq 19V, f=120Hz, 0^\circ C \leq T_J \leq +125^\circ C$
Dropout Voltage	$V_d$		1.7		V	$T_J=+25^\circ C$

\*Pulse Test

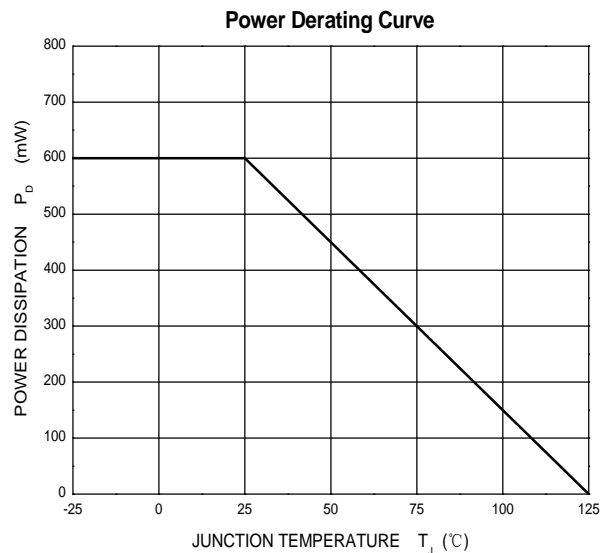
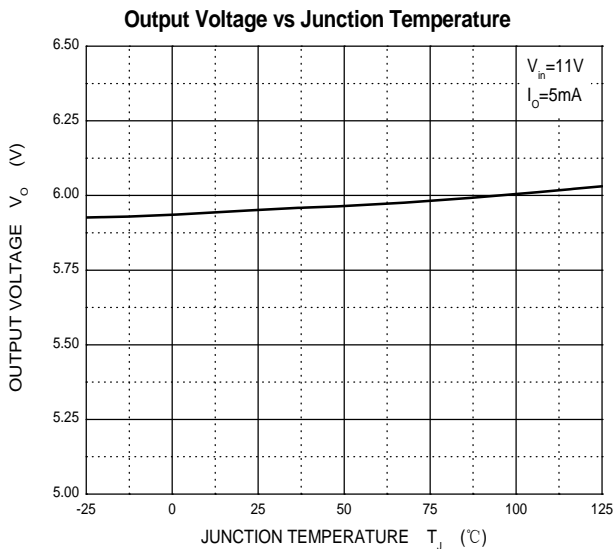
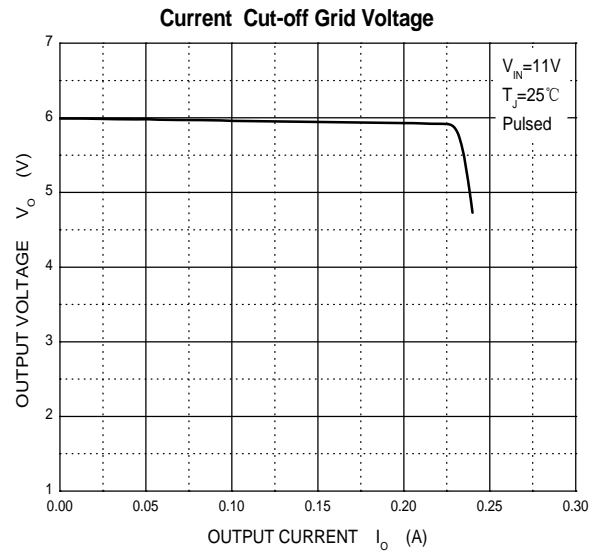
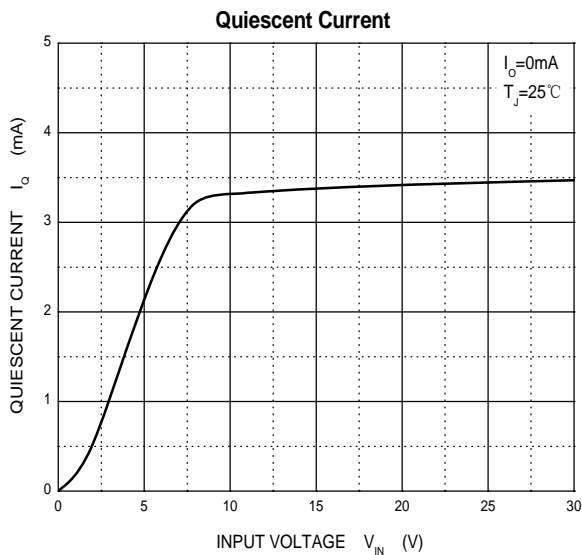
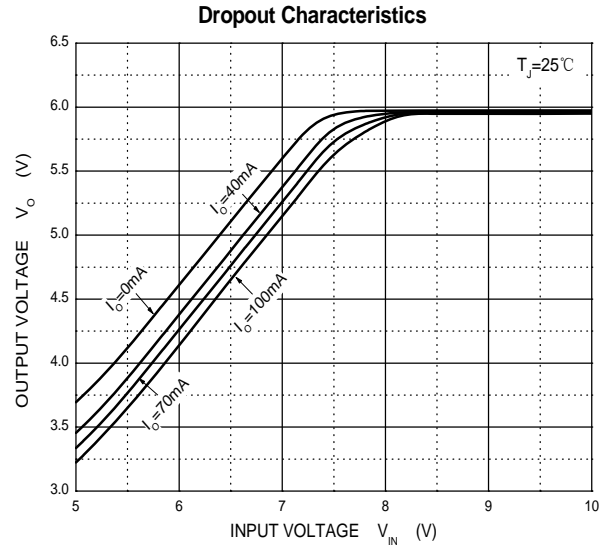
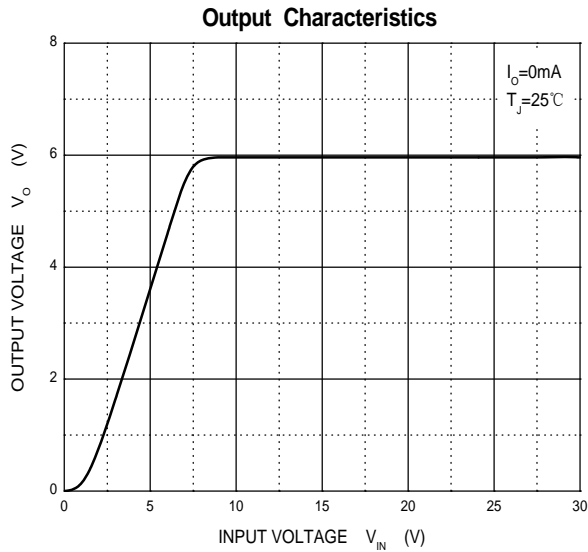
**TYPICAL APPLICATION**



Note: Bypass capacitors are recommended for optimum stability and transient response and should be located as close as Possible to the regulators.

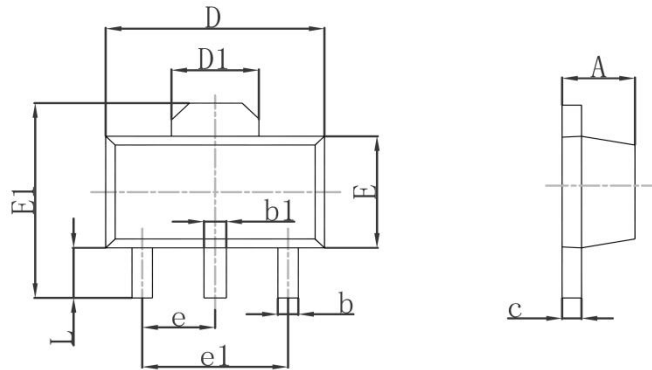
**PLASTIC-ENCAPSULATE VOLTAGE REGULATORS**

**Typical Characteristics**



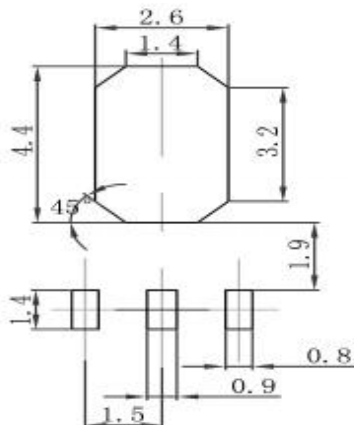
**PLASTIC-ENCAPSULATE VOLTAGE REGULATORS**

**SOT-89 Package Outline Dimensions**



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min.	Max.	Min.	Max.
A	1.400	1.600	0.055	0.063
b	0.320	0.520	0.013	0.020
b1	0.400	0.580	0.016	0.023
c	0.350	0.440	0.014	0.017
D	4.400	4.600	0.173	0.181
D1	1.550REF		0.061REF	
E	2.300	2.600	0.091	0.102
E1	3.940	4.250	0.155	0.167
e	1.500TYP		0.060TYP	
e1	3.000TYP		0.118TYP	
L	0.900	1.200	0.035	0.047

**SOT-89 Suggested Pad Layout**



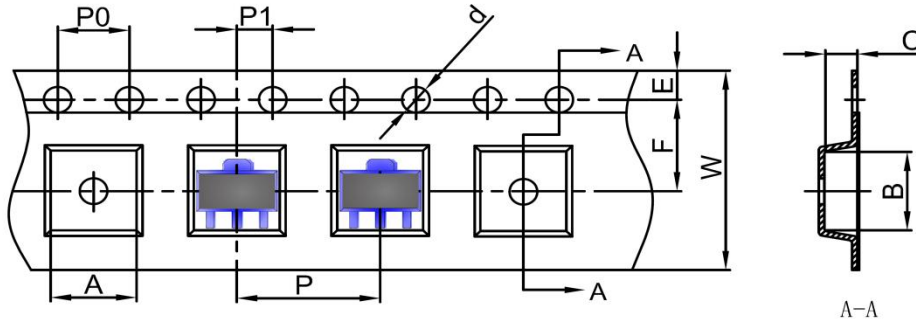
**Note:**

1. Controlling dimension: in millimeters
2. General tolerance:  $\pm 0.05\text{mm}$
3. The pad layout is for reference purposes only

**PLASTIC-ENCAPSULATE VOLTAGE REGULATORS**

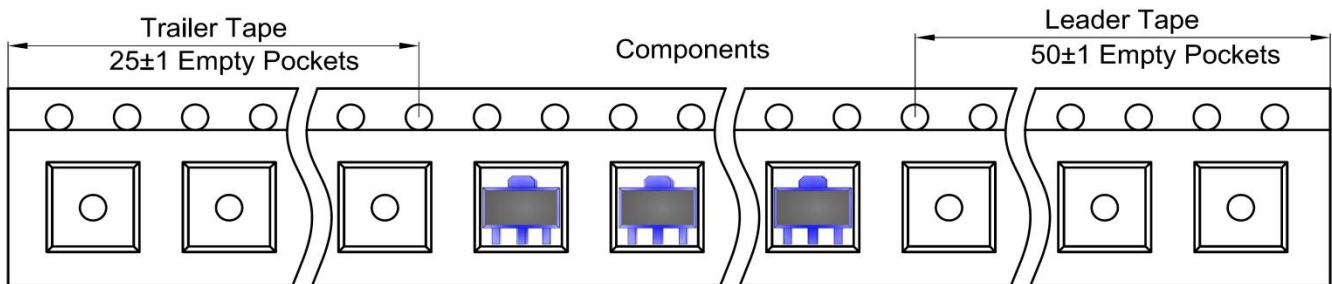
**SOT-89 Tape and Reel**

**SOT-89 Embossed Carrier Tape**

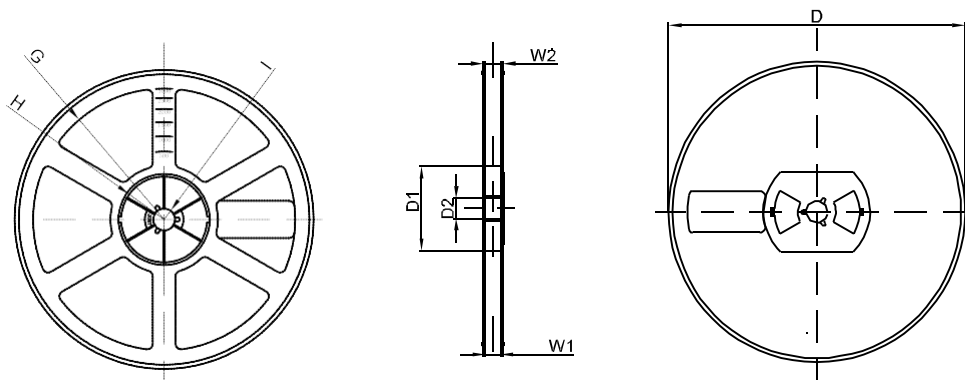


DIMENSIONS ARE IN MILLIMETER										
TYPE	A	B	C	d	E	F	P0	P	P1	W
SOT-89	4.85	4.45	1.85	Ø1.50	1.75	5.50	4.00	8.00	2.00	12.00
TOLERANCE	±0.1	±0.1	±0.1	±0.1	±0.1	±0.1	±0.1	±0.1	±0.1	±0.1

**SOT-89 Tape Leader and Trailer**



**SOT-89 Reel**



DIMENSIONS ARE IN MILLIMETER								
REEL OPTION	D	D1	D2	G	H	I	W1	W2
7" DIA	Ø178	54.40	13.00	R78	R25.60	R6.50	13.20	16.50
TOLERANCE	±2	±1	±1	±1	±1	±1	±1	±1