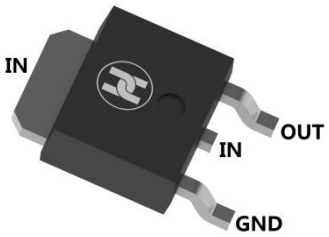
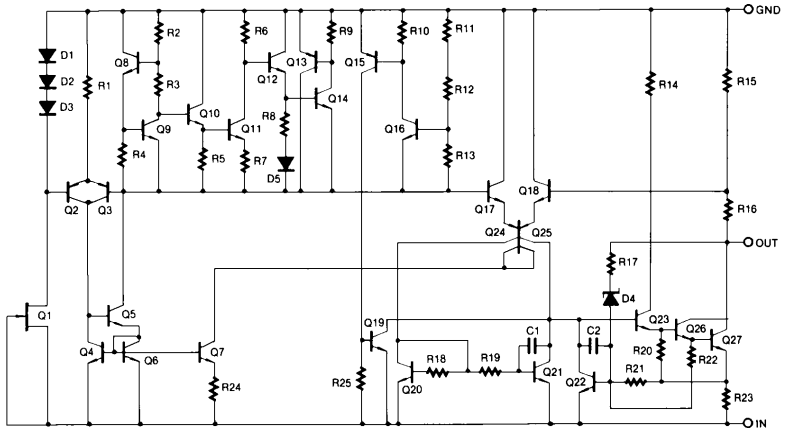
PLASTIC-ENCAPSULATE VOLTAGE REGULATORS

FEATURES

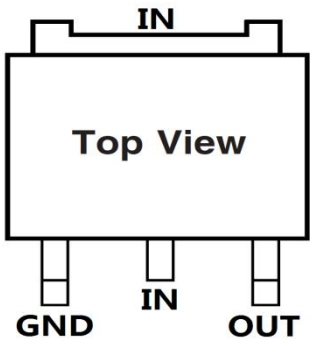
- Maximum Output Current Io: 0.5A
- Output Voltage Vo: -5 V
- Continuous Total Dissipation
  PD: 1.25 W (Ta= 25 ℃)
- Surface Mount device



SCHEMATIC DIAGRAM



TO-252



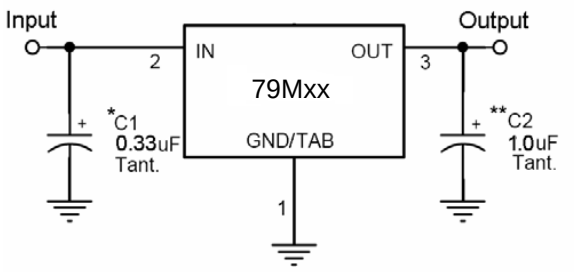
MECHANICAL DATA

- Case: TO-252
- 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	-35	V
Thermal Resistance from Junction to Ambient	$R_{\theta JA}$	65	°C/W
Operating Temperature	Topr	0~+125	°C
Storage Temperature Range	TSTG	-65 ~+125	°C

TEST CIRCUIT(Typical Applications)



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

ELECTRICAL CHARACTERISTICS AT SPECIFIED VIRTUAL JUNCTION TEMPERATURE

(Vi=-10V,Io=-350mA,Ci=0.33uF,,Co=0.1uF, unless otherwise specified)

Parameter	Symbol	Min	Typ	Max	Unit	Conditions
Output voltage	V_O	-4.80	-5.0	-5.20	V	T_J=+25°C
		-4.75	-5.0	-5.25	V	-7V≤V_i≤-25V,I_O=5mA~350mA, 0°C≤T_J≤+125°C
Line regulation(NOTE1)	ΔV_O		7	50	mV	-7V≤V_i≤-25V,T_J=+25°C
			2	30	mV	-8V≤V_i≤-18V,T_J=+25°C
Load Regulation(NOTE1)	ΔV_O		30	100	mV	I_O=5mA~500mA,T_J=+25°C
			10	50	mV	I_O=5mA~200mA,T_J=+25°C
Quiescent Current	I_q		2	4	mA	T_J=+25°C
Quiescent Current Change	ΔI_q			0.8	mA	-8V≤V_i≤-25V,I_O=200mA
				0.4	mA	5mA≤I_O≤350mA,0°C≤T_J≤+125°C
Output Noise Voltage	V_N		125		μV	10Hz≤f≤100kHz,T_J=+25°C
Ripple Rejection	RR	54	60		dB	-8V≤V_i≤-18V,f=120Hz, 0°C≤T_J≤+125°C
Dropout Voltage	V_d		1.1		V	T_J=+25°C,I_O=350mA
Short Circuit Current	I_{sc}		50		mA	T_J=+25°C,V_i=-35V
Peak Current	I_{pk}		1000		mA	T_J=+25°C

Note:1. Load and line regulation are specified at constant junction temperature. Change in V_O due to heating effects must be taken into account separately. Pulse testing with low duty is used.

PLASTIC-ENCAPSULATE VOLTAGE REGULATORS

Typical Characteristics

FIGURE 1 - Worst Case Power Dissipation v.s. Ambient Temperature

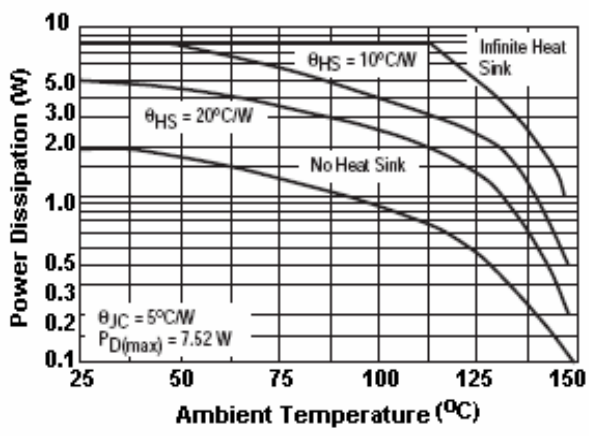


FIGURE 2 - Peak Output Current v.s. Dropout Voltage

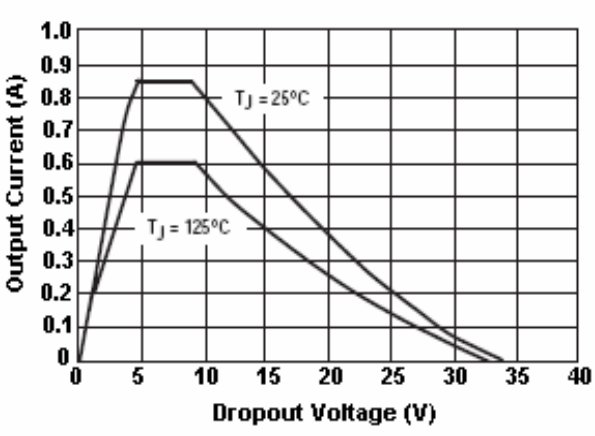


FIGURE 3 – Quiescent Current v.s. Input Voltage

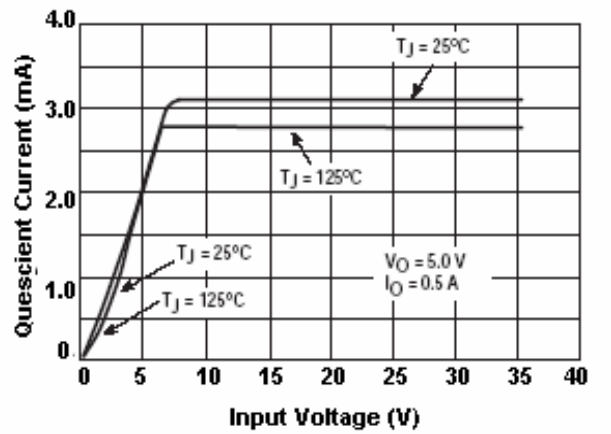


FIGURE 4 –Dropout Voltage v.s. Junction Temperature

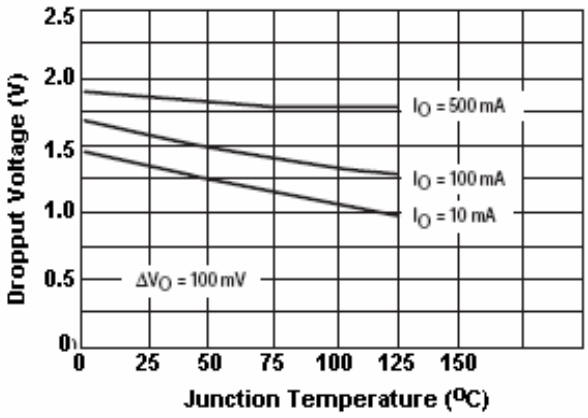


FIGURE 5 – Quiescent Current v.s. Output Current

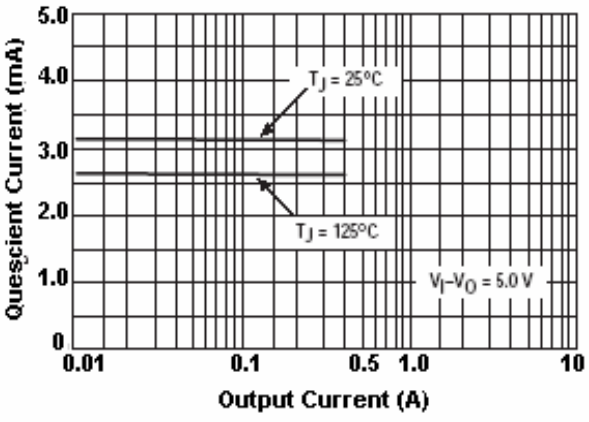
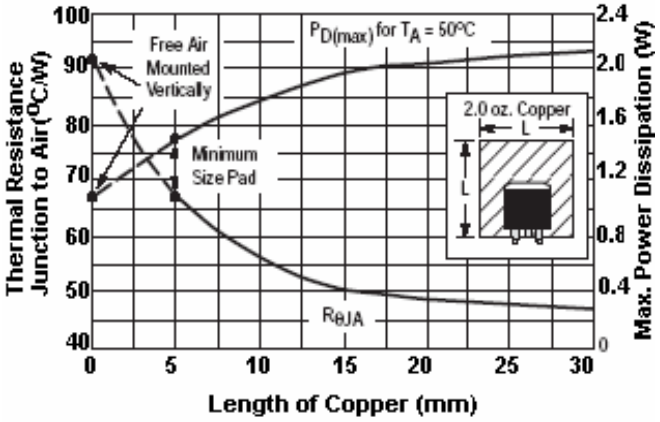
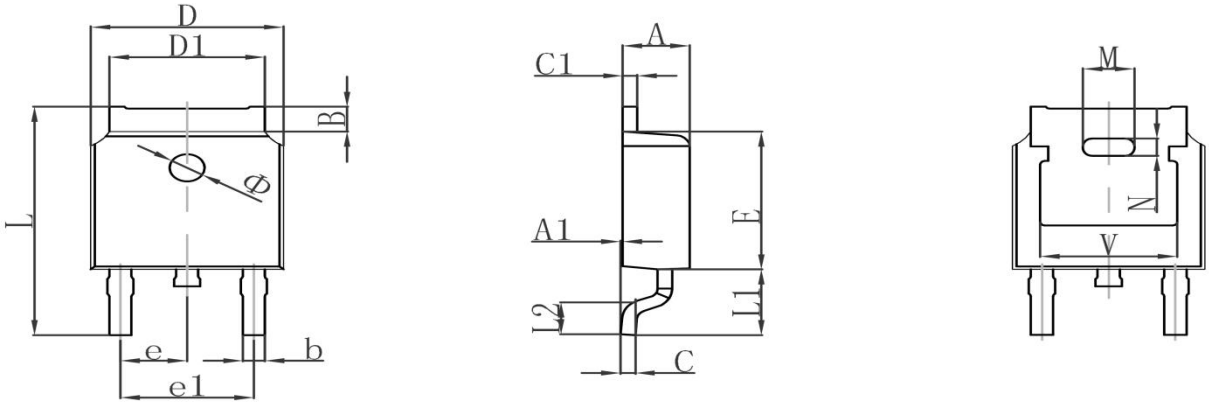


FIGURE 6 – TO-252 Thermal Resistance and Pd(max) v.s. P.C.B Copper Length



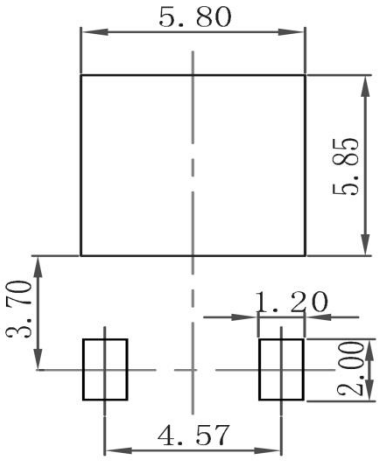
PLASTIC-ENCAPSULATE VOLTAGE REGULATORS

TO-252 Package Outline Dimensions



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min.	Max.	Min.	Max.
A	2.200	2.380	0.087	0.094
A1	0.000	0.100	0.000	0.004
B	0.800	1.400	0.031	0.055
b	0.710	0.810	0.028	0.032
c	0.460	0.560	0.018	0.022
c1	0.460	0.560	0.018	0.022
D	6.500	6.700	0.256	0.264
D1	5.130	5.460	0.202	0.215
E	6.000	6.200	0.236	0.244
e	2.286TYP		0.090TYP	
e1	4.327	4.727	0.170	0.186
M	1.778REF		0.070REF	
N	0.762REF		0.018REF	
L	9.800	10.400	0.386	0.409
L1	2.9REF		0.114REF	
L2	1.400	1.700	0.055	0.067
V	4.830REF		0.190REF	
Φ	1.100	1.300	0.043	0.051

TO-252 Suggested Pad Layout



Note:

1.Controlling dimension: in millimeters

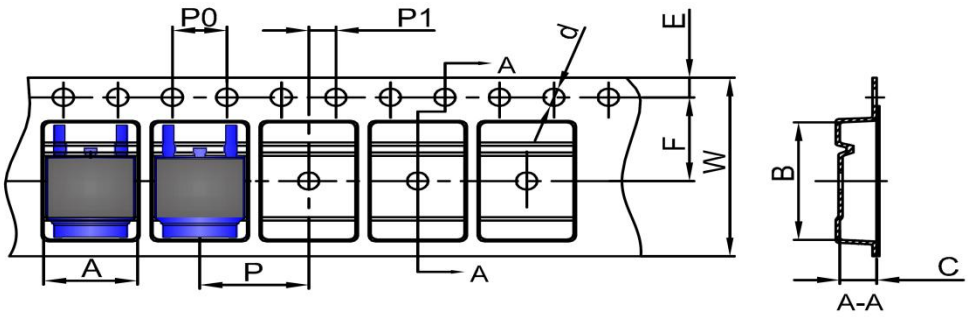
2.General tolerance: ±0.05mm

3.The pad layout is for reference purposes only

PLASTIC-ENCAPSULATE VOLTAGE REGULATORS

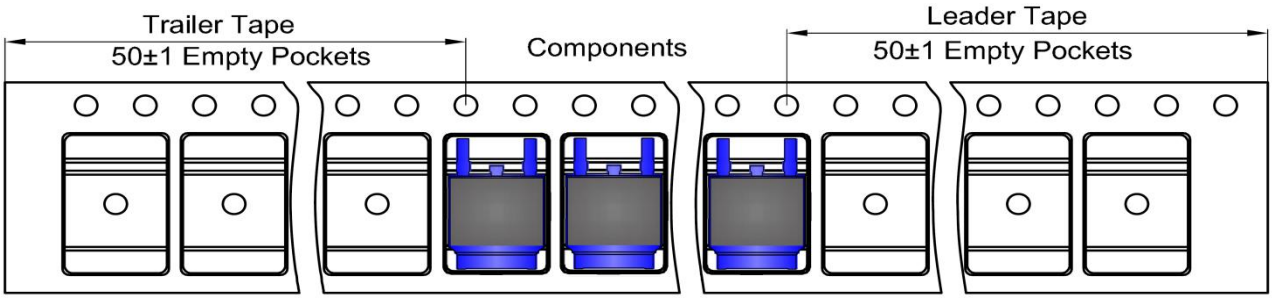
TO-252 Tape and Reel

TO-252 Embossed Carrier Tape

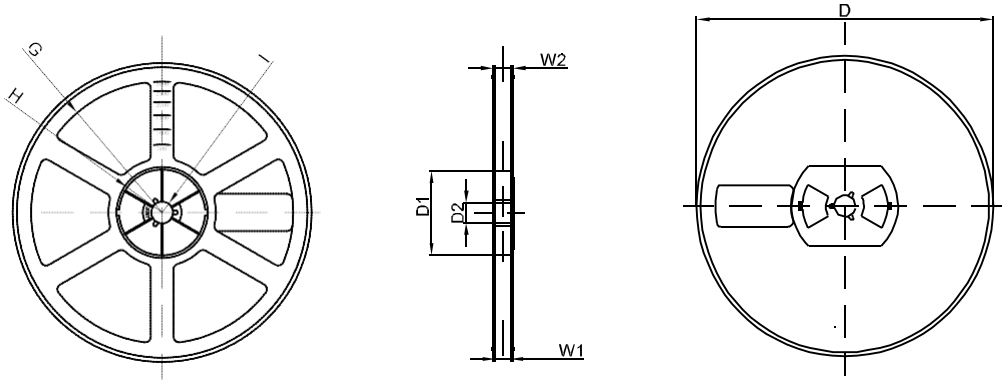


	DIMENSIONS ARE IN MILLIMETER									
TYPE	A	B	C	d	E	F	P0	P	P1	W
TO-252	6.90	10.50	2.70	Ø1.55	1.75	7.50	4.00	8.00	2.00	16.00
TOLERANCE	±0.1	±0.1	±0.1	±0.1	±0.1	±0.1	±0.1	±0.1	±0.1	±0.1

TO-252 Tape Leader and Trailer



TO-252 Reel



	DIMENSIONS ARE IN MILLIMETER							
REEL OPTION	D	D1	D2	G	H	I	W1	W2
13” DIA	Ø330.00	100.00	Φ21.00	R151.00	R56.00	R6.50	16.40	21.00
TOLERANCE	±2	±1	±1	±1	±1	±1	±1	±1