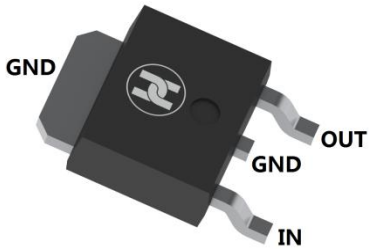
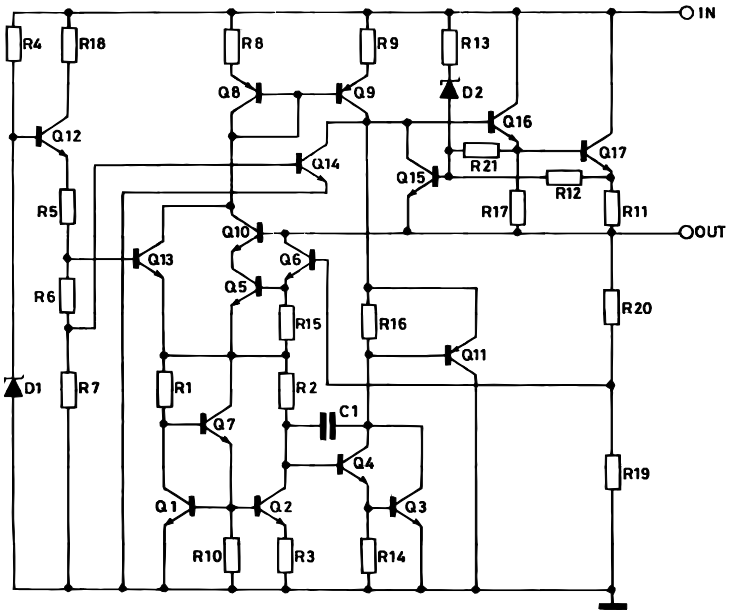
PLASTIC-ENCAPSULATE VOLTAGE REGULATORS

FEATURES

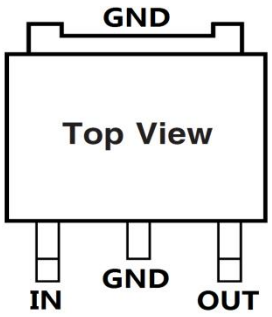
- Maximum Output Current I_O: 0.5 A
- Output Voltage V_O: 5 V
- Continuous Total Dissipation
  P_D: 1.25 W (Ta= 25 ℃)
- Surface Mount device



SCHEMATIC DIAGRAM



TO-252



MECHANICAL DATA

- Case: TO-252
- Case Material: Molded Plastic. UL flammability
- Classification Rating: 94V-0
- Weight: 0.055 grams (approximate)
- Marking: 78M05

MAXIMUM RATINGS (Operating temperature range applies unless otherwise specified)

Parameter	Symbol	Value	Unit
Input Voltage	V_i	35	V
Power Dissipation	P_D	1250	mW
Thermal Resistance from Junction to Ambient	$R_{\theta JA}$	80	°C/W
Operating Temperature	Topr	-25~+125	°C
Storage Temperature Range	T_{STG}	-65 ~+150	°C

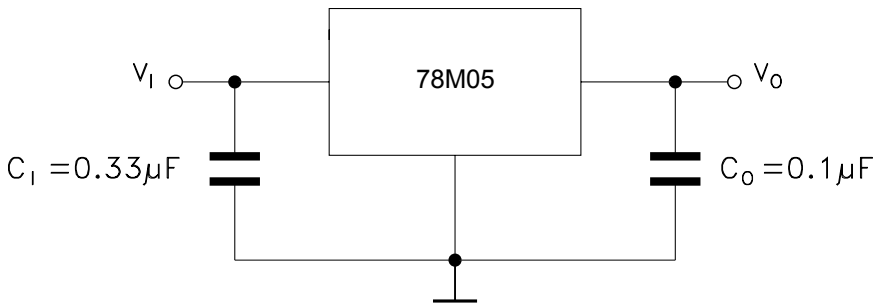
PLASTIC-ENCAPSULATE VOLTAGE REGULATORS

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≤20V,I_O=5mA~350mA, -25°C≤T_J≤+125°C
Load Regulation	ΔV_O		15	100	mV	I_O=5mA~500mA,T_J=+25°C
			5	50	mV	I_O=5mA~200mA,T_J=+25°C
Line regulation	ΔV_O		3	100	mV	7V≤V_i≤25V,I_O=200mA,T_J=+25°C
			1	50	mV	8V≤V_i≤25V,I_O=200mA,T_J=+25°C
Quiescent Current	I_q		4.2	6	mA	T_J=+25°C
Quiescent Current Change	ΔI_q			0.8	mA	8V≤V_i≤25V,-25°C≤T_J≤+125°C
				0.5	mA	5mA≤I_O≤350mA,-25°C≤T_J≤+125°C
Output Noise Voltage	V_N		42		μV/V_O	10Hz≤f≤100kHz,T_J=+25°C
Ripple Rejection	RR	62	80		dB	8V≤V_i≤18V,f=120Hz,I_O=300mA -25°C≤T_J≤+125°C
Dropout Voltage	V_d		2	2.5	V	I_O=350mA,T_J=+25°C
Short Circuit Current	I_{SC}		300		mA	V_i=10V,T_J=+25°C
Peak Current	I_{pk}		0.5		A	T_J=+25°C

*Pulse Test

TYPICAL APPLICATION

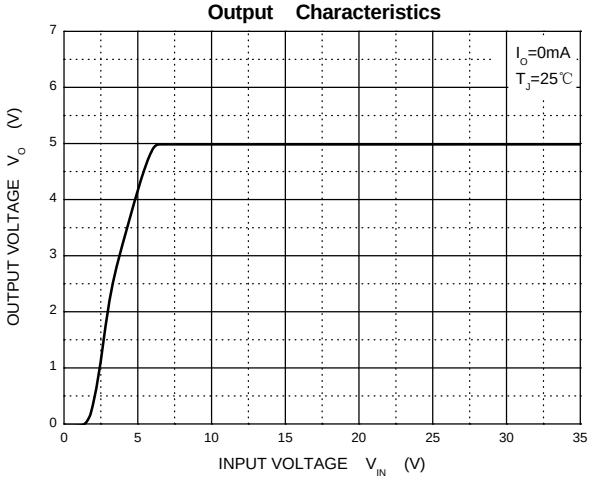


Note: Bypass capacitors are recommended for optimum stability and transient response and should be located as close as Possible to the regulators.

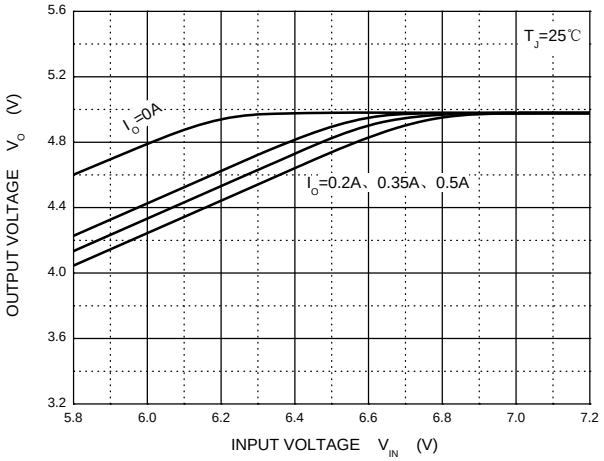
PLASTIC-ENCAPSULATE VOLTAGE REGULATORS

Typical Characteristics

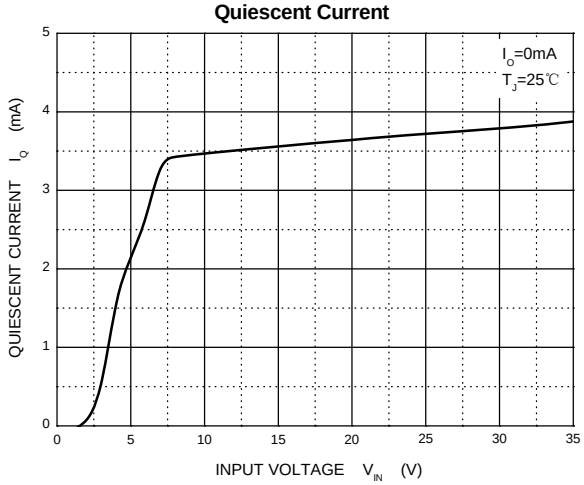
Output Characteristics



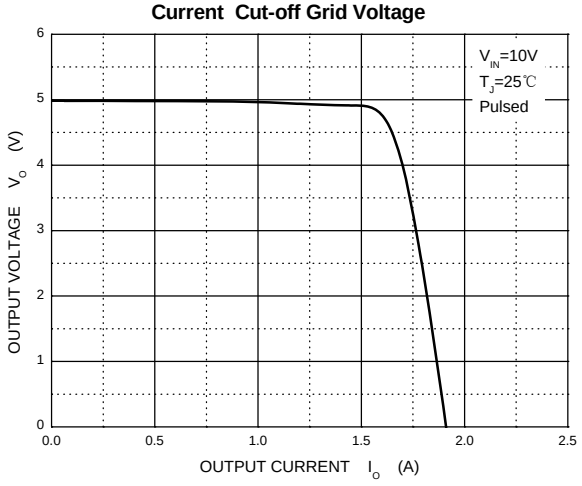
Dropout Characteristics



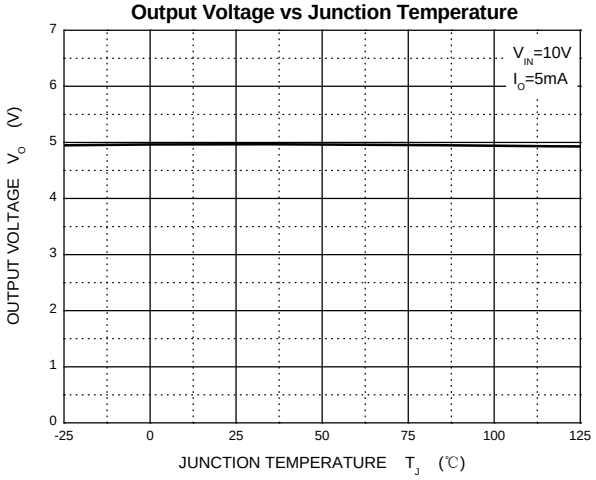
Quiescent Current



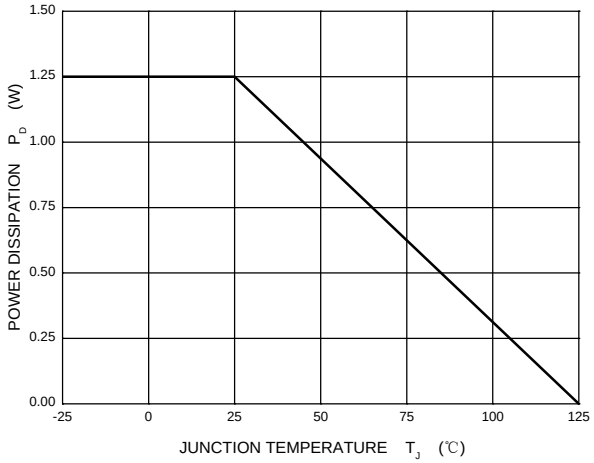
Current Cut-off Grid Voltage



Output Voltage vs Junction Temperature

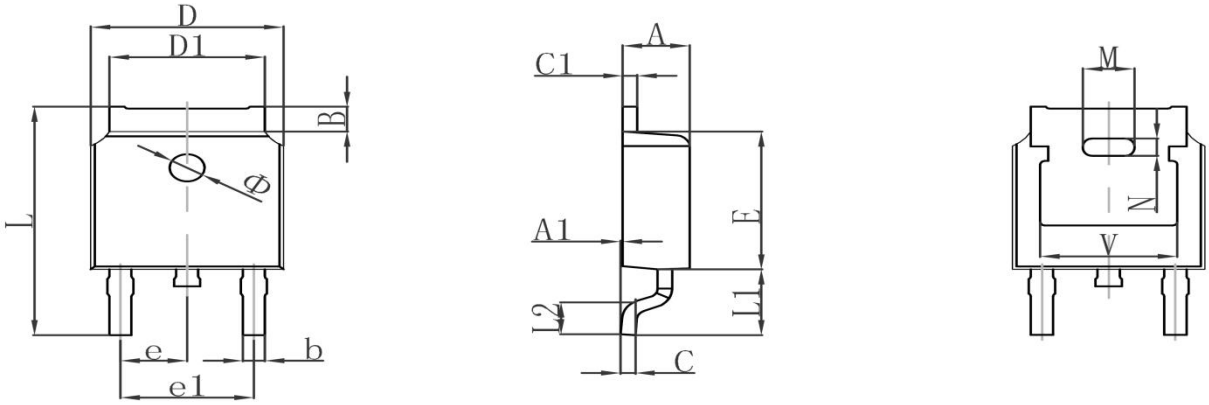


Power Derating Curve



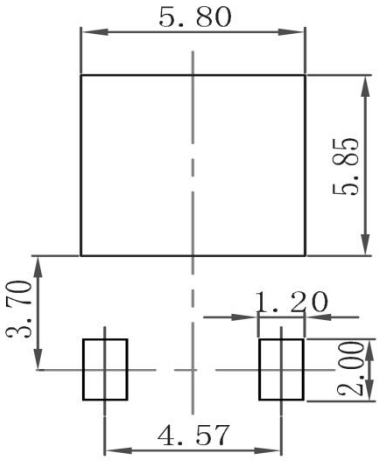
PLASTIC-ENCAPSULATE VOLTAGE REGULATORS

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:

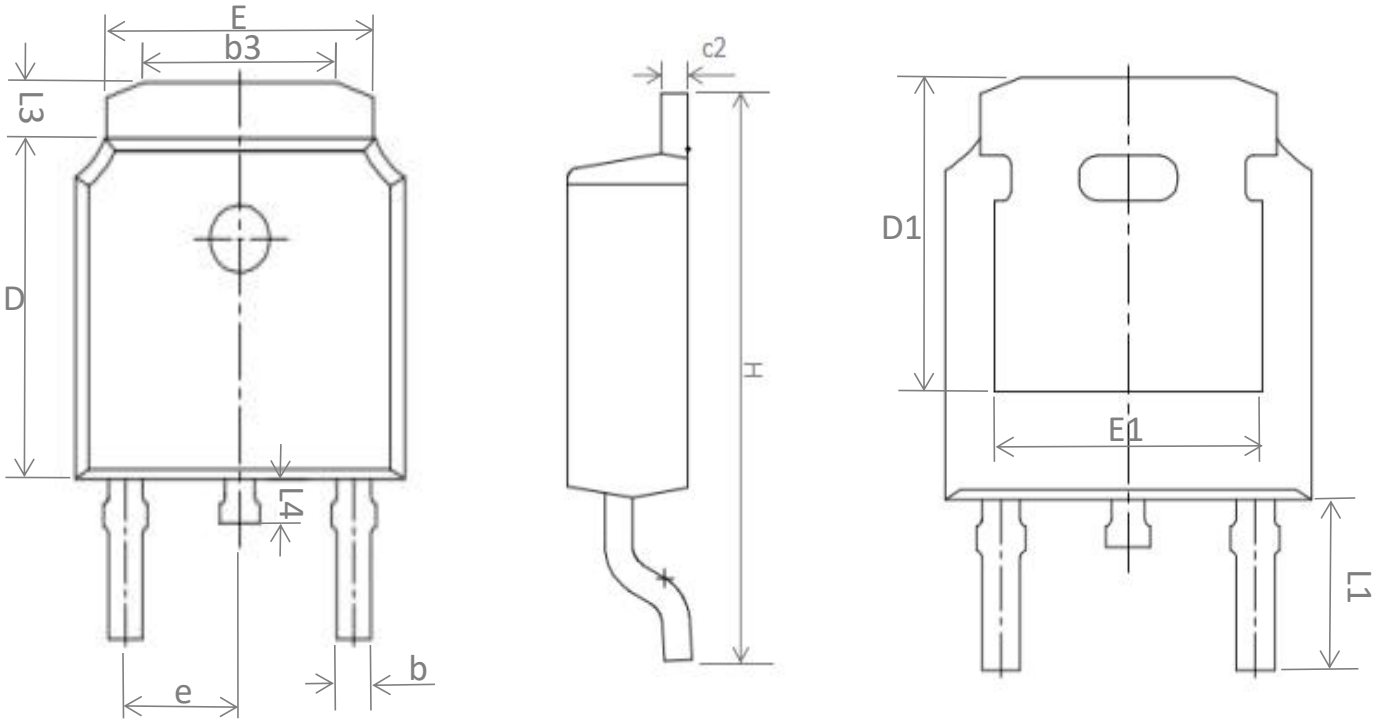
1.Controlling dimension: in millimeters

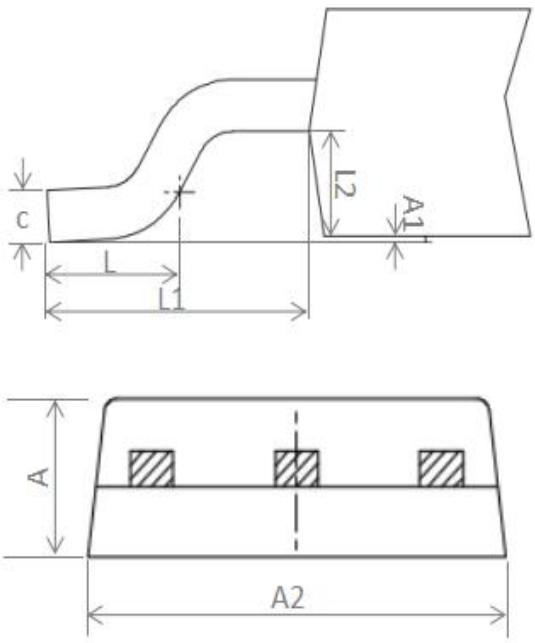
2.General tolerance: ±0.05mm

3.The pad layout is for reference purposes only

PLASTIC-ENCAPSULATE VOLTAGE REGULATORS

TO252 Package Outline Dimensions



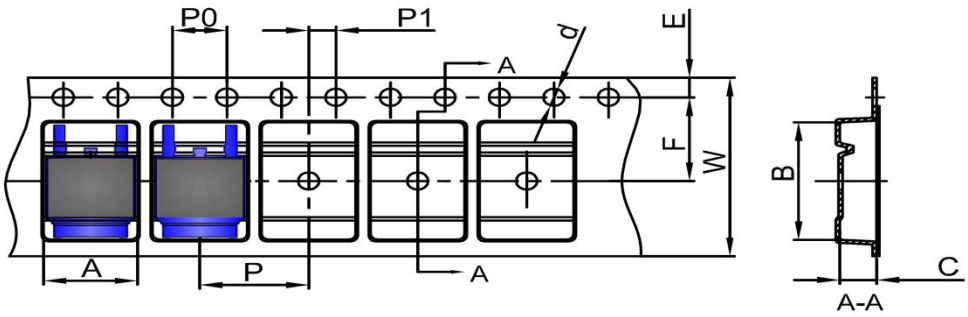


SYMBOL	Spec (mm)
A	2.3±0.1
A1	0-0.15
A2	6.6±0.1
b	0.67±0.1
b3	3.85±0.2
c	0.508±0.1
c2	0.508±0.1
D	6.1±0.15
D1	5.249±0.15
E	5.334±0.15
E1	4.826±0.15
e	2.286REF
H	10.0±0.2
L	1.5±0.15
L1	2.888±0.2
L2	0.9-1.1
L3	1.0REF
L4	0.9±0.2

PLASTIC-ENCAPSULATE VOLTAGE REGULATORS

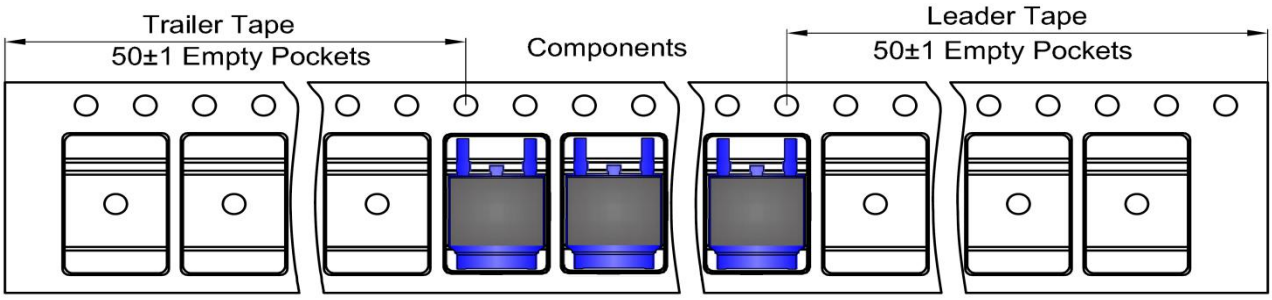
TO-252 Tape and Reel

TO-252 Embossed Carrier Tape

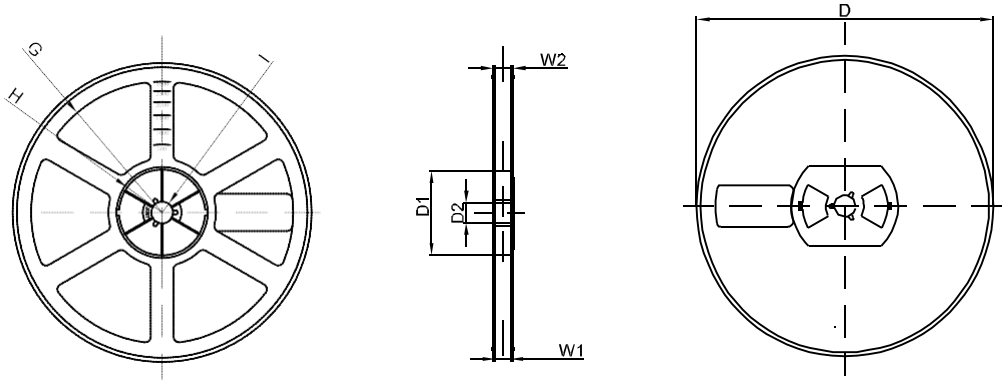


	DIMENSIONS ARE IN MILLIMETER									
TYPE	A	B	C	d	E	F	P0	P	P1	W
TO-252	6.90	10.50	2.70	Ø1.55	1.75	7.50	4.00	8.00	2.00	16.00
TOLERANCE	±0.1	±0.1	±0.1	±0.1	±0.1	±0.1	±0.1	±0.1	±0.1	±0.1

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