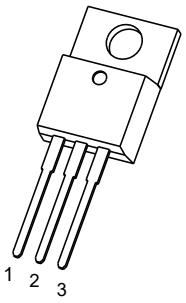
78M05

Three-terminal positive voltage regulator

FEATURES

- Maximum output current
  I_{OM}: 0.5 A
- Output voltage
  V_O: 5V
- Continuous total dissipation
  P_D: 1.5 W (T_a= 25 ℃)

TO-220-3L



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

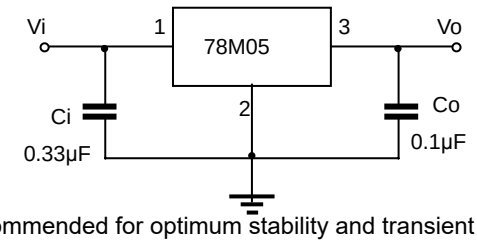
Parameter	Symbol	Value	Unit
Input Voltage	V_i	35	V
Thermal Resistance from Junction to Ambient	$R_{\theta JA}$	66.7	℃/W
Operating Junction Temperature Range	T_{OPR}	-40~+125	℃
Storage Temperature Range	T_{STG}	-65~+150	℃

ELECTRICAL CHARACTERISTICS AT SPECIFIED VIRTUAL JUNCTION TEMPERATURE (Vi=10V,Io=350mA, Ci=0.33μF,Co=0.1μF,unless otherwise specified)

Parameter	Symbol	Test conditions		Min	Typ	Max	Unit
Output Voltage	Vo		25℃	4.8	5	5.2	V
		7V≤V_i≤20V, Io=5mA-350mA	-25~125℃	4.75	5	5.25	V
Load Regulation	ΔVo	Io=5mA-0.5A	25℃		15	100	mV
		Io=5mA-200mA	25℃		5	50	mV
Line Regulation	ΔVo	7V≤V_i≤25V, Io=200mA	25℃		3	100	mV
		8V≤V_i≤25V, Io=200mA	25℃		1	50	mV
Quiescent Current	Iq		25℃		4.2	6	mA
Quiescent Current Change	ΔIq	8V≤V_i≤25V, Io=200mA	-25~125℃			0.8	mA
	ΔIq	5mA≤I_O≤350mA	-25~125℃			0.5	mA
Output Noise Voltage	V_N	10Hz≤ f ≤100KHz	25℃		40	200	μV/Vo
Ripple Rejection	RR	8V≤V_i≤18V,f=120Hz,Io=300mA	-25~125℃	62	80		dB
Dropout Voltage	Vd	Io=350mA	25℃		2	2.5	V
Short Circuit Current	Isc	Vi=10V	25℃		300		mA
Peak Current	Ipk		25℃		0.5		A

* Pulse test.

TYPICAL APPLICATION



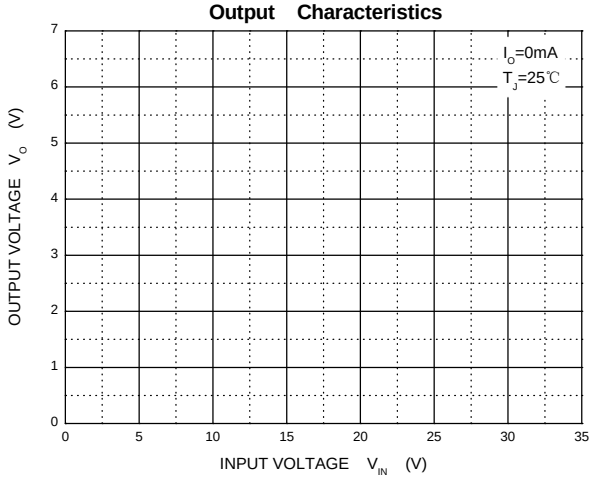
Note: Bypass capacitors are recommended for optimum stability and transient response and should be located as close as possible to the regulators.

78M05

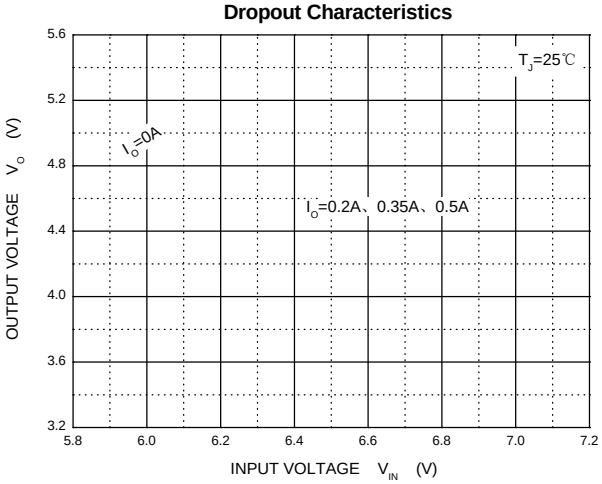
Three-terminal positive voltage regulator

Typical Characteristics

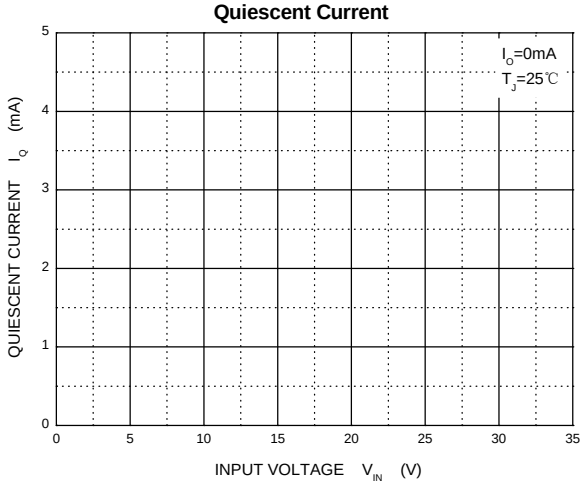
Output Characteristics



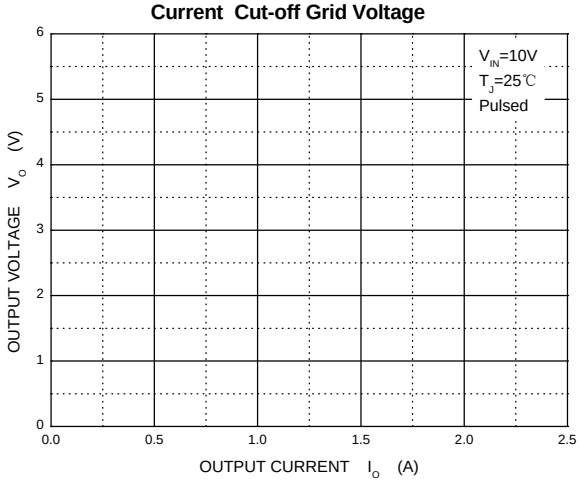
Dropout Characteristics



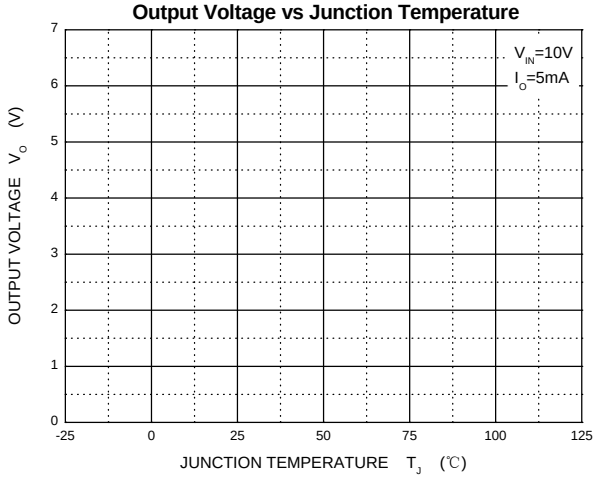
Quiescent Current



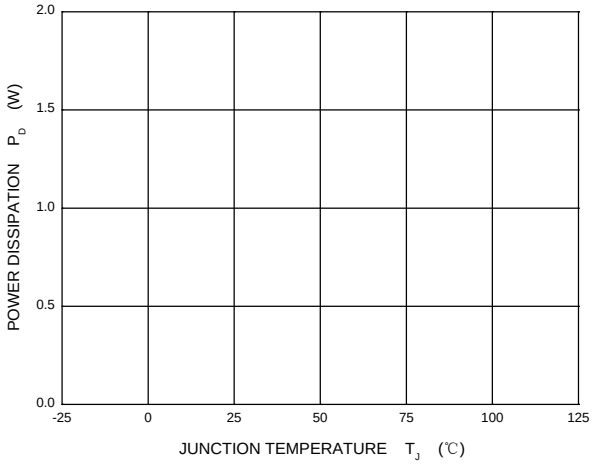
Current Cut-off Grid Voltage



Output Voltage vs Junction Temperature



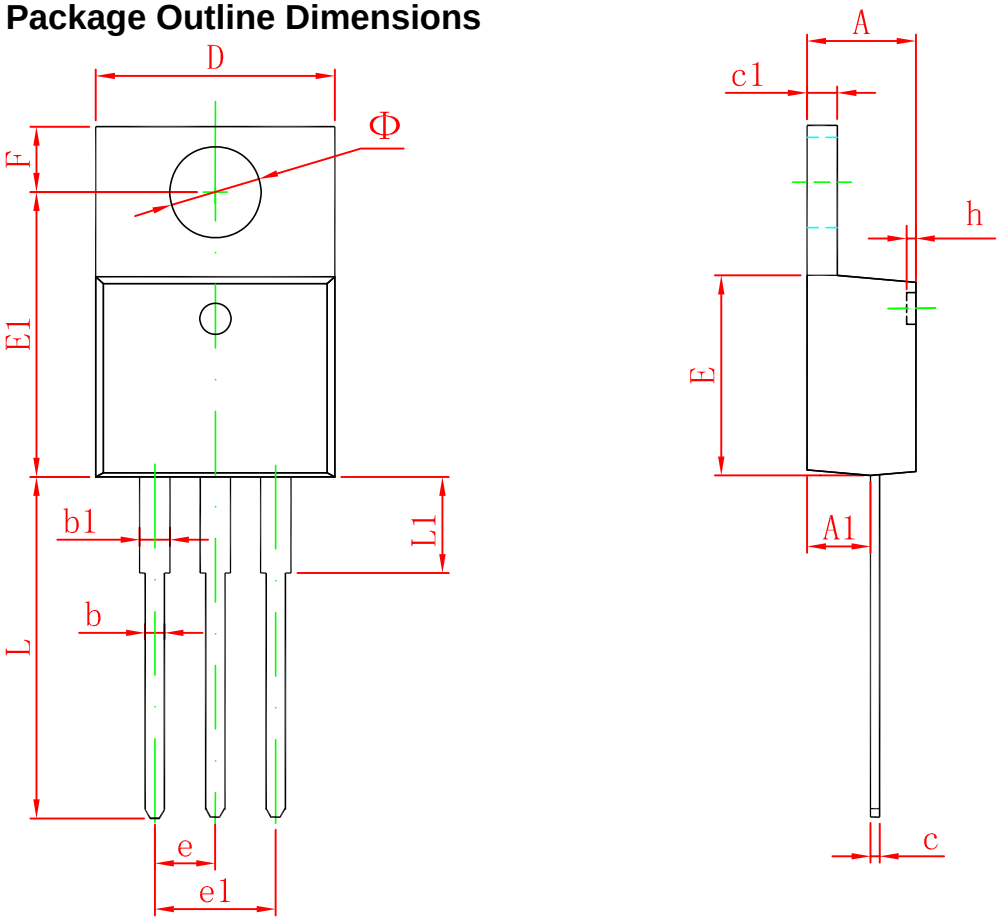
Power Derating Curve



78M05

Three-terminal positive voltage regulator

TO-220-3L Package Outline Dimensions



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min	Max	Min	Max
A	4.470	4.670	0.176	0.184
A1	2.520	2.820	0.099	0.111
b	0.710	0.910	0.028	0.036
b1	1.170	1.370	0.046	0.054
c	0.310	0.530	0.012	0.021
c1	1.170	1.370	0.046	0.054
D	10.010	10.310	0.394	0.406
E	8.500	8.900	0.335	0.350
E1	12.060	12.460	0.475	0.491
e	2.540 TYP		0.100 TYP	
e1	4.980	5.180	0.196	0.204
F	2.590	2.890	0.102	0.114
h	0.000	0.300	0.000	0.012
L	13.400	13.800	0.528	0.543
L1	3.560	3.960	0.140	0.156
Φ	3.735	3.935	0.147	0.155

Packge	Packing	Box Size L×W×H(mm)	Quatity(pcs/box)	Carton Size L×W×H(mm)	Quatity(pcs/carton)
TO-220	50pcs/Tube	560×150×50	1000	570×290×180	5000