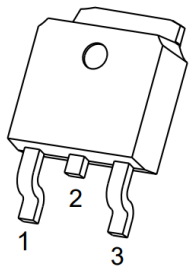
CT78M05 Three-terminal positive voltage regulator

FEATURES

- Maximum output current
  IOM: 0.5 A
- Output voltage
  VO: 5V
- Continuous total dissipation
  PD: 1.25 W（Ta= 25 ℃）

TO-252-2L



1.IN
2.GND
3.OUT

ABSOLUTE MAXIMUM RATINGS

(Operating temperature range applies unless otherwise specified)

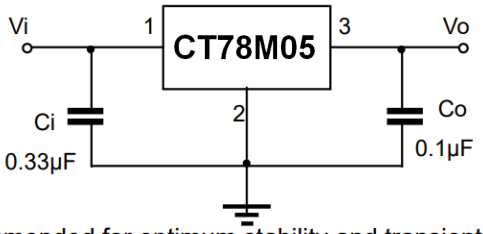
Parameter	Symbol	Value	Unit
Input Voltage	V_i	35	V
Thermal Resistance from Junction to Ambient	$R_{\theta JA}$	80	℃/W
Operating Junction Temperature Range	T_{OPR}	-40~+125	℃
Storage Temperature Range	T_{STG}	-65~+150	℃

ELECTRICAL CHARACTERISTICS CHIP ON WAFER

(Vin = 10V, Io =500mA, Ci=0.33μF, Co=0.1μF ,Tj = -45°C ~ +125°C , unless otherwise noted)

Characteristics	Symbol	Test Condition	Min	Typ	Max	Unit
Output Voltage	V_o	I_o=500mA; Tj = 25°C	4.85	5.0	5.15	V
Output Voltage	V_o	5mA ≤ I_o ≤ 350mA; 7V ≤ V_{in} ≤ 20V; P_o<15W	4.75	5.0	5.25	V
Line Regulation	ΔV_o	7V ≤ V_{in} ≤ 25V; I_o = 200mA; 8V ≤ V_{in} ≤ 25V; I_o = 200mA; Tj = 25°C	- -	- -	100 50	mV
Load Regulation	ΔV_i	5mA ≤ I_o ≤ 500mA; 5mA ≤ I_o ≤ 200mA; Tj = 25°C	- -	- -	100 50	mV
Quiescent Current	I_b	Tj = 25°C	-	-	6	mA
Quiescent Current Change	ΔI_b	8V ≤ V_{in} ≤ 25V; I_o=200A; 5mA ≤ I_o ≤ 500mA	- -	- -	0.8 0.5	mA
Dropout Voltage	Vds	Tj = 25°C	-	2.0	2.5	V

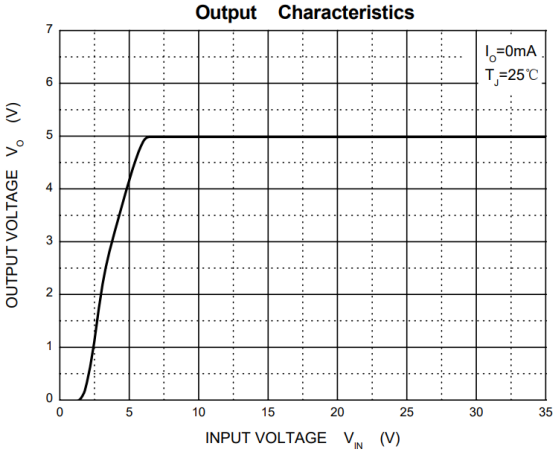
TYPICAL APPLICATION



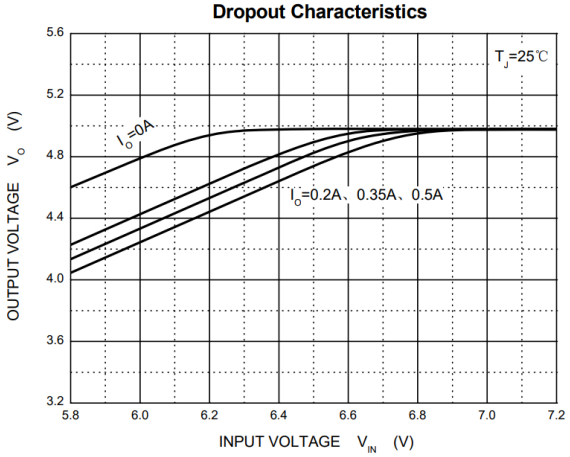
Note: Bypass capacitors are recommended for optimum stability and transient response and should be located as close as possible to the regulators.

Typical Characteristics

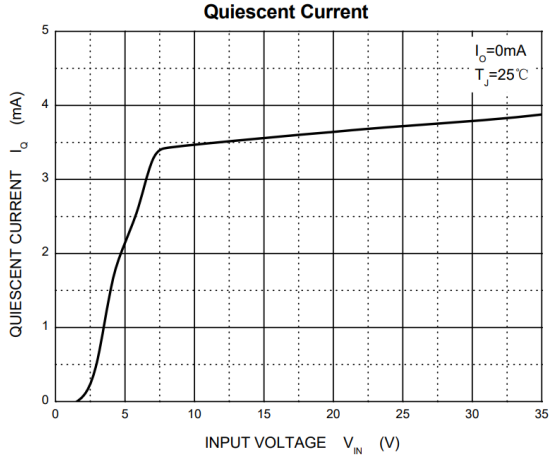
Output Characteristics



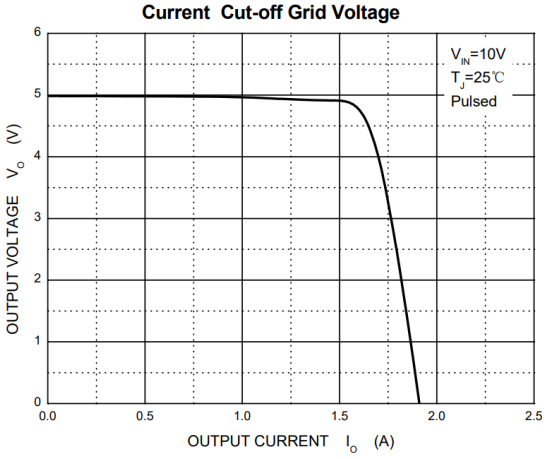
Dropout Characteristics



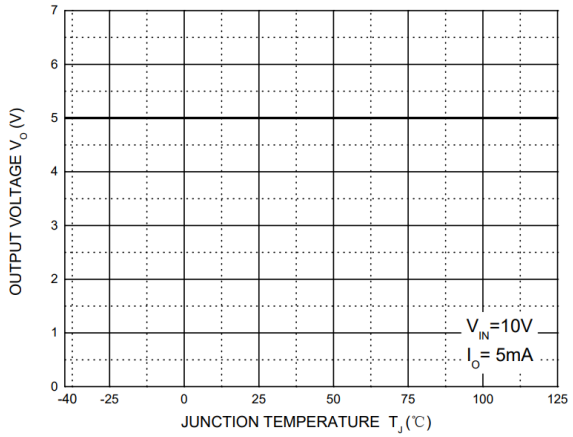
Quiescent Current



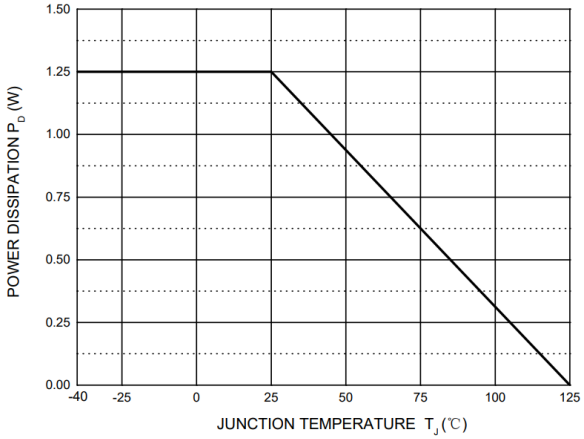
Current Cut-off Grid Voltage



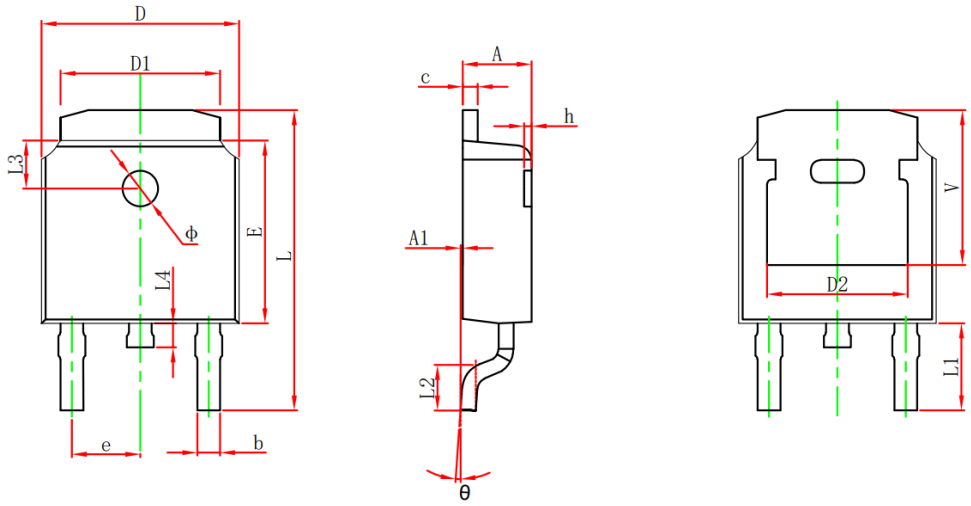
Output Voltage vs Junction Temperature



Power Derating Curve



TO-252-2L Package Outline Dimensions



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min.	Max.	Min.	Max.
A	2.200	2.400	0.087	0.094
A1	0.000	0.127	0.000	0.005
b	0.635	0.770	0.025	0.030
c	0.460	0.580	0.018	0.023
D	6.500	6.700	0.256	0.264
D1	5.100	5.460	0.201	0.215
D2	4.830 REF.		0.190 REF.	
E	6.000	6.200	0.236	0.244
e	2.186	2.386	0.086	0.094
L	9.712	10.312	0.382	0.406
L1	2.900 REF.		0.114 REF.	
L2	1.400	1.700	0.055	0.067
L3	1.600 REF.		0.063 REF.	
L4	0.600	1.000	0.024	0.039
Φ	1.100	1.300	0.043	0.051
θ	0°	8°	0°	8°
h	0.000	0.300	0.000	0.012
V	5.250 REF.		0.207 REF.	