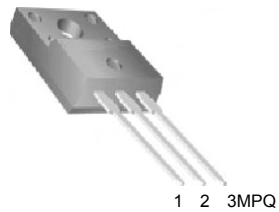
LGE78M05/LGE78D05

Features

- ✧ Maximum Output current
  I_{OM}: 1 A
- ✧ Output voltage
  V_o: 5V
- ✧ Continuous total dissipation
  P_D: 2 W (Ta = 25 ℃)
  20.8W (T_C= 25 ℃)

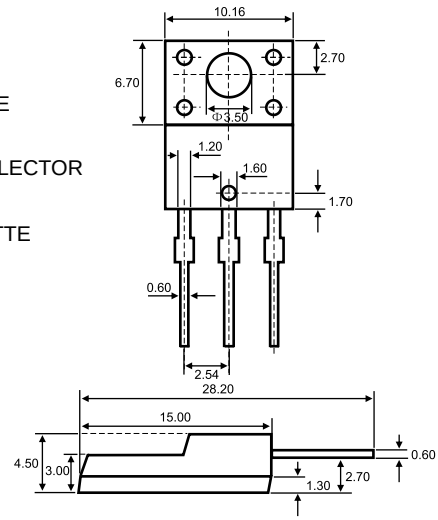


Mechanical Data

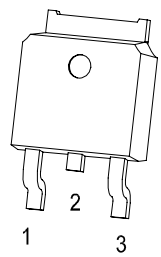
- ✧ PACKAGE: TO-220/TO-252
- ✧ MPQ: 0.05k/Tube,1k/box,5k/cartonss(TO-220)
  2.5k/Reel,5k/box,25k/cartonss(TO-252)
- ✧ NET WEIGHT:15KG(TO-220)12.54KG
- ✧ GROSS WEIGHT:16KG(TO-220)13.54KG

TO-220F

1. BASE
2. COLLECTOR
3. EMITTE

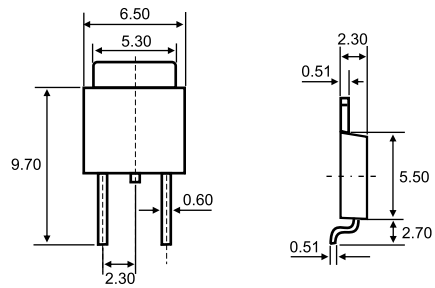


Dimensions in inches and (millimeters)



1. BASE
2. COLLECTOR
3 .EMITTER

TO-252



Dimensions in inches and (millimeters)

Absolute Maximum Ratings

Parameter	Symbol	Value	Unit
Input Voltage (for V_O = 5V to 18V) (for V_O = 24V)	V_I V_I	35 40	V V
Thermal Resistance Junction-Case (Note1) TO-220 (Tc = +25°C)	$R_{\theta JC}$	2.5	°C/W
Thermal Resistance Junction-Air (Note1, 2) TO-220 (Ta = +25°C) TO-252 (Ta = +25°C)	$R_{\theta JA}$	 66 92	°C/W
Operating Junction Temperature Range	T_{OPR}	0 ~ +150	°C
Storage Temperature Range	T_{STG}	-65 ~ +150	°C

Note:

1. Thermal resistance test board
   Size: 76.2mm * 114.3mm * 1.6mm(1S0P)
   JEDEC standard: JESD51-3, JESD51-7
2. Assume no ambient airflow

Electrical Characteristics (LGE78M05/LGE78D05)

(Refer to the test circuits, $0 \leq T_J \leq +125°C$, I_O=350mA, V_I=10V, unless otherwise specified, C_I = 0.33μF, C_O=0.1μF)

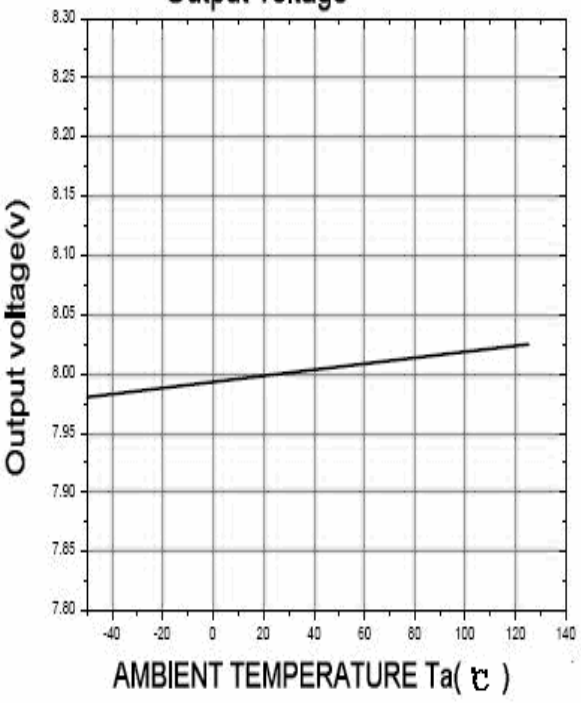
Parameter	Symbol	Conditions		Min.	Typ.	Max.	Unit
Output Voltage	V_O	T_J = +25°C		4.8	5	5.2	V
		I_O = 5mA to 350mA V_I = 7V to 20V		4.75	5	5.25	
Line Regulation (Note3)	ΔV_O	I_O = 200mA T_J =+25°C	V_I = 7V to 25V	-	-	100	mV
			V_I = 8V to 25V	-	-	50	
Load Regulation (Note3)	ΔV_O	I_O = 5mA to 0.5A, T_J =+25°C		-	-	100	mV
		I_O = 5mA to 200mA, T_J =+25 °C		-	-	50	
Quiescent Current	I_Q	T_J =+25°C		-	4.0	6.0	mA
Quiescent Current Change	ΔI_Q	I_O = 5mA to 350mA		-	-	0.5	mA
		I_O = 200mA V_I = 8V to 25V		-	-	0.8	
Output Voltage Drift	$\Delta V/\Delta T$	I_O = 5mA T_J = 0 to +125°C		-	-0.5	-	mV/°C
Output Noise Voltage	V_N	f = 10Hz to 100kHz		-	40	-	μV/Vo
Ripple Rejection	RR	f = 120Hz, I_O = 300mA V_I = 8V to 18V, T_J =+25 °C		-	80	-	dB
Dropout Voltage	V_D	T_J =+25°C, I_O = 500mA		-	2	-	V
Short Circuit Current	I_{SC}	T_J =+25°C, V_I = 35V		-	300	-	mA
Peak Current	I_{PK}	T_J =+25°C		-	700	-	mA

Note:

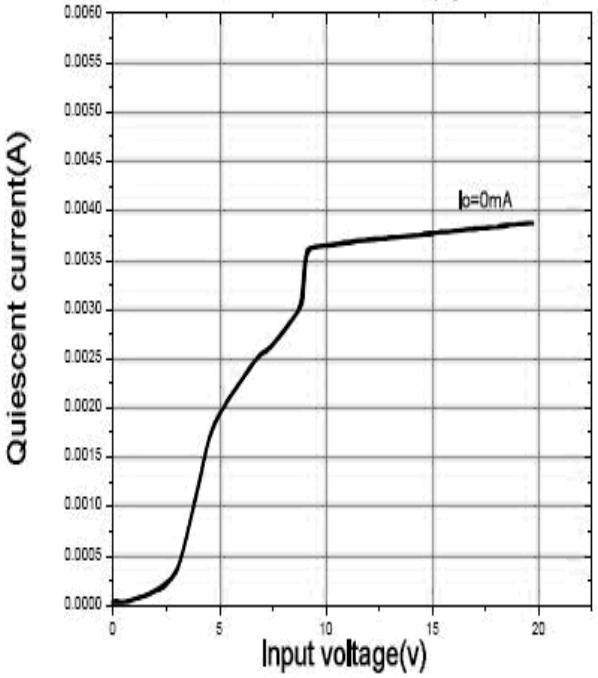
3. Load and line regulation are specified at constant junction temperature. Change in V_o due to heating effects must be taken into account separately. Pulse testing with low duty is used.

Typical Characteristics

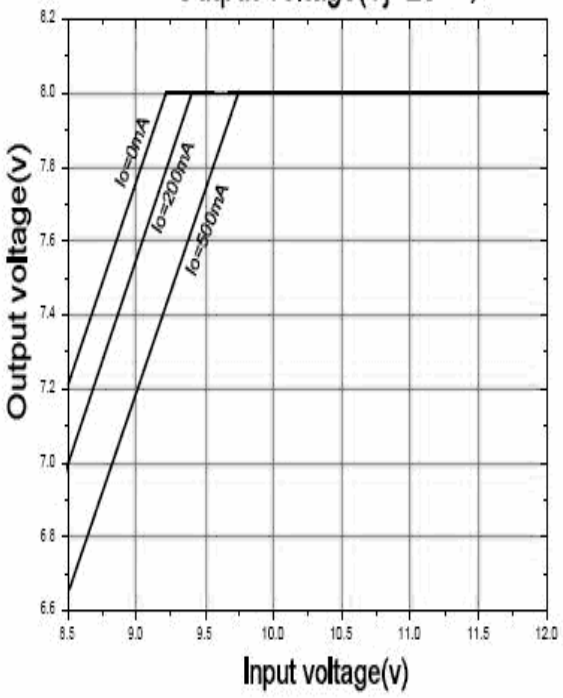
Ambient temperature VS
Output voltage



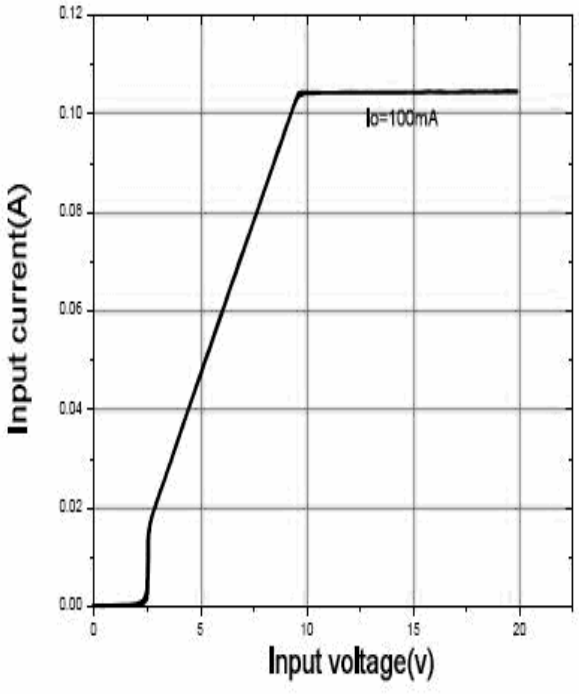
Input voltage VS
Quiescent current(Tj=25 ℃)



Input voltage VS
Output voltage(Tj=25 ℃)



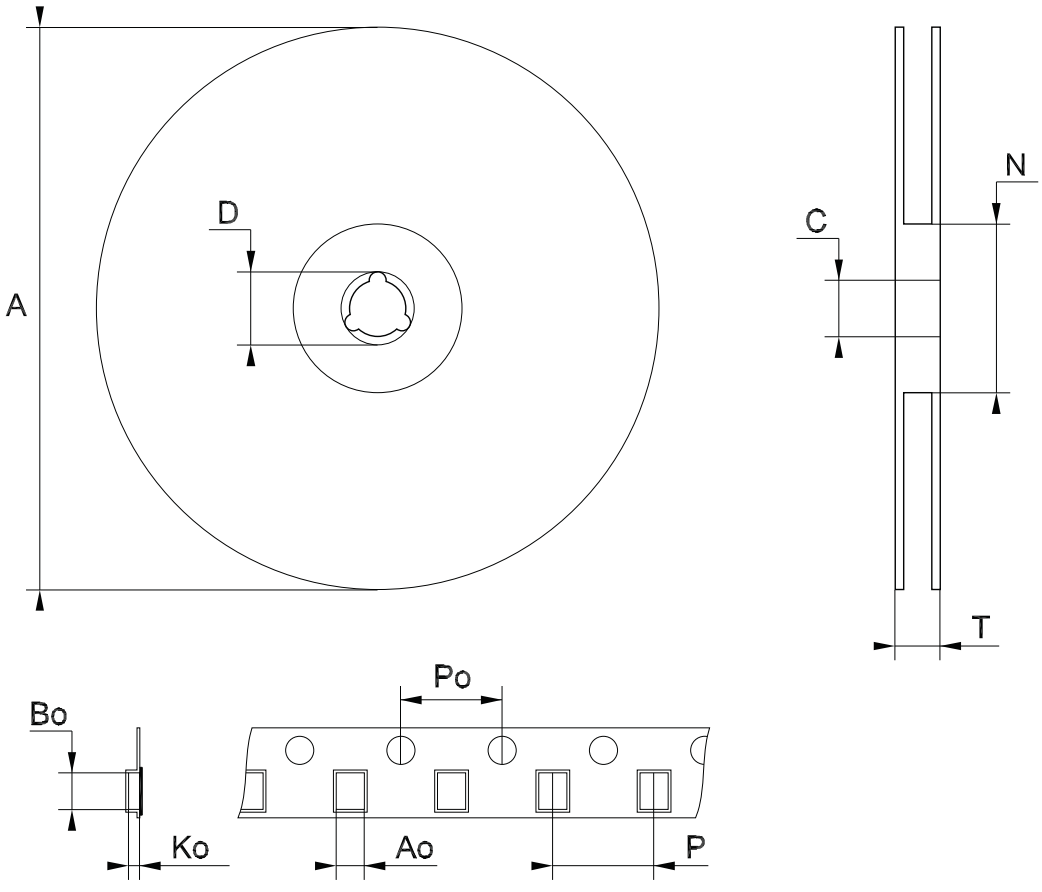
Input voltage VS
Input current(Tj=25 ℃)



Packaging mechanical data

Tape & reel TO-252 mechanical data

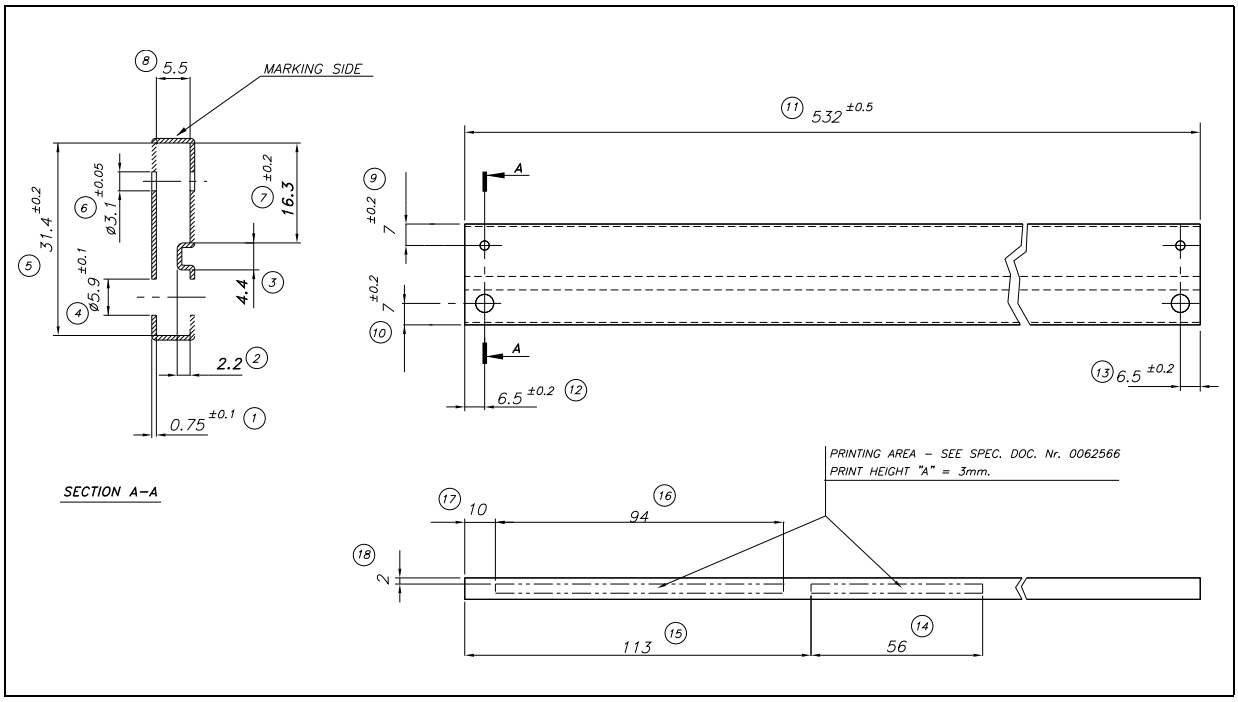
Dim.	mm.			inch.		
	Min.	Typ.	Max.	Min.	Typ.	Max.
A			330			12.992
C	12.8	13.0	13.2	0.504	0.512	0.519
D	20.2			0.795		
N	60			2.362		
T			22.4			0.882
Ao	6.80	6.90	7.00	0.268	0.272	0.2.76
Bo	10.40	10.50	10.60	0.409	0.413	0.417
Ko	2.55	2.65	2.75	0.100	0.104	0.105
Po	3.9	4.0	4.1	0.153	0.157	0.161
P	7.9	8.0	8.1	0.311	0.315	0.319



Note: Drawing not in scale

Packaging mechanical data

Tube for TO-220 (dual gauge) (mm.)



Tube for TO-220 (single gauge) (mm.)