

Table 1. Median values and 68% confidence interval for OGLE-TR-1084.

Parameter	Units	Values
Stellar Parameters:		
M_*	Mass (M_\odot)	$1.231^{+0.076}_{-0.097}$
R_*	Radius (R_\odot)	$1.257^{+0.066}_{-0.063}$
$R_{*,SED}$	Radius ¹ (R_\odot)	$1.321^{+0.061}_{-0.056}$
L_*	Luminosity (L_\odot)	$2.09^{+0.32}_{-0.26}$
F_{Bol}	Bolometric Flux (cgs)	$0.000000000383^{+0.0000000000041}_{-0.0000000000035}$
ρ_*	Density (cgs)	0.87 ± 0.13
$\log g$	Surface gravity (cgs)	$4.330^{+0.041}_{-0.053}$
T_{eff}	Effective Temperature (K)	6200 ± 180
$T_{eff,SED}$	Effective Temperature ¹ (K)	6050^{+200}_{-190}
[Fe/H]	Metallicity (dex)	$0.23^{+0.18}_{-0.17}$
[Fe/H] ₀	Initial Metallicity ²	$0.23^{+0.15}_{-0.14}$
Age	Age (Gyr)	$1.7^{+2.6}_{-1.2}$
EEP	Equal Evolutionary Phase ³	337^{+52}_{-43}
A_V	V-band extinction (mag)	0.46 ± 0.13
σ_{SED}	SED photometry error scaling	$9.6^{+1.5}_{-1.2}$
ϖ	Parallax (mas)	0.757 ± 0.031
d	Distance (pc)	1320^{+57}_{-52}
Planetary Parameters:		
		b
P	Period (days)	39.79726 ± 0.00011
R_p	Radius (R_J)	$1.526^{+0.10}_{-0.095}$
M_p	Mass ⁴ (M_J)	$0.406^{+0.51}_{-0.033}$
T_C	Time of conjunction ⁵ (BJD _{TDB})	$2455402.3122^{+0.0043}_{-0.0044}$
T_T	Time of minimum projected separation ⁶ (BJD _{TDB})	$2455402.3122^{+0.0043}_{-0.0044}$
T_0	Optimal conjunction Time ⁷ (BJD _{TDB})	2456715.6217 ± 0.0022
a	Semi-major axis (AU)	$0.2445^{+0.0049}_{-0.0066}$
i	Inclination (Degrees)	$89.10^{+0.11}_{-0.12}$
T_{eq}	Equilibrium temperature ⁸ (K)	677^{+20}_{-19}
τ_{circ}	Tidal circularization timescale (Gyr)	1450^{+2800}_{-450}
K	RV semi-amplitude ⁴ (m/s)	$21.2^{+27}_{-2.2}$
R_p/R_*	Radius of planet in stellar radii	$0.1248^{+0.0027}_{-0.0026}$
a/R_*	Semi-major axis in stellar radii	$41.8^{+2.0}_{-2.2}$
δ	$(R_p/R_*)^2$	$0.01558^{+0.00068}_{-0.00065}$
δ_I	Transit depth in I (fraction)	$0.01629^{+0.00057}_{-0.00056}$
δ_V	Transit depth in V (fraction)	$0.01694^{+0.00059}_{-0.00058}$
τ	Ingress/egress transit duration (days)	$0.0509^{+0.0072}_{-0.0056}$
T_{14}	Total transit duration (days)	$0.2763^{+0.0065}_{-0.0059}$

Table 1 continued on next page

Table 1 (continued)

Parameter	Units	Values	
T_{FWHM} ..	FWHM transit duration (days)	0.2250 ^{+0.0058} _{-0.0061}	
b	Transit Impact parameter	0.660 ^{+0.047} _{-0.051}	
$\delta_{S,2.5\mu m}$..	Blackbody eclipse depth at 2.5 μm (ppm)	4.9 ^{+1.3} _{-1.0}	
$\delta_{S,5.0\mu m}$..	Blackbody eclipse depth at 5.0 μm (ppm)	134 ⁺¹⁸ ₋₁₆	
$\delta_{S,7.5\mu m}$..	Blackbody eclipse depth at 7.5 μm (ppm)	354 ⁺³⁶ ₋₃₃	
ρ_P	Density ⁴ (cgs)	0.139 ^{+0.23} _{-0.028}	
$\log g_P$..	Surface gravity ⁴	2.624 ^{+0.41} _{-0.071}	
Θ	Safronov Number	0.105 ^{+0.15} _{-0.013}	
$\langle F \rangle$	Incident Flux (10 ⁹ erg s ⁻¹ cm ⁻²)	0.0479 ^{+0.0060} _{-0.0051}	
T_P	Time of Periastron (BJD _{TDB})	2455402.3122 ^{+0.0043} _{-0.0044}	
T_S	Time of eclipse (BJD _{TDB})	2455422.2109 \pm 0.0043	
T_A	Time of Ascending Node (BJD _{TDB})	2455432.1602 \pm 0.0043	
T_D	Time of Descending Node (BJD _{TDB})	2455412.2616 \pm 0.0043	
V_c/V_e	1.00	
$M_P \sin i$..	Minimum mass ⁴ (M_J)	0.406 ^{+0.51} _{-0.033}	
M_P/M_* ..	Mass ratio ⁴	0.000322 ^{+0.00040} _{-0.000040}	
d/R_* ..	Separation at mid transit	41.8 ^{+2.0} _{-2.2}	
P_T	A priori non-grazing transit prob	0.02094 ^{+0.0011} _{-0.00095}	
$P_{T,G}$	A priori transit prob	0.0269 ^{+0.0015} _{-0.0013}	
Wavelength Parameters:		I	V
u_1	linear limb-darkening coeff	0.233 \pm 0.054	0.411 \pm 0.058
u_2	quadratic limb-darkening coeff	0.303 ^{+0.051} _{-0.052}	0.299 \pm 0.052
Transit Parameters:		OGLE UT 2010-07-24 (I)	OGLE UT 2010-07-24 (V)
σ^2	Added Variance	0.00000640 ^{+0.00000017} _{-0.00000016}	0.0000062 ^{+0.00000014} _{-0.00000012}
F_0	Baseline flux	1.000137 \pm 0.000032	1.00019 \pm 0.00025

See Table 3 in Eastman, J. et al., 2019, arXiv:1907.09480 for a detailed description of all parameters

¹This value ignores the systematic error and is for reference only

²The metallicity of the star at birth

³Corresponds to static points in a star's evolutionary history. See §2 in Dotter, A., 2016, ApJS, 222, 8

⁴Uses measured radius and estimated mass from Chen, J., & Kipping, D. 2017, ApJ, 834, 17

⁵Time of conjunction is commonly reported as the "transit time"

⁶Time of minimum projected separation is a more correct "transit time"

⁷Optimal time of conjunction minimizes the covariance between T_C and Period

⁸Assumes no albedo and perfect redistribution