

Table 1. Median values and 68% confidence interval for OGLE-TR-1096.

Parameter	Units	Values
Stellar Parameters:		
M_*	Mass (M_\odot)	$0.971^{+0.058}_{-0.11}$
R_*	Radius (R_\odot)	$3.52^{+0.12}_{-0.15}$
$R_{*,SED}$	Radius ¹ (R_\odot)	$3.74^{+0.19}_{-0.23}$
L_*	Luminosity (L_\odot)	$4.90^{+0.77}_{-0.51}$
F_{Bol}	Bolometric Flux (cgs)	$0.0000000001901^{+0.00000000000085}_{-0.00000000000013}$
ρ_*	Density (cgs)	$0.0313^{+0.0023}_{-0.0021}$
$\log g$	Surface gravity (cgs)	3.329 ± 0.023
T_{eff}	Effective Temperature (K)	4560^{+210}_{-120}
$T_{eff,SED}$	Effective Temperature ¹ (K)	4417^{+180}_{-85}
[Fe/H]	Metallicity (dex)	$0.07^{+0.34}_{-0.64}$
[Fe/H] ₀	Initial Metallicity ²	$0.03^{+0.31}_{-0.61}$
Age	Age (Gyr)	$12.85^{+0.72}_{-1.4}$
EEP	Equal Evolutionary Phase ³	$489.0^{+8.9}_{-2.9}$
A_V	V-band extinction (mag)	$1.433^{+0.068}_{-0.14}$
σ_{SED}	SED photometry error scaling	$4.5^{+7.5}_{-1.6}$
ϖ	Parallax (mas)	$0.347^{+0.019}_{-0.025}$
d	Distance (pc)	2880^{+220}_{-150}
Planetary Parameters:		
		b
P	Period (days)	$3.437753^{+0.000014}_{-0.000017}$
R_P	Radius (R_J)	$2.447^{+0.080}_{-0.090}$
M_P	Mass ⁴ (M_J)	$0.4087^{+0.0040}_{-0.0084}$
T_C	Time of conjunction ⁵ (BJD _{TDB})	$2455377.2232^{+0.0093}_{-0.0085}$
T_T	Time of minimum projected separation ⁶ (BJD _{TDB})	$2455377.2232^{+0.0093}_{-0.0085}$
T_0	Optimal conjunction Time ⁷ (BJD _{TDB})	2457123.6017 ± 0.0043
a	Semi-major axis (AU)	$0.04415^{+0.00086}_{-0.0018}$
i	Inclination (Degrees)	$88.5^{+1.1}_{-1.7}$
T_{eq}	Equilibrium temperature ⁸ (K)	1968^{+94}_{-56}
τ_{circ}	Tidal circularization timescale (Gyr)	$0.00290^{+0.00044}_{-0.00037}$
K	RV semi-amplitude ⁴ (m/s)	$55.8^{+4.5}_{-2.3}$
R_P/R_*	Radius of planet in stellar radii	0.0717 ± 0.0015
a/R_*	Semi-major axis in stellar radii	$2.694^{+0.064}_{-0.062}$
δ	$(R_P/R_*)^2$	0.00514 ± 0.00022
δ_I	Transit depth in I (fraction)	$0.00669^{+0.00031}_{-0.00034}$
δ_V	Transit depth in V (fraction)	$0.00819^{+0.00060}_{-0.00075}$
τ	Ingress/egress transit duration (days)	$0.03151^{+0.00099}_{-0.00091}$
T_{14}	Total transit duration (days)	0.446 ± 0.011

Table 1 continued on next page

Table 1 (continued)

Parameter	Units	Values	
T_{FWHM} . . .	FWHM transit duration (days)	0.4142 ^{+0.0100} _{-0.0099}	
b	Transit Impact parameter	0.073 ^{+0.079} _{-0.052}	
$\delta_{S,2.5\mu m}$. . .	Blackbody eclipse depth at 2.5 μm (ppm)	735 ⁺⁶⁶ ₋₄₅	
$\delta_{S,5.0\mu m}$. . .	Blackbody eclipse depth at 5.0 μm (ppm)	1358 ⁺⁷⁹ ₋₆₂	
$\delta_{S,7.5\mu m}$. . .	Blackbody eclipse depth at 7.5 μm (ppm)	1623 ⁺⁸² ₋₆₉	
ρ_P	Density ⁴ (cgs)	0.0344 ^{+0.0041} _{-0.0032}	
$\log g_P$	Surface gravity ⁴	2.226 ^{+0.032} _{-0.028}	
Θ	Safronov Number	0.01507 ^{+0.0018} _{-0.0095}	
$\langle F \rangle$	Incident Flux (10 ⁹ erg s ⁻¹ cm ⁻²)	3.40 ^{+0.70} _{-0.37}	
T_P	Time of Periastron (BJD _{TDB})	2455377.2232 ^{+0.0093} _{-0.0085}	
T_S	Time of eclipse (BJD _{TDB})	2455375.5044 ^{+0.0093} _{-0.0085}	
T_A	Time of Ascending Node (BJD _{TDB})	2455379.8015 ^{+0.0093} _{-0.0085}	
T_D	Time of Descending Node (BJD _{TDB})	2455378.0827 ^{+0.0093} _{-0.0085}	
V_c/V_e	1.00	
$M_P \sin i$	Minimum mass ⁴ (M_J)	0.4083 ^{+0.0040} _{-0.0084}	
M_P/M_*	Mass ratio ⁴	0.000400 ^{+0.000051} _{-0.000023}	
d/R_*	Separation at mid transit	2.694 ^{+0.064} _{-0.062}	
P_T	A priori non-grazing transit prob	0.3445 ^{+0.0084} _{-0.0082}	
$P_{T,G}$	A priori transit prob	0.3978 ^{+0.0092} _{-0.0091}	
Wavelength Parameters:		I	V
u_1	linear limb-darkening coeff	0.477 ^{+0.058} _{-0.079}	0.763 ^{+0.071} _{-0.13}
u_2	quadratic limb-darkening coeff	0.199 ^{+0.063} _{-0.054}	0.039 ^{+0.10} _{-0.065}
Transit Parameters:		OGLE UT 2010-06-29 (I)	OGLE UT 2010-06-29 (V)
σ^2	Added Variance	0.00004792 ^{+0.00000072} _{-0.00000070}	0.000074 ^{+0.000012} _{-0.000011}
F_0	Baseline flux	1.000591 ^{+0.000070} _{-0.000069}	1.00128 \pm 0.00074

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