

Table 1. Median values and 68% confidence interval for OGLE-TR-1052.

Parameter	Units	Values
Stellar Parameters:		
M_*	Mass (M_\odot)	$1.01^{+0.57}_{-0.21}$
R_*	Radius (R_\odot)	$6.0^{+1.6}_{-1.9}$
$R_{*,SED}$	Radius ¹ (R_\odot)	$6.0^{+1.7}_{-1.8}$
L_*	Luminosity (L_\odot)	25^{+18}_{-13}
F_{Bol}	Bolometric Flux (cgs)	$0.000000000336^{+0.0000000000050}_{-0.0000000000035}$
ρ_*	Density (cgs)	$0.0065^{+0.024}_{-0.0031}$
$\log g$	Surface gravity (cgs)	$2.88^{+0.47}_{-0.20}$
T_{eff}	Effective Temperature (K)	5360^{+320}_{-280}
$T_{eff,SED}$	Effective Temperature ¹ (K)	5330^{+350}_{-320}
[Fe/H]	Metallicity (dex)	$-2.5^{+2.3}_{-1.1}$
[Fe/H] ₀	Initial Metallicity ²	$-2.5^{+2.3}_{-1.1}$
Age	Age (Gyr)	$5.8^{+6.5}_{-3.9}$
EEP	Equal Evolutionary Phase ³	506^{+13}_{-18}
A_V	V-band extinction (mag)	$1.28^{+0.28}_{-0.22}$
σ_{SED}	SED photometry error scaling	$11.9^{+1.5}_{-1.7}$
ϖ	Parallax (mas)	$0.206^{+0.078}_{-0.050}$
d	Distance (pc)	4900^{+1600}_{-1300}
Planetary Parameters:		
		b
P	Period (days)	$6.921614^{+0.00010}_{-0.00077}$
R_p	Radius (R_J)	$2.44^{+0.76}_{-0.99}$
M_p	Mass ⁴ (M_J)	229^{+82}_{-100}
T_C	Time of conjunction ⁵ (BJD _{TDB})	$2455377.348^{+0.019}_{-0.017}$
T_T	Time of minimum projected separation ⁶ (BJD _{TDB})	$2455377.348^{+0.019}_{-0.017}$
T_0	Optimal conjunction Time ⁷ (BJD _{TDB})	$2456311.765^{+0.019}_{-0.011}$
a	Semi-major axis (AU)	$0.0765^{+0.0084}_{-0.0051}$
i	Inclination (Degrees)	$72.0^{+13}_{-6.2}$
T_{eq}	Equilibrium temperature ⁸ (K)	2260^{+290}_{-400}
τ_{circ}	Tidal circularization timescale (Gyr)	42^{+97}_{-26}
K	RV semi-amplitude ⁴ (m/s)	20300^{+5000}_{-10000}
R_p/R_*	Radius of planet in stellar radii	$0.0412^{+0.0030}_{-0.0041}$
a/R_*	Semi-major axis in stellar radii	$2.73^{+1.6}_{-0.51}$
δ	$(R_p/R_*)^2$	$0.00169^{+0.00026}_{-0.00032}$
δ_I	Transit depth in I (fraction)	$0.00163^{+0.00018}_{-0.00015}$
δ_V	Transit depth in V (fraction)	$0.00160^{+0.00020}_{-0.00021}$
τ	Ingress/egress transit duration (days)	$0.068^{+0.045}_{-0.048}$
T_{14}	Total transit duration (days)	$0.534^{+0.055}_{-0.050}$

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Table 1 (continued)

Parameter	Units	Values	
T_{FWHM} ..	FWHM transit duration (days)	0.464 ^{+0.037} _{-0.043}	
b	Transit Impact parameter	0.838 ^{+0.065} _{-0.46}	
$\delta_{S,2.5\mu m}$..	Blackbody eclipse depth at 2.5 μm (ppm)	300 ⁺¹¹⁰ ₋₁₇₀	
$\delta_{S,5.0\mu m}$..	Blackbody eclipse depth at 5.0 μm (ppm)	490 ⁺¹⁴⁰ ₋₂₂₀	
$\delta_{S,7.5\mu m}$..	Blackbody eclipse depth at 7.5 μm (ppm)	570 ⁺¹⁵⁰ ₋₂₄₀	
ρ_P	Density ⁴ (cgs)	17.0 ⁺¹⁴ _{-7.0}	
$\log g_P$..	Surface gravity ⁴	4.94 ^{+0.13} _{-0.12}	
Θ	Safronov Number	14.0 ^{+2.5} _{-5.1}	
$\langle F \rangle$	Incident Flux (10 ⁹ erg s ⁻¹ cm ⁻²)	5.9 ^{+3.7} _{-3.2}	
T_P	Time of Periastron (BJD _{TDB})	2455377.348 ^{+0.019} _{-0.017}	
T_S	Time of eclipse (BJD _{TDB})	2455373.887 ^{+0.019} _{-0.017}	
T_A	Time of Ascending Node (BJD _{TDB})	2455382.539 ^{+0.019} _{-0.017}	
T_D	Time of Descending Node (BJD _{TDB})	2455379.078 ^{+0.019} _{-0.017}	
V_c/V_e	1.00	
$M_P \sin i$..	Minimum mass ⁴ (M_J)	218 ⁺⁶⁷ ₋₉₃	
M_P/M_* ..	Mass ratio ⁴	0.216 ^{+0.090} _{-0.14}	
d/R_* ..	Separation at mid transit	2.73 ^{+1.6} _{-0.51}	
P_T	A priori non-grazing transit prob	0.351 ^{+0.080} _{-0.13}	
$P_{T,G}$	A priori transit prob	0.383 ^{+0.088} _{-0.14}	
Wavelength Parameters:		I	V
u_1	linear limb-darkening coeff	0.237 ^{+0.11} _{-0.074}	0.420 ^{+0.099} _{-0.047}
u_2	quadratic limb-darkening coeff	0.275 ^{+0.053} _{-0.032}	0.272 ^{+0.048} _{-0.090}
Transit Parameters:		OGLE UT 2010-06-29 (I)	OGLE UT 2010-06-29 (V)
σ^2	Added Variance	0.00001363 ^{+0.00000026} _{-0.00000021}	0.0000122 ± 0.0000017
F_0	Baseline flux	1.000226 ^{+0.000029} _{-0.000044}	1.00021 ^{+0.00027} _{-0.00028}

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