μ

$J = \frac{1}{2}$

Mass $m = 105.658389 \pm 0.000034$ MeV [a]
$= 0.113428913 \pm 0.000000017$ u
Mean life $\tau = (2.19703 \pm 0.00004) \times 10^{-6}$ s
$\tau_{\mu^+}/\tau_{\mu^-} = 1.00002 \pm 0.00008$
$c\tau = 658.654$ m
Magnetic moment $\mu = 1.001165923 \pm 0.000000008$ $e\hbar/2m_\mu$
$(g_{\mu^+} - g_{\mu^-}) / g_{\text{average}} = (-2.6 \pm 1.6) \times 10^{-8}$
Electric dipole moment $d = (3.7 \pm 3.4) \times 10^{-19}$ $e$cm

Decay parameters [c]

$\rho = 0.7518 \pm 0.0026$
$\eta = -0.007 \pm 0.013$
$\delta = 0.749 \pm 0.004$
$\xi P_\mu = 1.003 \pm 0.008$ [d]
$\xi P_\mu \delta/\rho > 0.99682$, CL = 90% [d]
$\xi' = 1.00 \pm 0.04$
$\xi'' = 0.7 \pm 0.4$
$\alpha/A = (0 \pm 4) \times 10^{-3}$
$\alpha'/A = (0 \pm 4) \times 10^{-3}$
$\beta/A = (4 \pm 6) \times 10^{-3}$
$\beta'/A = (2 \pm 6) \times 10^{-3}$
$\overline{\eta} = 0.02 \pm 0.08$

μ^+ modes are charge conjugates of the modes below.

μ^- DECAY MODES			Fraction (Γ_i/Γ)		Confidence level	p (MeV/c)
$e^- \overline{\nu}_e \nu_\mu$			$\approx 100\%$			53
$e^- \overline{\nu}_e \nu_\mu \gamma$		[e]	(1.4 ± 0.4) %			53
$e^- \overline{\nu}_e \nu_\mu e^+ e^-$		[f]	$(3.4 \pm 0.4) \times 10^{-5}$			53
Lepton Family number (LF) violating modes						
$e^- \nu_e \overline{\nu}_\mu$	LF	[g]	< 1.2	%	90%	53
$e^- \gamma$	LF		< 4.9	$\times 10^{-11}$	90%	53
$e^- e^+ e^-$	LF		< 1.0	$\times 10^{-12}$	90%	53
$e^- 2\gamma$	LF		< 7.2	$\times 10^{-11}$	90%	53