

**MC78M08C/AC/B/AB ELECTRICAL CHARACTERISTICS** ( $V_I = 14\text{ V}$ ,  $I_O = 350\text{ mA}$ ,  $T_J = T_{\text{low}}$  to  $T_{\text{high}}$ ,  $P_D \leq 5.0\text{ W}$ , unless otherwise noted) (Note 3)

Characteristics	Symbol	Min	Typ	Max	Unit
Output Voltage ( $T_J = 25^\circ\text{C}$ ) MC78M08C MC78M08AC	$V_O$	7.70 7.84	8.0 8.0	8.30 8.16	Vdc
Output Voltage Variation ( $10.5\text{ Vdc} \leq V_I \leq 23\text{ Vdc}$ , $5.0\text{ mA} \leq I_O \leq 350\text{ mA}$ ) MC78M08C MC78M08AC	$V_O$	7.6 7.7	– –	8.4 8.3	Vdc
Line Regulation ( $T_J = 25^\circ\text{C}$ , $10.5\text{ Vdc} \leq V_I \leq 25\text{ Vdc}$ , $I_O = 200\text{ mA}$ )	$\text{Reg}_{\text{line}}$	–	6.0	50	mV
Load Regulation ( $T_J = 25^\circ\text{C}$ , $5.0\text{ mA} \leq I_O \leq 500\text{ mA}$ ) ( $T_J = 25^\circ\text{C}$ , $5.0\text{ mA} \leq I_O \leq 200\text{ mA}$ )	$\text{Reg}_{\text{load}}$	– –	25 10	160 80	mV
Input Bias Current ( $T_J = 25^\circ\text{C}$ )	$I_{IB}$	–	3.2	6.0	mA
Quiescent Current Change ( $10.5\text{ Vdc} \leq V_I \leq 25\text{ Vdc}$ , $I_O = 200\text{ mA}$ ) ( $5.0\text{ mA} \leq I_O \leq 350\text{ mA}$ )	$\Delta I_{IB}$	– –	– –	0.8 0.5	mA
Output Noise Voltage ( $T_A = 25^\circ\text{C}$ , $10\text{ Hz} \leq f \leq 100\text{ kHz}$ )	$V_n$	–	52	–	$\mu\text{V}$
Ripple Rejection ( $I_O = 100\text{ mA}$ , $f = 120\text{ Hz}$ , $11.5\text{ V} \leq V_I \leq 21.5\text{ V}$ ) ( $I_O = 300\text{ mA}$ , $f = 120\text{ Hz}$ , $11.5\text{ V} \leq V_I \leq 21.5\text{ V}$ , $T_J = 25^\circ\text{C}$ )	RR	56 56	– 80	– –	dB
Droput Voltage ( $T_J = 25^\circ\text{C}$ )	$V_I - V_O$	–	2.0	–	Vdc
Short Circuit Current Limit ( $T_J = 25^\circ\text{C}$ , $V_I = 35\text{ V}$ )	$I_{OS}$	–	50	–	mA
Average Temperature Coefficient of Output Voltage ( $I_O = 5.0\text{ mA}$ )	$\Delta V_O / \Delta T$	–	$\pm 0.2$	–	$\text{mV}/^\circ\text{C}$
Peak Output Current ( $T_J = 25^\circ\text{C}$ )	$I_O$	–	700	–	mA

3.  $T_{\text{low}} = 0^\circ\text{C}$  for MC78MxxAC, C  
=  $-40^\circ\text{C}$  for MC78MxxAB, B

$T_{\text{high}} = +125^\circ\text{C}$  for MC78MxxAB, AC, B, C