

[L78M05T]

Recommended Operating Conditions at $T_a=25^{\circ}\text{C}$

Parameter	Symbol	Conditions	Ratings	Unit
Input voltage	V_{IN}		7.5 to 20.0	V
Output current	I_{OUT}		5 to 500	mA

Operating Characteristics at $T_a=25^{\circ}\text{C}$, $V_{IN}=10\text{V}$, $I_{OUT}=350\text{mA}$, See specified Test Circuit.

Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Output voltage	V_{OUT}	$T_j=25^{\circ}\text{C}$	4.8	5.0	5.2	V
Line regulation	ΔV_O line	$T_j=25^{\circ}\text{C}$, $7\text{V} \leq V_{IN} \leq 25\text{V}$, $I_{OUT}=200\text{mA}$		3.0	50	mV
		$T_j=25^{\circ}\text{C}$, $8\text{V} \leq V_{IN} \leq 20\text{V}$, $I_{OUT}=200\text{mA}$		1.0	25	mV
Load regulation	ΔV_O load	$T_j=25^{\circ}\text{C}$, $5\text{mA} \leq I_{OUT} \leq 500\text{mA}$			100	mV
		$T_j=25^{\circ}\text{C}$, $5\text{mA} \leq I_{OUT} \leq 200\text{mA}$			50	mV
Output voltage	V_{OUT}	$7\text{V} \leq V_{IN} \leq 20\text{V}$, $5\text{mA} \leq I_{OUT} \leq 350\text{mA}$	4.75		5.25	V
Current dissipation	I_{CC}	$T_j=25^{\circ}\text{C}$		4.5	6.0	mA
Current dissipation variation (Line)	ΔI_{CC} line	$8\text{V} \leq V_{IN} \leq 20\text{V}$, $I_{OUT}=200\text{mA}$			0.8	mA
Current dissipation variation (Load)	ΔI_{CC} load	$5\text{mA} \leq I_{OUT} \leq 350\text{mA}$			0.5	mA
Output noise voltage	V_{NO}	$10\text{Hz} \leq f \leq 100\text{kHz}$		40		μV
Ripple rejection	Rrej	$f=120\text{Hz}$, $8\text{V} \leq V_{IN} \leq 19\text{V}$, $T_j=25^{\circ}\text{C}$, $I_{OUT}=100\text{mA}$	62			dB
		$f=120\text{Hz}$, $8\text{V} \leq V_{IN} \leq 19\text{V}$, $T_j=25^{\circ}\text{C}$, $I_{OUT}=300\text{mA}$	62	80		dB
Minimum input-output voltage dropout	V_{drop}	$I_{OUT}=350\text{mA}$		2.0		V
Short current	I_{OS}	$T_j=25^{\circ}\text{C}$, $V_{IN}=35\text{V}$, to GND		300		mA
Peak output current	I_{OP}	$T_j=25^{\circ}\text{C}$		0.7		A

[L78M06T]

Recommended Operating Conditions at $T_a=25^{\circ}\text{C}$

Parameter	Symbol	Conditions	Ratings	Unit
Input voltage	V_{IN}		8.5 to 21	V
Output current	I_{OUT}		5 to 500	mA

Operating Characteristics at $T_a=25^{\circ}\text{C}$, $V_{IN}=11\text{V}$, $I_{OUT}=350\text{mA}$, See specified Test Circuit.

Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Output voltage	V_{OUT}	$T_j=25^{\circ}\text{C}$	5.75	6.0	6.25	V
Line regulation	ΔV_O line	$T_j=25^{\circ}\text{C}$, $8\text{V} \leq V_{IN} \leq 25\text{V}$, $I_{OUT}=200\text{mA}$		5.0	60	mV
		$T_j=25^{\circ}\text{C}$, $9\text{V} \leq V_{IN} \leq 20\text{V}$, $I_{OUT}=200\text{mA}$		1.5	30	mV
Load regulation	ΔV_O load	$T_j=25^{\circ}\text{C}$, $5\text{mA} \leq I_{OUT} \leq 500\text{mA}$			120	mV
		$T_j=25^{\circ}\text{C}$, $5\text{mA} \leq I_{OUT} \leq 200\text{mA}$			60	mV
Output voltage	V_{OUT}	$8\text{V} \leq V_{IN} \leq 21\text{V}$, $5\text{mA} \leq I_{OUT} \leq 350\text{mA}$	5.7		6.3	V
Current dissipation	I_{CC}	$T_j=25^{\circ}\text{C}$		4.5	6.0	mA
Current dissipation variation (Line)	ΔI_{CC} line	$9\text{V} \leq V_{IN} \leq 25\text{V}$, $I_{OUT}=200\text{mA}$			0.8	mA
Current dissipation variation (Load)	ΔI_{CC} load	$5\text{mA} \leq I_{OUT} \leq 350\text{mA}$			0.5	mA
Output noise voltage	V_{NO}	$10\text{Hz} \leq f \leq 100\text{kHz}$		45		μV
Ripple rejection	Rrej	$f=120\text{Hz}$, $9\text{V} \leq V_{IN} \leq 20\text{V}$, $T_j=25^{\circ}\text{C}$, $I_{OUT}=100\text{mA}$	59			dB
		$f=120\text{Hz}$, $9\text{V} \leq V_{IN} \leq 20\text{V}$, $T_j=25^{\circ}\text{C}$, $I_{OUT}=300\text{mA}$	59	80		dB
Minimum input-output voltage dropout	V_{drop}	$I_{OUT}=350\text{mA}$		2.0		V
Short current	I_{OS}	$T_j=25^{\circ}\text{C}$, $V_{IN}=35\text{V}$, to GND		300		mA
Peak output current	I_{OP}	$T_j=25^{\circ}\text{C}$		0.7		A

[L78M07T]

Recommended Operating Conditions at $T_a=25^{\circ}\text{C}$

Parameter	Symbol	Conditions	Ratings	Unit
Input voltage	V_{IN}		9.5 to 22	V
Output current	I_{OUT}		5 to 500	mA

Operating Characteristics at $T_a=25^{\circ}\text{C}$, $V_{IN}=12\text{V}$, $I_{OUT}=350\text{mA}$, See specified Test Circuit.

Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Output voltage	V_{OUT}	$T_j=25^{\circ}\text{C}$	6.72	7.0	7.28	V
Line regulation	ΔV_O line	$T_j=25^{\circ}\text{C}$, $9\text{V} \leq V_{IN} \leq 25\text{V}$, $I_{OUT}=200\text{mA}$		6.0	60	mV
		$T_j=25^{\circ}\text{C}$, $10\text{V} \leq V_{IN} \leq 20\text{V}$, $I_{OUT}=200\text{mA}$		2.0	30	mV
Load regulation	ΔV_O load	$T_j=25^{\circ}\text{C}$, $5\text{mA} \leq I_{OUT} \leq 500\text{mA}$			140	mV
		$T_j=25^{\circ}\text{C}$, $5\text{mA} \leq I_{OUT} \leq 200\text{mA}$			70	mV
Output voltage	V_{OUT}	$9\text{V} \leq V_{IN} \leq 22\text{V}$, $5\text{mA} \leq I_{OUT} \leq 350\text{mA}$	6.6		7.4	V
Current dissipation	I_{CC}	$T_j=25^{\circ}\text{C}$		4.6	6.0	mA
Current dissipation variation (Line)	ΔI_{CC} line	$10\text{V} \leq V_{IN} \leq 25\text{V}$, $I_{OUT}=200\text{mA}$			0.8	mA
Current dissipation variation (Load)	ΔI_{CC} load	$5\text{mA} \leq I_{OUT} \leq 350\text{mA}$			0.5	mA
Output noise voltage	V_{NO}	$10\text{Hz} \leq f \leq 100\text{kHz}$		48		μV
Ripple rejection	Rrej	$f=120\text{Hz}$, $10\text{V} \leq V_{IN} \leq 21\text{V}$, $T_j=25^{\circ}\text{C}$, $I_{OUT}=100\text{mA}$	58			dB
		$f=120\text{Hz}$, $10\text{V} \leq V_{IN} \leq 21\text{V}$, $T_j=25^{\circ}\text{C}$, $I_{OUT}=300\text{mA}$	58	80		dB
Minimum input-output voltage dropout	V_{drop}	$I_{OUT}=350\text{mA}$		2.0		V
Short current	I_{OS}	$T_j=25^{\circ}\text{C}$, $V_{IN}=35\text{V}$, to GND		300		mA
Peak output current	I_{OP}	$T_j=25^{\circ}\text{C}$		0.7		A

[L78M08T]

Recommended Operating Conditions at $T_a=25^{\circ}\text{C}$

Parameter	Symbol	Conditions	Ratings	Unit
Input voltage	V_{IN}		10.5 to 23	V
Output current	I_{OUT}		5 to 500	mA

Operating Characteristics at $T_a=25^{\circ}\text{C}$, $V_{IN}=15\text{V}$, $I_{OUT}=350\text{mA}$, See specified Test Circuit.

Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Output voltage	V_{OUT}	$T_j=25^{\circ}\text{C}$	7.7	8.0	8.3	V
Line regulation	ΔV_O line	$T_j=25^{\circ}\text{C}$, $10.5\text{V} \leq V_{IN} \leq 25\text{V}$, $I_{OUT}=200\text{mA}$		6.0	60	mV
		$T_j=25^{\circ}\text{C}$, $11\text{V} \leq V_{IN} \leq 20\text{V}$, $I_{OUT}=200\text{mA}$		2.0	30	mV
Load regulation	ΔV_O load	$T_j=25^{\circ}\text{C}$, $5\text{mA} \leq I_{OUT} \leq 500\text{mA}$			160	mV
		$T_j=25^{\circ}\text{C}$, $5\text{mA} \leq I_{OUT} \leq 200\text{mA}$			80	mV
Output voltage	V_{OUT}	$10.5\text{V} \leq V_{IN} \leq 23\text{V}$, $5\text{mA} \leq I_{OUT} \leq 350\text{mA}$	7.6		8.4	V
Current dissipation	I_{CC}	$T_j=25^{\circ}\text{C}$		4.6	6.0	mA
Current dissipation variation (Line)	ΔI_{CC} line	$11\text{V} \leq V_{IN} \leq 25\text{V}$, $I_{OUT}=200\text{mA}$			0.8	mA
Current dissipation variation (Load)	ΔI_{CC} load	$5\text{mA} \leq I_{OUT} \leq 350\text{mA}$			0.5	mA
Output noise voltage	V_{NO}	$10\text{Hz} \leq f \leq 100\text{kHz}$		50		μV
Ripple rejection	Rrej	$f=120\text{Hz}$, $11.5\text{V} \leq V_{IN} \leq 22\text{V}$, $T_j=25^{\circ}\text{C}$, $I_{OUT}=100\text{mA}$	56			dB
		$f=120\text{Hz}$, $11.5\text{V} \leq V_{IN} \leq 22\text{V}$, $T_j=25^{\circ}\text{C}$, $I_{OUT}=300\text{mA}$	56	80		dB
Minimum input-output voltage dropout	V_{drop}	$I_{OUT}=350\text{mA}$		2.0		V
Short current	I_{OS}	$T_j=25^{\circ}\text{C}$, $V_{IN}=35\text{V}$, to GND		300		mA
Peak output current	I_{OP}	$T_j=25^{\circ}\text{C}$		0.7		A

[L78M09T]

Recommended Operating Conditions at $T_a=25^{\circ}\text{C}$

Parameter	Symbol	Conditions	Ratings	Unit
Input voltage	V_{IN}		12 to 25	V
Output current	I_{OUT}		5 to 500	mA

Operating Characteristics at $T_a=25^{\circ}\text{C}$, $V_{IN}=16\text{V}$, $I_{OUT}=350\text{mA}$, See specified Test Circuit.

Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Output voltage	V_{OUT}	$T_j=25^{\circ}\text{C}$	8.6	9.0	9.4	V
Line regulation	ΔV_O line	$T_j=25^{\circ}\text{C}$, $11.5\text{V} \leq V_{IN} \leq 25\text{V}$, $I_{OUT}=200\text{mA}$		6.0	100	mV
		$T_j=25^{\circ}\text{C}$, $12\text{V} \leq V_{IN} \leq 20\text{V}$, $I_{OUT}=200\text{mA}$		2.0	50	mV
Load regulation	ΔV_O load	$T_j=25^{\circ}\text{C}$, $5\text{mA} \leq I_{OUT} \leq 500\text{mA}$			180	mV
		$T_j=25^{\circ}\text{C}$, $5\text{mA} \leq I_{OUT} \leq 200\text{mA}$			90	mV
Output voltage	V_{OUT}	$11.5\text{V} \leq V_{IN} \leq 24\text{V}$, $5\text{mA} \leq I_{OUT} \leq 350\text{mA}$	8.5		9.5	V
Current dissipation	I_{CC}	$T_j=25^{\circ}\text{C}$		4.6	6.0	mA
Current dissipation variation (Line)	ΔI_{CC} line	$12.5\text{V} \leq V_{IN} \leq 25\text{V}$, $I_{OUT}=200\text{mA}$			0.8	mA
Current dissipation variation (Load)	ΔI_{CC} load	$5\text{mA} \leq I_{OUT} \leq 350\text{mA}$			0.5	mA
Output noise voltage	V_{NO}	$10\text{Hz} \leq f \leq 100\text{kHz}$		60		μV
Ripple rejection	Rrej	$f=120\text{Hz}$, $12\text{V} \leq V_{IN} \leq 23\text{V}$, $T_j=25^{\circ}\text{C}$, $I_{OUT}=100\text{mA}$	56			dB
		$f=120\text{Hz}$, $12\text{V} \leq V_{IN} \leq 23\text{V}$, $T_j=25^{\circ}\text{C}$, $I_{OUT}=300\text{mA}$	56	80		dB
Minimum input-output voltage dropout	V_{drop}	$I_{OUT}=350\text{mA}$		2.0		V
Short current	I_{OS}	$T_j=25^{\circ}\text{C}$, $V_{IN}=35\text{V}$, to GND		300		mA
Peak output current	I_{OP}	$T_j=25^{\circ}\text{C}$		0.7		A

[L78M10T]

Recommended Operating Conditions at $T_a=25^{\circ}\text{C}$

Parameter	Symbol	Conditions	Ratings	Unit
Input voltage	V_{IN}		13 to 25	V
Output current	I_{OUT}		5 to 500	mA

Operating Characteristics at $T_a=25^{\circ}\text{C}$, $V_{IN}=17\text{V}$, $I_{OUT}=350\text{mA}$, See specified Test Circuit.

Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Output voltage	V_{OUT}	$T_j=25^{\circ}\text{C}$	9.6	10.0	10.4	V
Line regulation	ΔV_O line	$T_j=25^{\circ}\text{C}$, $12.5\text{V} \leq V_{IN} \leq 25\text{V}$, $I_{OUT}=200\text{mA}$		7.0	100	mV
		$T_j=25^{\circ}\text{C}$, $13\text{V} \leq V_{IN} \leq 22\text{V}$, $I_{OUT}=200\text{mA}$		2.0	50	mV
Load regulation	ΔV_O load	$T_j=25^{\circ}\text{C}$, $5\text{mA} \leq I_{OUT} \leq 500\text{mA}$			200	mV
		$T_j=25^{\circ}\text{C}$, $5\text{mA} \leq I_{OUT} \leq 200\text{mA}$			100	mV
Output voltage	V_{OUT}	$12.5\text{V} \leq V_{IN} \leq 25\text{V}$, $5\text{mA} \leq I_{OUT} \leq 350\text{mA}$	9.5		10.5	V
Current dissipation	I_{CC}	$T_j=25^{\circ}\text{C}$		4.6	6.0	mA
Current dissipation variation (Line)	ΔI_{CC} line	$13.5\text{V} \leq V_{IN} \leq 25\text{V}$, $I_{OUT}=200\text{mA}$			0.8	mA
Current dissipation variation (Load)	ΔI_{CC} load	$5\text{mA} \leq I_{OUT} \leq 350\text{mA}$			0.5	mA
Output noise voltage	V_{NO}	$10\text{Hz} \leq f \leq 100\text{kHz}$		65		μV
Ripple rejection	Rrej	$f=120\text{Hz}$, $13\text{V} \leq V_{IN} \leq 25\text{V}$, $T_j=25^{\circ}\text{C}$, $I_{OUT}=100\text{mA}$	55			dB
		$f=120\text{Hz}$, $13\text{V} \leq V_{IN} \leq 25\text{V}$, $T_j=25^{\circ}\text{C}$, $I_{OUT}=300\text{mA}$	55	80		dB
Minimum input-output voltage dropout	V_{drop}	$I_{OUT}=350\text{mA}$		2.0		V
Short current	I_{OS}	$T_j=25^{\circ}\text{C}$, $V_{IN}=35\text{V}$, to GND		300		mA
Peak output current	I_{OP}	$T_j=25^{\circ}\text{C}$		0.7		A

[L78M12T]

Recommended Operating Conditions at $T_a=25^{\circ}\text{C}$

Parameter	Symbol	Conditions	Ratings	Unit
Input voltage	V_{IN}		15 to 25	V
Output current	I_{OUT}		5 to 500	mA

Operating Characteristics at $T_a=25^{\circ}\text{C}$, $V_{IN}=19\text{V}$, $I_{OUT}=350\text{mA}$, See specified Test Circuit.

Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Output voltage	V_{OUT}	$T_j=25^{\circ}\text{C}$	11.5	12.0	12.5	V
Line regulation	ΔV_O line	$T_j=25^{\circ}\text{C}$, $14.5\text{V} \leq V_{IN} \leq 30\text{V}$, $I_{OUT}=200\text{mA}$		8.0	100	mV
		$T_j=25^{\circ}\text{C}$, $16\text{V} \leq V_{IN} \leq 25\text{V}$, $I_{OUT}=200\text{mA}$		2.0	50	mV
Load regulation	ΔV_O load	$T_j=25^{\circ}\text{C}$, $5\text{mA} \leq I_{OUT} \leq 500\text{mA}$			240	mV
		$T_j=25^{\circ}\text{C}$, $5\text{mA} \leq I_{OUT} \leq 200\text{mA}$			120	mV
Output voltage	V_{OUT}	$14.5\text{V} \leq V_{IN} \leq 27\text{V}$, $5\text{mA} \leq I_{OUT} \leq 350\text{mA}$	11.4		12.6	V
Current dissipation	I_{CC}	$T_j=25^{\circ}\text{C}$		4.8	6.0	mA
Current dissipation variation (Line)	ΔI_{CC} line	$15\text{V} \leq V_{IN} \leq 30\text{V}$, $I_{OUT}=200\text{mA}$			0.8	mA
Current dissipation variation (Load)	ΔI_{CC} load	$5\text{mA} \leq I_{OUT} \leq 350\text{mA}$			0.5	mA
Output noise voltage	V_{NO}	$10\text{Hz} \leq f \leq 100\text{kHz}$		75		μV
Ripple rejection	Rrej	$f=120\text{Hz}$, $15\text{V} \leq V_{IN} \leq 25\text{V}$, $T_j=25^{\circ}\text{C}$, $I_{OUT}=100\text{mA}$	55			dB
		$f=120\text{Hz}$, $15\text{V} \leq V_{IN} \leq 25\text{V}$, $T_j=25^{\circ}\text{C}$, $I_{OUT}=300\text{mA}$	55	80		dB
Minimum input-output voltage dropout	V_{drop}	$I_{OUT}=350\text{mA}$		2.0		V
Short current	I_{OS}	$T_j=25^{\circ}\text{C}$, $V_{IN}=35\text{V}$, to GND		300		mA
Peak output current	I_{OP}	$T_j=25^{\circ}\text{C}$		0.7		A

[L78M15T]

Recommended Operating Conditions at $T_a=25^{\circ}\text{C}$

Parameter	Symbol	Conditions	Ratings	Unit
Input voltage	V_{IN}		18 to 30	V
Output current	I_{OUT}		5 to 500	mA

Operating Characteristics at $T_a=25^{\circ}\text{C}$, $V_{IN}=23\text{V}$, $I_{OUT}=350\text{mA}$, See specified Test Circuit.

Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Output voltage	V_{OUT}	$T_j=25^{\circ}\text{C}$	14.4	15.0	15.6	V
Line regulation	ΔV_O line	$T_j=25^{\circ}\text{C}$, $17.5\text{V} \leq V_{IN} \leq 30\text{V}$, $I_{OUT}=200\text{mA}$		10.0	100	mV
		$T_j=25^{\circ}\text{C}$, $19\text{V} \leq V_{IN} \leq 30\text{V}$, $I_{OUT}=200\text{mA}$		3.0	50	mV
Load regulation	ΔV_O load	$T_j=25^{\circ}\text{C}$, $5\text{mA} \leq I_{OUT} \leq 500\text{mA}$			300	mV
		$T_j=25^{\circ}\text{C}$, $5\text{mA} \leq I_{OUT} \leq 200\text{mA}$			150	mV
Output voltage	V_{OUT}	$17.5\text{V} \leq V_{IN} \leq 30\text{V}$, $5\text{mA} \leq I_{OUT} \leq 350\text{mA}$	14.25		15.75	V
Current dissipation	I_{CC}	$T_j=25^{\circ}\text{C}$		4.8	6.0	mA
Current dissipation variation (Line)	ΔI_{CC} line	$17.5\text{V} \leq V_{IN} \leq 30\text{V}$, $I_{OUT}=200\text{mA}$			0.8	mA
Current dissipation variation (Load)	ΔI_{CC} load	$5\text{mA} \leq I_{OUT} \leq 350\text{mA}$			0.5	mA
Output noise voltage	V_{NO}	$10\text{Hz} \leq f \leq 100\text{kHz}$		90		μV
Ripple rejection	Rrej	$f=120\text{Hz}$, $18.5\text{V} \leq V_{IN} \leq 28.5\text{V}$, $T_j=25^{\circ}\text{C}$, $I_{OUT}=100\text{mA}$	54			dB
		$f=120\text{Hz}$, $18.5\text{V} \leq V_{IN} \leq 28.5\text{V}$, $T_j=25^{\circ}\text{C}$, $I_{OUT}=300\text{mA}$	54	70		dB
Minimum input-output voltage dropout	V_{drop}	$I_{OUT}=350\text{mA}$		2.0		V
Short current	I_{OS}	$T_j=25^{\circ}\text{C}$, $V_{IN}=35\text{V}$, to GND		300		mA
Peak output current	I_{OP}	$T_j=25^{\circ}\text{C}$		0.7		A

[L78M18T]

Recommended Operating Conditions at $T_a=25^{\circ}\text{C}$

Parameter	Symbol	Conditions	Ratings	Unit
Input voltage	V_{IN}		21 to 33	V
Output current	I_{OUT}		5 to 500	mA

Operating Characteristics at $T_a=25^{\circ}\text{C}$, $V_{IN}=27\text{V}$, $I_{OUT}=350\text{mA}$, See specified Test Circuit.

Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Output voltage	V_{OUT}	$T_j=25^{\circ}\text{C}$	17.3	18.0	18.7	V
Line regulation	ΔV_O line	$T_j=25^{\circ}\text{C}$, $21\text{V} \leq V_{IN} \leq 35\text{V}$, $I_{OUT}=200\text{mA}$		10.0	100	mV
		$T_j=25^{\circ}\text{C}$, $22\text{V} \leq V_{IN} \leq 35\text{V}$, $I_{OUT}=200\text{mA}$		5.0	50	mV
Load regulation	ΔV_O load	$T_j=25^{\circ}\text{C}$, $5\text{mA} \leq I_{OUT} \leq 500\text{mA}$			360	mV
		$T_j=25^{\circ}\text{C}$, $5\text{mA} \leq I_{OUT} \leq 200\text{mA}$			180	mV
Output voltage	V_{OUT}	$21\text{V} \leq V_{IN} \leq 33\text{V}$, $5\text{mA} \leq I_{OUT} \leq 350\text{mA}$	17.1		18.9	V
Current dissipation	I_{CC}	$T_j=25^{\circ}\text{C}$		4.9	6.0	mA
Current dissipation variation (Line)	ΔI_{CC} line	$21\text{V} \leq V_{IN} \leq 33\text{V}$, $I_{OUT}=200\text{mA}$			0.8	mA
Current dissipation variation (Load)	ΔI_{CC} load	$5\text{mA} \leq I_{OUT} \leq 350\text{mA}$			0.5	mA
Output noise voltage	V_{NO}	$10\text{Hz} \leq f \leq 100\text{kHz}$		100		μV
Ripple rejection	Rrej	$f=120\text{Hz}$, $22\text{V} \leq V_{IN} \leq 33\text{V}$, $T_j=25^{\circ}\text{C}$, $I_{OUT}=100\text{mA}$	53			dB
		$f=120\text{Hz}$, $22\text{V} \leq V_{IN} \leq 33\text{V}$, $T_j=25^{\circ}\text{C}$, $I_{OUT}=300\text{mA}$	53	70		dB
Minimum input-output voltage dropout	V_{drop}	$I_{OUT}=350\text{mA}$		2.0		V
Short current	I_{OS}	$T_j=25^{\circ}\text{C}$, $V_{IN}=35\text{V}$, to GND		300		mA
Peak output current	I_{OP}	$T_j=25^{\circ}\text{C}$		0.7		A

[L78M20T]

Recommended Operating Conditions at $T_a=25^{\circ}\text{C}$

Parameter	Symbol	Conditions	Ratings	Unit
Input voltage	V_{IN}		23 to 35	V
Output current	I_{OUT}		5 to 500	mA

Operating Characteristics at $T_a=25^{\circ}\text{C}$, $V_{IN}=29\text{V}$, $I_{OUT}=350\text{mA}$, See specified Test Circuit.

Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Output voltage	V_{OUT}	$T_j=25^{\circ}\text{C}$	19.2	20.0	20.8	V
Line regulation	ΔV_O line	$T_j=25^{\circ}\text{C}$, $23\text{V} \leq V_{IN} \leq 35\text{V}$, $I_{OUT}=200\text{mA}$		10.0	100	mV
		$T_j=25^{\circ}\text{C}$, $24\text{V} \leq V_{IN} \leq 35\text{V}$, $I_{OUT}=200\text{mA}$		5.0	50	mV
Load regulation	ΔV_O load	$T_j=25^{\circ}\text{C}$, $5\text{mA} \leq I_{OUT} \leq 500\text{mA}$			400	mV
		$T_j=25^{\circ}\text{C}$, $5\text{mA} \leq I_{OUT} \leq 200\text{mA}$			200	mV
Output voltage	V_{OUT}	$23\text{V} \leq V_{IN} \leq 35\text{V}$, $5\text{mA} \leq I_{OUT} \leq 350\text{mA}$	19.0		21.0	V
Current dissipation	I_{CC}	$T_j=25^{\circ}\text{C}$		4.9	6.0	mA
Current dissipation variation (Line)	ΔI_{CC} line	$23\text{V} \leq V_{IN} \leq 35\text{V}$, $I_{OUT}=200\text{mA}$			0.8	mA
Current dissipation variation (Load)	ΔI_{CC} load	$5\text{mA} \leq I_{OUT} \leq 350\text{mA}$			0.5	mA
Output noise voltage	V_{NO}	$10\text{Hz} \leq f \leq 100\text{kHz}$		110		μV
Ripple rejection	Rrej	$f=120\text{Hz}$, $24\text{V} \leq V_{IN} \leq 34\text{V}$, $T_j=25^{\circ}\text{C}$, $I_{OUT}=100\text{mA}$	53			dB
		$f=120\text{Hz}$, $24\text{V} \leq V_{IN} \leq 34\text{V}$, $T_j=25^{\circ}\text{C}$, $I_{OUT}=300\text{mA}$	53	70		dB
Minimum input-output voltage dropout	V_{drop}	$I_{OUT}=350\text{mA}$		2.0		V
Short current	I_{OS}	$T_j=25^{\circ}\text{C}$, $V_{IN}=35\text{V}$, to GND		300		mA
Peak output current	I_{OP}	$T_j=25^{\circ}\text{C}$		0.7		A

[L78M24T]

Recommended Operating Conditions at $T_a=25^{\circ}\text{C}$

Parameter	Symbol	Conditions	Ratings	Unit
Input voltage	V_{IN}		27 to 35	V
Output current	I_{OUT}		5 to 500	mA

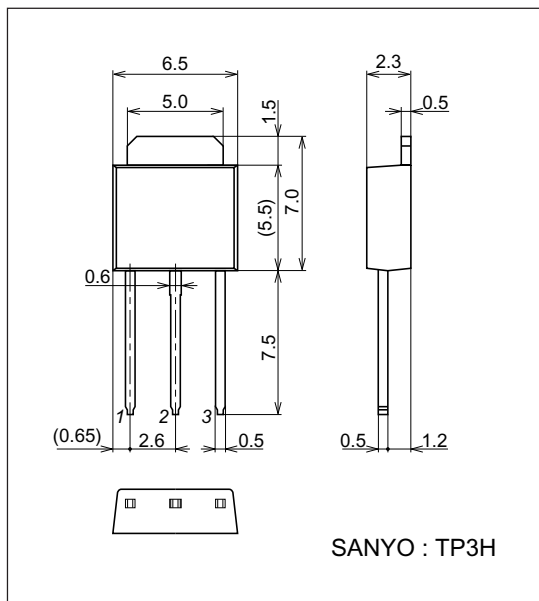
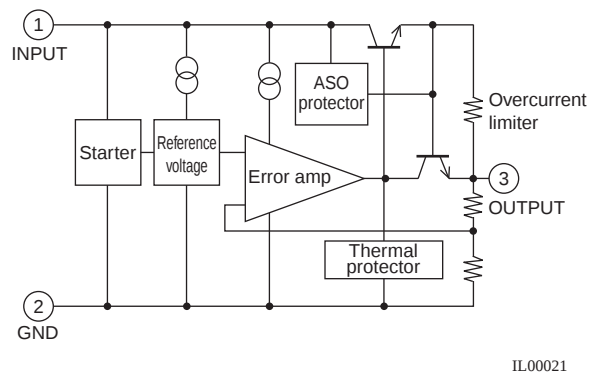
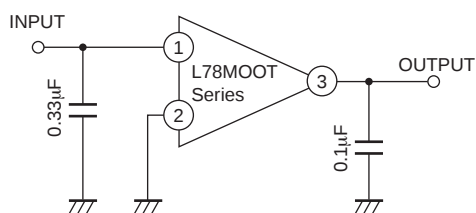
Operating Characteristics at $T_a=25^{\circ}\text{C}$, $V_{IN}=33\text{V}$, $I_{OUT}=350\text{mA}$, See specified Test Circuit.

Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Output voltage	V_{OUT}	$T_j=25^{\circ}\text{C}$	23.0	24.0	25.0	V
Line regulation	ΔV_O line	$T_j=25^{\circ}\text{C}$, $27\text{V} \leq V_{IN} \leq 35\text{V}$, $I_{OUT}=200\text{mA}$		10.0	100	mV
		$T_j=25^{\circ}\text{C}$, $28\text{V} \leq V_{IN} \leq 35\text{V}$, $I_{OUT}=200\text{mA}$		5.0	50	mV
Load regulation	ΔV_O load	$T_j=25^{\circ}\text{C}$, $5\text{mA} \leq I_{OUT} \leq 500\text{mA}$			480	mV
		$T_j=25^{\circ}\text{C}$, $5\text{mA} \leq I_{OUT} \leq 200\text{mA}$			240	mV
Output voltage	V_{OUT}	$27\text{V} \leq V_{IN} \leq 35\text{V}$, $5\text{mA} \leq I_{OUT} \leq 350\text{mA}$	22.8		25.2	V
Current dissipation	I_{CC}	$T_j=25^{\circ}\text{C}$		5.0	6.0	mA
Current dissipation variation (Line)	ΔI_{CC} line	$27\text{V} \leq V_{IN} \leq 35\text{V}$, $I_{OUT}=200\text{mA}$			0.8	mA
Current dissipation variation (Load)	ΔI_{CC} load	$5\text{mA} \leq I_{OUT} \leq 350\text{mA}$			0.5	mA
Output noise voltage	V_{NO}	$10\text{Hz} \leq f \leq 100\text{kHz}$		170		μV
Ripple rejection	R_{rej}	$f=120\text{Hz}$, $28\text{V} \leq V_{IN} \leq 35\text{V}$, $T_j=25^{\circ}\text{C}$, $I_{OUT}=100\text{mA}$	50			dB
		$f=120\text{Hz}$, $28\text{V} \leq V_{IN} \leq 35\text{V}$, $T_j=25^{\circ}\text{C}$, $I_{OUT}=300\text{mA}$	50	70		dB
Minimum input-output voltage dropout	V_{drop}	$I_{OUT}=350\text{mA}$		2.0		V
Short current	I_{OS}	$T_j=25^{\circ}\text{C}$, $V_{IN}=35\text{V}$, to GND		300		mA
Peak output current	I_{OP}	$T_j=25^{\circ}\text{C}$		0.7		A

Package Dimensions

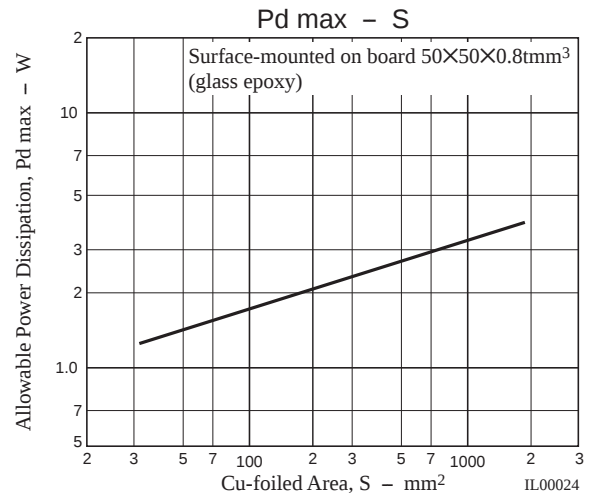
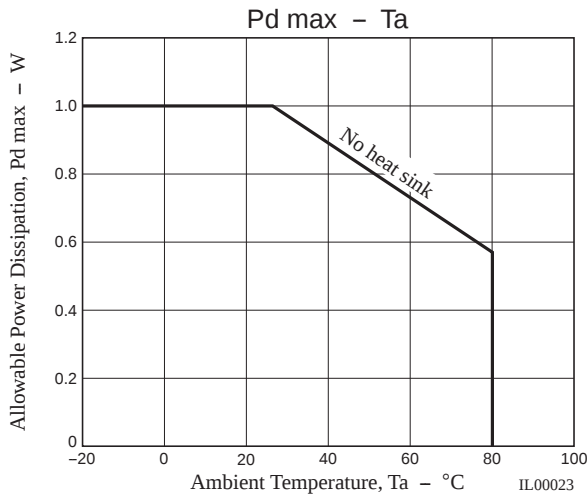
unit : mm

3110A

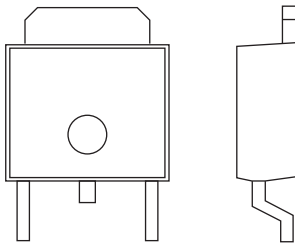
**Equivalent Circuit****Specified Test Circuit** (Common to L78M00T series)

The allowable power dissipation ($P_d \text{ max}$) is 1.0W ($T_a=25^\circ\text{C}$) with no fin attached. When the L78M00T series are surface-mounted on a hybrid IC board or printed circuit board, a high allowable power dissipation can be obtained, though they are placed in a small-sized package.

Shown below is the relationship between the Cu-foiled area and the allowable power dissipation when the L78M00T series are surface-mounted on a glass epoxy board ($50\times 50\times 0.8\text{mm}^3$).

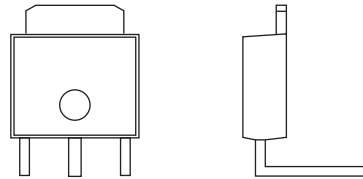


Lead Formings



IL00025

FA formings



IL00026

LR formings

- Specifications of any and all SANYO products described or contained herein stipulate the performance, characteristics, and functions of the described products in the independent state, and are not guarantees of the performance, characteristics, and functions of the described products as mounted in the customer's products or equipment. To verify symptoms and states that cannot be evaluated in an independent device, the customer should always evaluate and test devices mounted in the customer's products or equipment.
- SANYO Electric Co., Ltd. strives to supply high-quality high-reliability products. However, any and all semiconductor products fail with some probability. It is possible that these probabilistic failures could give rise to accidents or events that could endanger human lives, that could give rise to smoke or fire, or that could cause damage to other property. When designing equipment, adopt safety measures so that these kinds of accidents or events cannot occur. Such measures include but are not limited to protective circuits and error prevention circuits for safe design, redundant design, and structural design.
- In the event that any or all SANYO products(including technical data, services) described or contained herein are controlled under any of applicable local export control laws and regulations, such products must not be exported without obtaining the export license from the authorities concerned in accordance with the above law.
- No part of this publication may be reproduced or transmitted in any form or by any means, electronic or mechanical, including photocopying and recording, or any information storage or retrieval system, or otherwise, without the prior written permission of SANYO Electric Co., Ltd.
- Any and all information described or contained herein are subject to change without notice due to product/technology improvement, etc. When designing equipment, refer to the "Delivery Specification" for the SANYO product that you intend to use.
- Information (including circuit diagrams and circuit parameters) herein is for example only ; it is not guaranteed for volume production. SANYO believes information herein is accurate and reliable, but no guarantees are made or implied regarding its use or any infringements of intellectual property rights or other rights of third parties.

This catalog provides information as of February, 2006. Specifications and information herein are subject to change without notice.