

NEAR INTEGRATED CIRCUIT SILICON MONOLITHIC **TA78DL05P ~ TA78DL24P**

○ 5V, 6V, 8V, 9V, 10V, 12V, 15V
LOW DROPOUT VOLTAGE REGULATOR

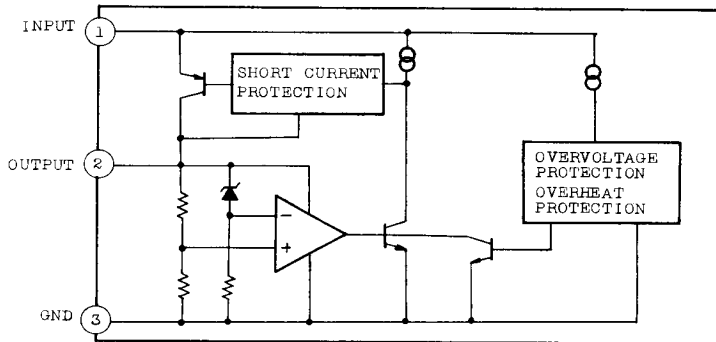
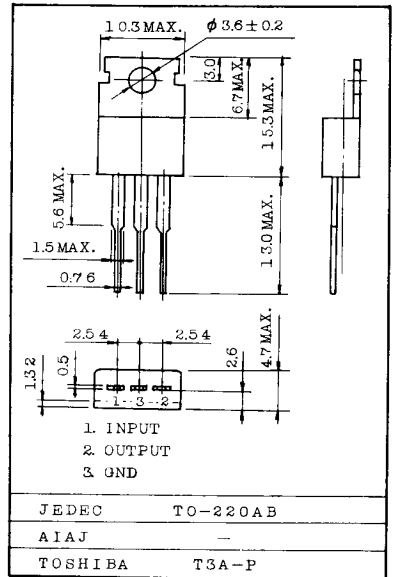
The TA78DL series are three-terminal regulators with maximum output current 250mA, packed in transistor size TO-220AB, consuming low standby current, best suited as backup power supply for memory, etc. and power supply for medium size circuits. This series is further provided with various protective functions.

- Low standby current consumption : 500μA (standard)
- Maximum output current : 250mA (max.)
- Less I/O voltage difference : 0.6V max.
- Multiple protections
 - : Power reverse connection/60V load damp/thermal protection/short-circuit protection
- Packaged in TO-220AB

RATING MAXIMUM (Ta=25°C)

CHARACTERISTIC	SYMBOL	RATING	UNIT
Operating Input Voltage	V _{IN}	29	V
Input Voltage	V _{IN}	60	V
Power Consumption	P _D	20	W
Operating Temperature	T _{opr}	-40 ~ 85	°C
Junction Temperature	T _j	150	°C
Storage Temperature	T _{stg}	-55 ~ 150	°C
Lead Temperature · Time	T _{sol}	260 (10sec)	°C

Unit: mm



TA78DL05P ~ TA78DL24P

ELECTRICAL CHARACTERISTICS ($V_{IN}=14V$, $I_{OUT}=10mA$, $T_j=25^\circ C$)

CHARACTERISTIC	SYMBOL	TEST CIR-CUIT	TEST CONDITION	MIN	TYP	MAX	UNIT
Output Voltage	V_{OUT}	-	$V_{IN}=5.35\sim 26V$, $T_a=-40\sim 85^\circ C$	4.5	5	5.5	V
Voltage Regulation	$\Delta V_{OUT}(1)$	-	$V_{IN} = 9 \sim 16V$	-	2	10	mV
			$V_{IN} = 6 \sim 26V$	-	4	30	
Load Regulation	$\Delta V_{OUT}(2)$	-	$I_{OUT} = 10 \sim 200mA$	-	14	50	mV
Quiescent Current	I_{CC}	-	$I_{OUT} \leq 10mA$, $V_{IN} = 6 \sim 26V$	-	0.5	1	mA
Dropout Voltage	V_{DROP}	-	$I_{OUT} = 50mA$	-	0.15	0.3	V
			$I_{OUT} = 200mA$	-	0.4	0.6	
Max. Operating Input Voltage	V_{IN}	-		29	33	-	V

TA78DL06P

ELECTRICAL CHARACTERISTICS ($V_{IN}=14V$, $I_{OUT}=10mA$, $T_j=25^\circ C$)

CHARACTERISTIC	SYMBOL	TEST CIR-CUIT	TEST CONDITION	MIN	TYP	MAX	UNIT
Output Voltage	V_{OUT}	-	$V_{IN}=6.35\sim 26V$, $T_a=-40\sim 85^\circ C$	5.4	6	6.6	V
Voltage Regulation	$\Delta V_{OUT}(1)$	-	$V_{IN} = 10 \sim 17V$	-	2	12	mV
			$V_{IN} = 7 \sim 26V$	-	5	36	
Load Regulation	$\Delta V_{OUT}(2)$	-	$I_{OUT} = 10 \sim 200mA$	-	17	60	mV
Quiescent Current	I_{CC}	-	$I_{OUT} \leq 10mA$, $V_{IN} = 7 \sim 26V$	-	0.55	-	mA
Dropout Voltage	V_{DROP}	-	$I_{OUT} = 50mA$	-	0.15	0.3	V
			$I_{OUT} = 200mA$	-	0.4	0.6	
Max. Operating Input Voltage	V_{IN}	-		29	33	-	V

TA78DL08P

ELECTRICAL CHARACTERISTICS ($V_{IN}=16V$, $I_{OUT}=10mA$, $T_j=25^\circ C$)

CHARACTERISTIC	SYMBOL	TEST CIR-CUIT	TEST CONDITION	MIN	TYP	MAX	UNIT
Output Voltage	V_{OUT}	-	$V_{IN}=8.35\sim 26V$, $T_a -40\sim 85^\circ C$	7.2	8	8.8	V
Voltage Regulation	$\Delta V_{OUT}(1)$	-	$V_{IN} = 12 \sim 19V$	-	3	16	mV
			$V_{IN} = 9 \sim 26V$	-	6	45	
Load Regulation	$\Delta V_{OUT}(2)$	-	$I_{OUT} = 10 \sim 200mA$	-	22	80	mV
Quiescent Current	I_{CC}	-	$I_{OUT} \leq 10mA$, $V_{IN} = 9 \sim 26V$	-	0.6	-	mA
Dropout Voltage	V_{DROP}	-	$I_{OUT} = 50mA$	-	0.15	0.3	V
			$I_{OUT} = 200mA$	-	0.4	0.6	
Max. Operating Input Voltage	V_{IN}	-		29	33	-	V

TA78DL05P ~ TA78DL24P

ELECTRICAL CHARACTERISTICS ($V_{IN}=16V$, $I_{OUT}=10mA$, $T_j=25^\circ C$)

CHARACTERISTIC	SYMBOL	TEST CIR-CUIT	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Output Voltage	V_{OUT}	-	$V_{IN}=9.35\sim 26V$, $T_a=-40\sim 85^\circ C$	8.1	9	9.9	V
Voltage Regulation	$\Delta V_{OUT}(1)$	-	$V_{IN}=13\sim 20V$	-	3	18	mV
			$V_{IN}=10\sim 26V$	-	7	50	
Load Regulation	$\Delta V_{OUT}(2)$	-	$I_{OUT} = 10\sim 200mA$	-	25	90	mV
Quiescent Current	I_{CC}	-	$I_{OUT} \leq 10mA$, $V_{IN}=10\sim 26V$	-	0.65	-	mA
Dropout Voltage	V_{DROP}	-	$I_{OUT}=50mA$	-	0.15	0.3	V
			$I_{OUT}=200mA$	-	0.4	0.6	
Max. Operating Input Voltage	V_{IN}	-		29	33	-	V

TA78DL10P

ELECTRICAL CHARACTERISTICS ($V_{IN}=16V$, $I_{OUT}=10mA$, $T_j=25^\circ C$)

CHARACTERISTIC	SYMBOL	TEST CIR-CUIT	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Output Voltage	V_{OUT}	-	$V_{IN}=10.35\sim 26V$, $T_a=-40\sim 85^\circ C$	9	10	11	V
Voltage Regulation	$\Delta V_{OUT}(1)$	-	$V_{IN}=14\sim 21V$	-	4	20	mV
			$V_{IN}=11\sim 26V$	-	8	60	
Load Regulation	$\Delta V_{OUT}(2)$	-	$I_{OUT}=10\sim 200mA$	-	28	100	mV
Quiescent Current	I_{CC}	-	$I_{OUT} \leq 10mA$, $V_{IN}=11\sim 26V$	-	0.7	-	mA
Dropout Voltage	V_{DRPF}	-	$I_{OUT}=50mA$	-	0.15	0.3	V
			$I_{OUT}=200mA$	-	0.4	0.6	
Max. Operating Input Voltage	V_{IN}	-		29	33	-	V

TA78DL12P

ELECTRICAL CHARACTERISTICS ($V_{IN}=18V$, $I_{OUT}=10mA$, $T_j=25^\circ C$)

CHARACTERISTIC	SYMBOL	TEST CIR-CUIT	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Output Voltage	V_{OUT}	-	$V_{IN}=12.35\sim 26V$, $T_a=-40\sim 85^\circ C$	10.8	12	13.2	V
Voltage Regulation	$\Delta V_{OUT}(1)$	-	$V_{IN}=16\sim 23V$	-	5	24	mV
			$V_{IN}=13\sim 26V$	-	10	70	
Load Regulation	$\Delta V_{OUT}(2)$	-	$I_{OUT}=10 \sim 200mA$	-	33	120	mV
Quiescent Current	I_{CC}	-	$I_{OUT} \leq 10mA$, $V_{IN}=13\sim 26V$	-	0.8	-	mA
Dropout Voltage	V_{DROP}	-	$I_{OUT} = 50mA$	-	0.15	0.3	V
			$I_{OUT} = 200mA$	-	0.4	0.6	
Max. Operating Input Voltage	V_{IN}	-		29	33	-	V

TA78DL05P ~ TA78DL24P

ELECTRICAL CHARACTERISTICS ($V_{IN}=20V$, $I_{OUT}=10mA$, $T_j=25^{\circ}C$)

CHARACTERISTIC	SYMBOL	TEST CIR-CUIT	TEST CONDITION	MIN	TYP	MAX	UNIT
Output Voltage	V_{OUT}	-	$V_{IN}=15.35\sim 26V, T_a=-40\sim 85^{\circ}C$	13.5	15	16.5	V
Voltage Regulation	$\Delta V_{OUT(1)}$	-	$V_{IN}=19\sim 26V$	-	6	30	mV
			$V_{IN}=16\sim 26V$	-	12	80	
Load Regulation	$\Delta V_{OUT(2)}$	-	$I_{OUT}=10\sim 200mA$	-	40	150	mV
Quiescent Current	I_{CC}	-	$I_{OUT}\leq 10mA, V_{IN}=16\sim 26V$	-	0.9	-	mA
Dropout Voltage	V_{DROP}	-	$I_{OUT}=50mA$	-	0.15	0.3	V
			$I_{OUT}=200mA$	-	0.4	0.6	
Max. Operating Input Voltage	V_{IN}	-		29	33	-	V

