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MC79M00 Series

Rev 4

MC79M00

MAXIMUM RATINGS ($T_A = 25^\circ\text{C}$, unless otherwise noted.)

Rating	Symbol	Value	Unit
Input Voltage	V_I	-35	Vdc
Power Dissipation Case 221A $T_A = 25^\circ\text{C}$ Thermal Resistance, Junction-to-Ambient Thermal Resistance, Junction-to-Case Case 369 and 369A (DPAK) $T_A = 25^\circ\text{C}$ Thermal Resistance, Junction-to-Ambient Thermal Resistance, Junction-to-Case	P_D θ_{JA} θ_{JC} P_D θ_{JA} θ_{JC}	Internally Limited 65 5.0 Internally Limited 92 6.0	W $^\circ\text{C/W}$ $^\circ\text{C/W}$ W $^\circ\text{C/W}$ $^\circ\text{C/W}$
Storage Junction Temperature	T_{stg}	-65 to +150	$^\circ\text{C}$
Junction Temperature	T_J	150	$^\circ\text{C}$

NOTE: ESD data available upon request.

THERMAL CHARACTERISTICS

Characteristic	Symbol	Value	Unit
Thermal Resistance, Junction-to-Ambient	$R_{\theta JA}$	65	$^\circ\text{C/W}$
Thermal Resistance, Junction-to-Case	$R_{\theta JC}$	5.0	$^\circ\text{C/W}$

MC79M05B, C

ELECTRICAL CHARACTERISTICS ($V_I = -10\text{ V}$, $I_O = 350\text{ mA}$, T_{low} to T_{high} [Note 2], unless otherwise noted.)

Characteristic	Symbol	Min	Typ	Max	Unit
Output Voltage ($T_J = 25^\circ\text{C}$)	V_O	-4.8	-5.0	-5.2	Vdc
Line Regulation, $T_J = 25^\circ\text{C}$ (Note 1) -7.0 Vdc $\geq V_I \geq -25\text{ Vdc}$ -8.0 Vdc $\geq V_I \geq -18\text{ Vdc}$	Regline	-	7.0 2.0	50 30	mV
Load Regulation, $T_J = 25^\circ\text{C}$ (Note 1) $5.0\text{ mA} \leq I_O \leq 500\text{ mA}$	Regload	-	30	100	mV
Output Voltage -7.0 Vdc $\geq V_I \geq -25\text{ Vdc}$, $5.0\text{ mA} \leq I_O \leq 350\text{ mA}$	V_O	-4.75	-	-5.25	Vdc
Input Bias Current ($T_J = 25^\circ\text{C}$)	I_{IB}	-	4.3	8.0	mA
Input Bias Current Change -8.0 Vdc $\geq V_I \geq -25\text{ Vdc}$, $I_O = 350\text{ mA}$ $5.0\text{ mA} \leq I_O \leq 350\text{ mA}$, $V_I = -10\text{ V}$	ΔI_{IB}	-	-	0.4 0.4	mA
Output Noise Voltage, $T_A = 25^\circ\text{C}$, $10\text{ Hz} \leq f \leq 100\text{ kHz}$	V_n	-	40	-	μV
Ripple Rejection ($f = 120\text{ Hz}$)	RR	54	66	-	dB
Dropout Voltage $I_O = 500\text{ mA}$, $T_J = 25^\circ\text{C}$	$V_I - V_O$	-	1.1	-	Vdc
Average Temperature Coefficient of Output Voltage $I_O = 5.0\text{ mA}$, $0^\circ\text{C} \leq T_J \leq 125^\circ\text{C}$	$\Delta V_O / \Delta T$	-	0.2	-	mV/ $^\circ\text{C}$

NOTES: 1. Load and line regulation are specified at constant temperature. Change in V_O due to heating effects must be taken into account separately. Pulse testing with low duty cycle is used.
2. B = T_{low} to T_{high} , $-40^\circ\text{C} < T_J < 125^\circ\text{C}$
C = T_{low} to T_{high} , $0^\circ\text{C} < T_J < 125^\circ\text{C}$

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MC79M00

MC79M08B, C

ELECTRICAL CHARACTERISTICS ($V_I = -10\text{ V}$, $I_O = 350\text{ mA}$, T_{low} to T_{high} [Note 2], unless otherwise noted.)

Characteristic	Symbol	Min	Typ	Max	Unit
Output Voltage ($T_J = 25^\circ\text{C}$)	V_O	-7.7	-8.0	-8.3	Vdc
Line Regulation, $T_J = 25^\circ\text{C}$ (Note 1) -7.0 Vdc $\geq V_I \geq -25\text{ Vdc}$ -8.0 Vdc $\geq V_I \geq -18\text{ Vdc}$	Reg _{line}	— —	5.0 3.0	80 50	mV
Load Regulation, $T_J = 25^\circ\text{C}$ (Note 1) 5.0 mA $\leq I_O \leq 500\text{ mA}$	Reg _{load}	—	30	100	mV
Output Voltage -7.0 Vdc $\geq V_I \geq -25\text{ Vdc}$, 5.0 mA $\leq I_O \leq 350\text{ mA}$	V_O	-7.6	-8.0	-8.4	Vdc
Input Bias Current ($T_J = 25^\circ\text{C}$)	I_{IB}	—	—	8.0	mA
Input Bias Current Change -8.0 Vdc $\geq V_I \geq -25\text{ Vdc}$, $I_O = 350\text{ mA}$ 5.0 mA $\leq I_O \leq 350\text{ mA}$, $V_I = -10\text{ V}$	ΔI_{IB}	— —	— —	0.4 0.4	mA
Output Noise Voltage, $T_A = 25^\circ\text{C}$, 10 Hz $\leq f \leq 100\text{ kHz}$	V_n	—	60	—	μV
Ripple Rejection ($f = 120\text{ Hz}$)	RR	54	63	—	dB
Dropout Voltage $I_O = 500\text{ mA}$, $T_J = 25^\circ\text{C}$	$V_I - V_O$	—	1.1	—	Vdc
Average Temperature Coefficient of Output Voltage $I_O = 5.0\text{ mA}$, $0^\circ\text{C} \leq T_J \leq 125^\circ\text{C}$	$\Delta V_O / \Delta T$	—	0.4	—	mV/ $^\circ\text{C}$

MC79M12B, C

ELECTRICAL CHARACTERISTICS ($V_I = -19\text{ V}$, $I_O = 350\text{ mA}$, T_{low} to T_{high} [Note 2], unless otherwise noted.)

Characteristic	Symbol	Min	Typ	Max	Unit
Output Voltage ($T_J = 25^\circ\text{C}$)	V_O	-11.5	-12	-12.5	Vdc
Line Regulation, $T_J = 25^\circ\text{C}$ (Note 1) -14.5 Vdc $\geq V_I \geq -30\text{ Vdc}$ -15 Vdc $\geq V_I \geq -25\text{ Vdc}$	Reg _{line}	— —	5.0 3.0	80 50	mV
Load Regulation, $T_J = 25^\circ\text{C}$ (Note 1) 5.0 mA $\leq I_O \leq 500\text{ mA}$	Reg _{load}	—	30	240	mV
Output Voltage -14.5 Vdc $\geq V_I \geq -30\text{ Vdc}$, 5.0 mA $\leq I_O \leq 350\text{ mA}$	V_O	-11.4	—	-12.6	Vdc
Input Bias Current ($T_J = 25^\circ\text{C}$)	I_{IB}	—	4.4	8.0	mA
Input Bias Current Change -14.5 Vdc $\geq V_I \geq -30\text{ Vdc}$, $I_O = 350\text{ mA}$ 5.0 mA $\leq I_O \leq 350\text{ mA}$, $V_I = -19\text{ V}$	ΔI_{IB}	— —	— —	0.4 0.4	mA
Output Noise Voltage, $T_A = 25^\circ\text{C}$, 10 Hz $\leq f \leq 100\text{ kHz}$	V_n	—	75	—	μV
Ripple Rejection ($f = 120\text{ Hz}$)	RR	54	60	—	dB
Dropout Voltage $I_O = 500\text{ mA}$, $T_J = 25^\circ\text{C}$	$V_I - V_O$	—	1.1	—	Vdc
Average Temperature Coefficient of Output Voltage $I_O = 5.0\text{ mA}$, $0^\circ\text{C} \leq T_J \leq 125^\circ\text{C}$	$\Delta V_O / \Delta T$	—	-0.8	—	mV/ $^\circ\text{C}$

NOTES: 1. Load and line regulation are specified at constant temperature. Change in V_O due to heating effects must be taken into account separately. Pulse testing with low duty cycle is used.

2. B = T_{low} to T_{high} , $-40^\circ\text{C} < T_J < 125^\circ\text{C}$

C = T_{low} to T_{high} , $0^\circ\text{C} < T_J < 125^\circ\text{C}$

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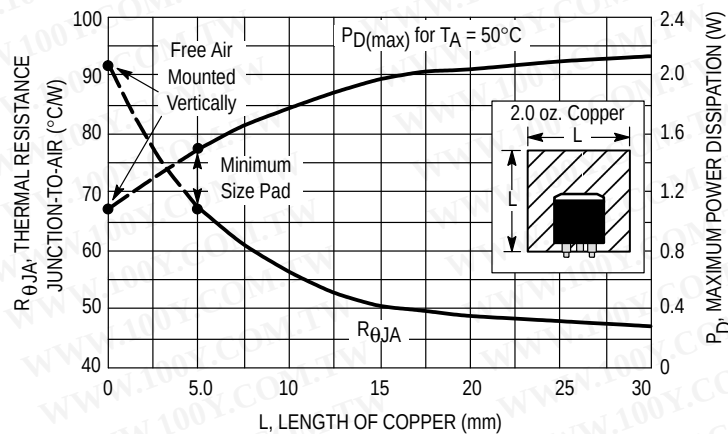
MC79M15B, C

ELECTRICAL CHARACTERISTICS ($V_I = -23\text{ V}$, $I_O = 350\text{ mA}$, T_{low} to T_{high} [Note 2], unless otherwise noted.)

Characteristic	Symbol	Min	Typ	Max	Unit
Output Voltage ($T_J = 25^\circ\text{C}$)	V_O	-14.4	-15	-15.6	Vdc
Line Regulation, $T_J = 25^\circ\text{C}$ (Note 1) -17.5 Vdc $\geq V_I \geq -30\text{ Vdc}$ -18 Vdc $\geq V_I \geq -28\text{ Vdc}$	Reg _{line}	— —	5.0 3.0	80 50	mV
Load Regulation, $T_J = 25^\circ\text{C}$ (Note 1) $5.0\text{ mA} \leq I_O \leq 500\text{ mA}$	Reg _{load}	—	30	240	mV
Output Voltage -17.5 Vdc $\geq V_I \geq -30\text{ Vdc}$, $5.0\text{ mA} \leq I_O \leq 350\text{ mA}$	V_O	-14.25	—	-15.75	Vdc
Input Bias Current ($T_J = 25^\circ\text{C}$)	I_{IB}	—	4.4	8.0	mA
Input Bias Current Change -17.5 Vdc $\geq V_I \geq -30\text{ Vdc}$, $I_O = 350\text{ mA}$ $5.0\text{ mA} \leq I_O \leq 350\text{ mA}$, $V_I = -23\text{ V}$	ΔI_{IB}	— —	— —	0.4 0.4	mA
Output Noise Voltage, $T_A = 25^\circ\text{C}$, $10\text{ Hz} \leq f \leq 100\text{ kHz}$	V_n	—	90	—	μV
Ripple Rejection ($f = 120\text{ Hz}$)	RR	54	60	—	dB
Dropout Voltage $I_O = 500\text{ mA}$, $T_J = 25^\circ\text{C}$	$V_I - V_O$	—	1.1	—	Vdc
Average Temperature Coefficient of Output Voltage $I_O = 5.0\text{ mA}$, $0^\circ\text{C} \leq T_J \leq 125^\circ\text{C}$	$\Delta V_O / \Delta T$	—	-1.0	—	mV/ $^\circ\text{C}$

NOTES: 1. Load and line regulation are specified at constant temperature. Change in V_O due to heating effects must be taken into account separately. Pulse testing with low duty cycle is used.
2. B = T_{low} to T_{high} , $-40^\circ\text{C} < T_J < 125^\circ\text{C}$
C = T_{low} to T_{high} , $0^\circ\text{C} < T_J < 125^\circ\text{C}$

Figure 1. DPAK Thermal Resistance and Maximum Power Dissipation versus P.C.B. Copper Length



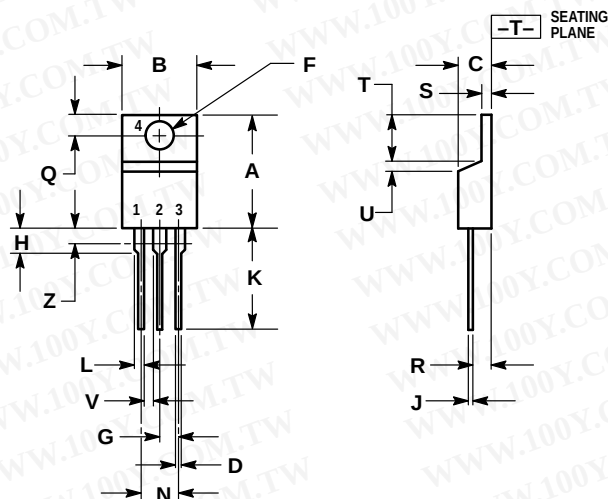
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MC79M00

OUTLINE DIMENSIONS

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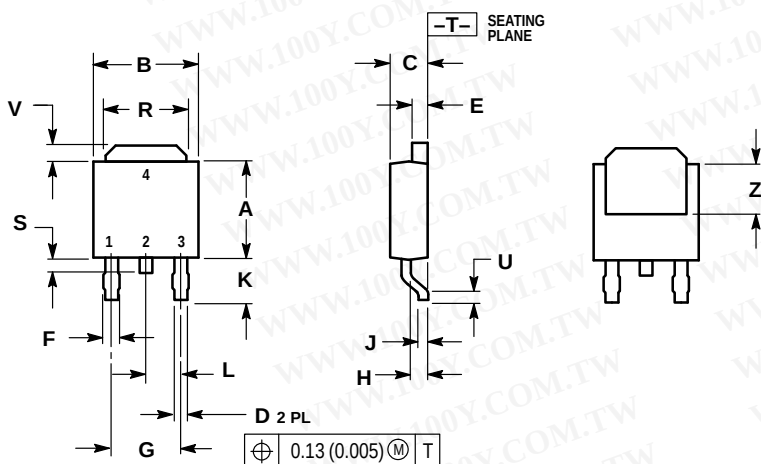
T SUFFIX
 PLASTIC PACKAGE
 CASE 221A-06
 ISSUE Y



- NOTES:
1. DIMENSIONING AND TOLERANCING PER ANSI Y14.5M, 1982.
 2. CONTROLLING DIMENSION: INCH.
 3. DIMENSION Z DEFINES A ZONE WHERE ALL BODY AND LEAD IRREGULARITIES ARE ALLOWED.

DIM	INCHES		MILLIMETERS	
	MIN	MAX	MIN	MAX
A	0.570	0.620	14.48	15.75
B	0.380	0.405	9.66	10.28
C	0.160	0.190	4.07	4.82
D	0.025	0.035	0.64	0.88
E	0.142	0.147	3.61	3.73
F	0.095	0.105	2.42	2.66
G	0.110	0.155	2.80	3.93
H	0.018	0.025	0.46	0.64
J	0.500	0.562	12.70	14.27
K	0.045	0.060	1.15	1.52
L	0.190	0.210	4.83	5.33
N	0.100	0.120	2.54	3.04
Q	0.080	0.110	2.04	2.79
R	0.045	0.055	1.15	1.39
S	0.235	0.255	5.97	6.47
T	0.000	0.050	0.00	1.27
U	0.045	—	1.15	—
V	—	0.080	—	2.04

DT SUFFIX
 PLASTIC PACKAGE
 CASE 369A-13
 (DPAK)
 ISSUE Y



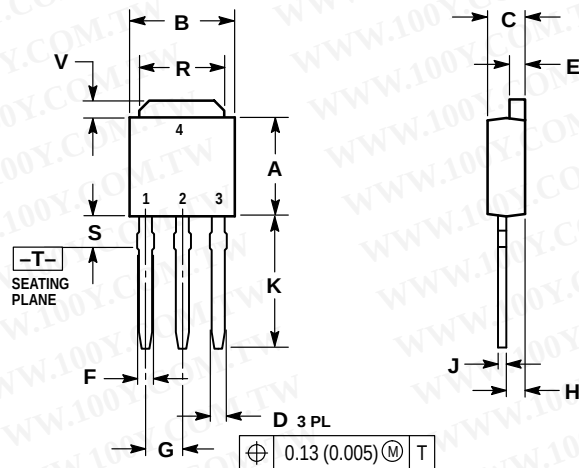
- NOTES:
1. DIMENSIONING AND TOLERANCING PER ANSI Y14.5M, 1982.
 2. CONTROLLING DIMENSION: INCH.

DIM	INCHES		MILLIMETERS	
	MIN	MAX	MIN	MAX
A	0.235	0.250	5.97	6.35
B	0.250	0.265	6.35	6.73
C	0.086	0.094	2.19	2.38
D	0.027	0.035	0.69	0.88
E	0.033	0.040	0.84	1.01
F	0.037	0.047	0.94	1.19
G	0.180	BSC	4.58	BSC
H	0.034	0.040	0.87	1.01
J	0.018	0.023	0.46	0.58
K	0.102	0.114	2.60	2.89
L	0.090	BSC	2.29	BSC
R	0.175	0.215	4.45	5.46
S	0.020	0.050	0.51	1.27
U	0.020	—	0.51	—
V	0.030	0.050	0.77	1.27
Z	0.138	—	3.51	—

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OUTLINE DIMENSIONS

DT-1 SUFFIX
PLASTIC PACKAGE
CASE 369-07
(DPAK)
ISSUE K



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NOTES:

1. DIMENSIONING AND TOLERANCING PER ANSI Y14.5M, 1982.
2. CONTROLLING DIMENSION: INCH.

DIM	INCHES		MILLIMETERS	
	MIN	MAX	MIN	MAX
A	0.235	0.250	5.97	6.35
B	0.250	0.265	6.35	6.73
C	0.086	0.094	2.19	2.38
D	0.027	0.035	0.69	0.88
E	0.033	0.040	0.84	1.01
F	0.037	0.047	0.94	1.19
G	0.090 BSC		2.29 BSC	
H	0.034	0.040	0.87	1.01
J	0.018	0.023	0.46	0.58
K	0.350	0.380	8.89	9.65
R	0.175	0.215	4.45	5.46
S	0.050	0.090	1.27	2.28
V	0.030	0.050	0.77	1.27