KKA8137

DUAL 5.1V REGULATOR WITH DISABLE AND RESET

The KKA8137 is a monolithic dual positive voltage regulator designed to provide fixed precision output voltages of 5.1 V at currents up to 1 A. An internal reset circuit generates a reset pulse when the output 1 decreases below the regulated voltage value.
Output 2 can be disabled by TTL input.
Short circuit and thermal protections are included.

- Output currents up to 1 A
- Fixed precision OUTPUT voltages 5.1 V ± 2%
- OUTPUT 1 with RESET facility
- OUTPUT 2 with DISABLE by TTL input
- Short circuit protection at both outputs
- Thermal protection
- Low drop output voltage

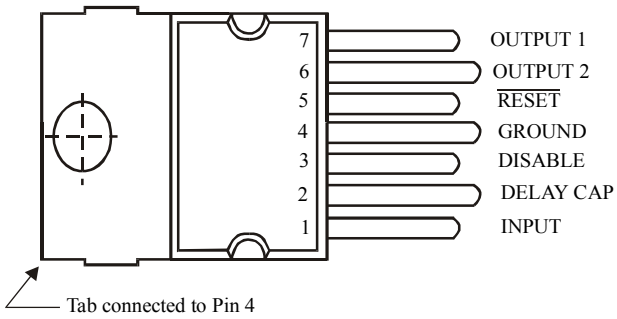
TO-220AB/7
HEPTAWAT
(Plastic Package)

ORDERING INFORMATION

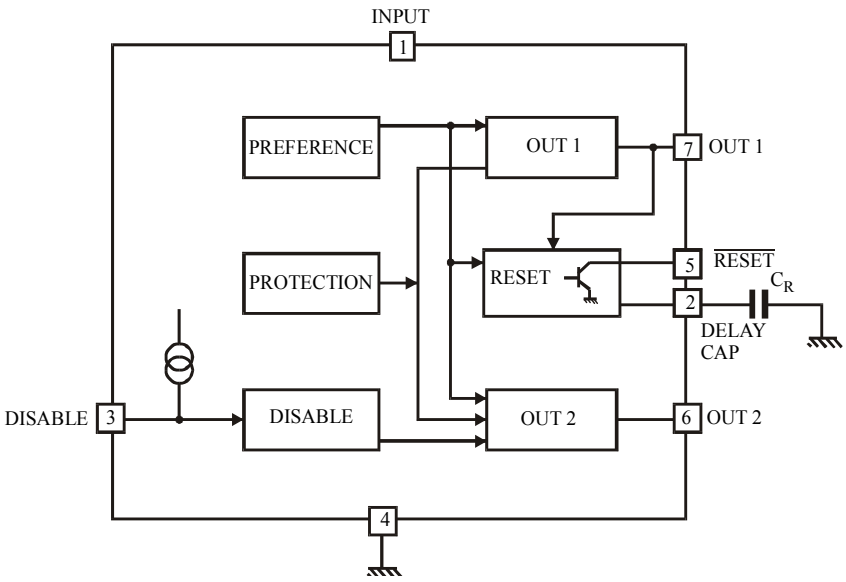
KKA8137A	Plastic Package
KK8137A	chip

T_J = -0° to 130°C

PIN ASSIGNMENT



BLOCK DIAGRAM



MAXIMUM RATINGS*

Symbol	Parameter		Min	Max	Unit
V_{IN}	DC Input Voltage Pin 1			20	V
V_{DIS}	Disable Input Voltage Pin 3			20	V
V_{RST}	Voltage at Pin 5			20	V
$I_{O1,2\ SC}$	Short Circuit Output Current	V_{IN} = 7 V		1.6	A
		V_{IN} = 16 V		1.0	
Tstg	Storage Temperature		-65	150	°C
T_J	Junction Temperature		0	150	°C

*Maximum Ratings are those values beyond which damage to the device may occur.
Functional operation should be restricted to the Recommended Operating Conditions.

RECOMMENDED OPERATING CONDITIONS

Symbol	Parameter	Min	Max	Unit
V_{IN}	DC Input Voltage Pin 1	7.0	14	V
V_{DIS}	Disable Input Voltage Pin 3	0	7.0	V
V_{RST}	Voltage at Pin 5		10	V
$I_{O1,2}$	Output Currents		1.0	A
T_J	Junction Temperature	0	130	°C

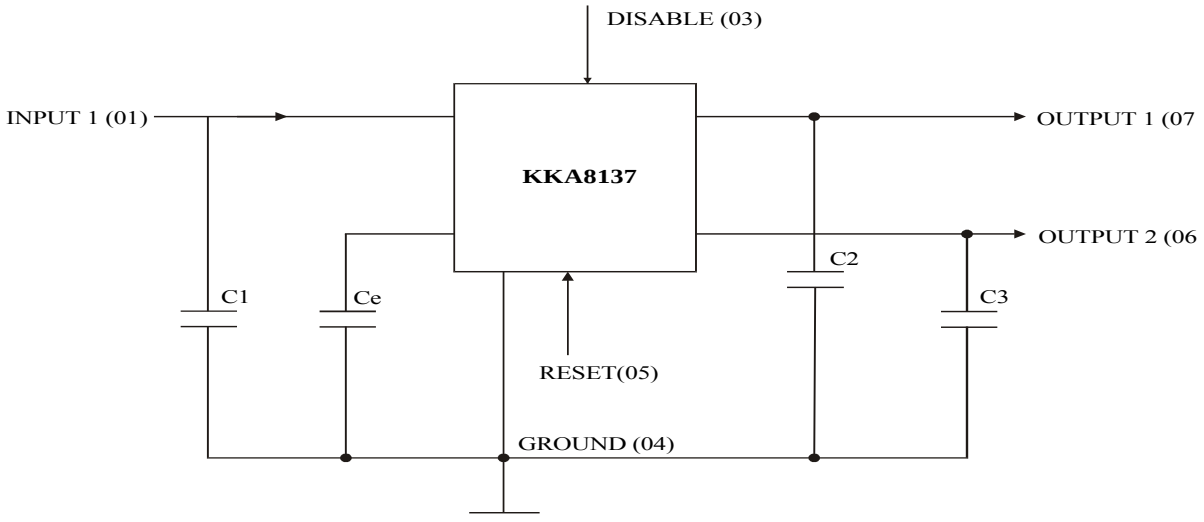
THERMAL DATA

Symbol	Parameter	Vlalue	Unit
Rth (j-c)	Maximum Thermal Resistance Junction-case	6	°C/W
Rth (j-a)	Maximum Thermal Resistance Junction-ambient	60	°C/W

ELECTRICAL CHRACTERISTICS (V_{IN} = 7 V, T_J = 25°C, unless otherwise specified)

Symbol	Parameter	Test Conditions	Guaranteed Limit		Unit
			Min	Max	
$V_{O1,2}$	Output Voltage	V_{IN} = 7 V, V_{DIS} = 2.0 V, I_{O1}= -10 mA	5.0	5.2	V
		7 V ≤ V_{IN} ≤ 14 V, -5 mA ≤ I_{O1} ≤ -750 mA, V_{DIS} = 2.0 V	4.9	5.3	
Δ $V_{O1,2\ LI}$	Line Regulation	7 V ≤ V_{IN} ≤ 14 V, $I_{O1,2}$ = -200 mA, V_{DIS} = 2.0 V		50	mV
Δ $V_{O1,2\ LO}$	Load Regulation	V_{IN} = 7 V, -5 mA ≤ $I_{O1,2}$ ≤ -0.6 mA, V_{DIS} = 2.0 V		100	mV
$V_{IO1,2}$	Dropout Voltage	$I_{O1,2}$ = -750 mA, V_{DIS} = 2.0 V		1.4	V
		$I_{O1,2}$ = -1.0 mA, V_{DIS} = 2.0 V		2.0	
I_Q	Quiescent Current	V_{IN1} = 7 V, V_{IN2} = 10 V, V_{DIS} = 0.8 V, I_{O1}= -10 mA		2.0	mA
I_{DIS}	Disable Bias Current	0 V ≤ V_{DIS} ≤ 7 V, V_{IN} = 7 V	-100	2.0	μA
V_{O1RST}	Reset Threshold Voltage	K = V_{O1}, V_{DIS} = 2.0 V	K - 0.4	K – 0.1	V
V_{RTH}	Reset Threshold Hysteresis	V_{DIS} = 2.0 V	20	75	мВ
V_{RL}	Saturation Volt. at Pin 5 in Reset Condition	V_5 = 5.0 V, V_{DIS} = 2.0 V, I_5 = 5.0 mA		0.4	В
I_{RH}	Leakage Current at Pin 5 in Normal Condition	V_5 = 10 V, V_{DIS} = 2.0 V, V_{IN} = 7 V		10	μA
t_{RD}	Reset Pulse Delay at Pin 5	V_{DIS} = 2.0 V, V_{IN} = 5 V to 7 V	15	35	ns
V_{DISH}	Disable Voltage High (out 2 active)	V_{IN} = 7 V	2		V
V_{DISL}	Disable Voltage Low (out 2 disabled)	V_{IN} = 7 V		0.8	V

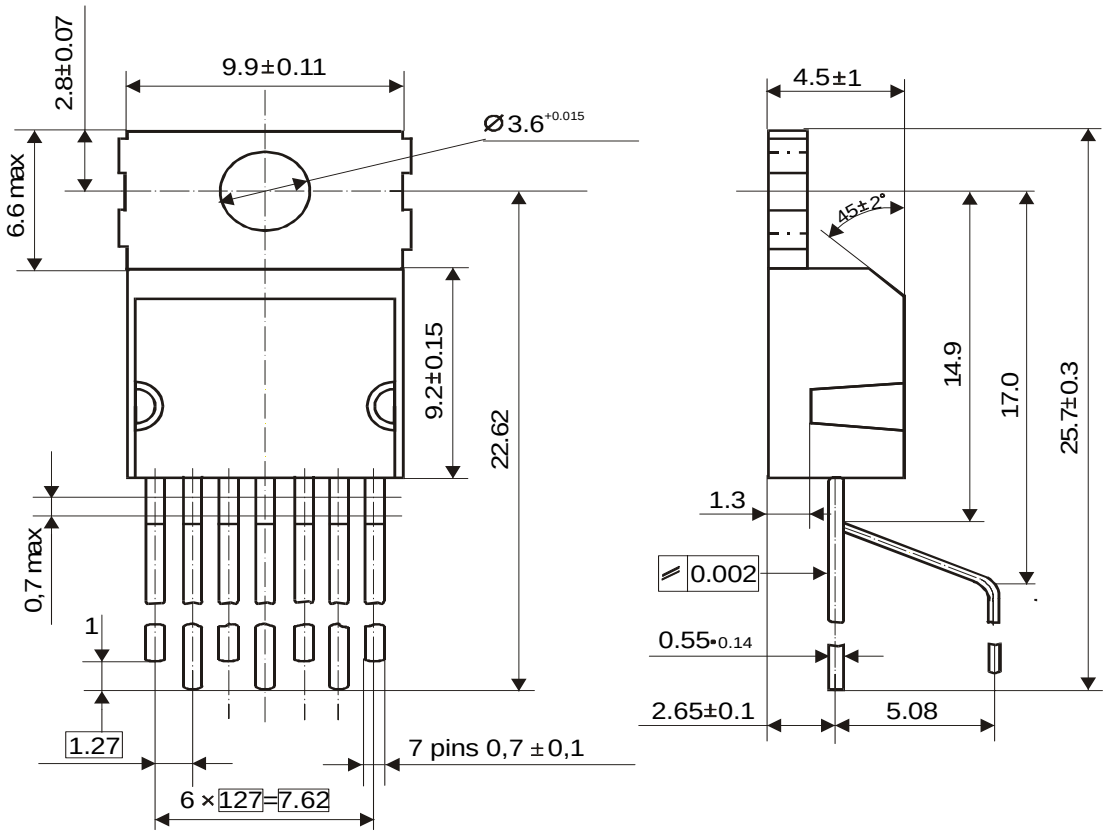
TYPICAL APPLICATION



C1 to C3 = 10 μF

$$t_{RD} = \frac{Ce \bullet 2.5V}{10\mu A}$$

TO-220 AB/7


2.8±0.07
9.9±0.11
Ø3.6+0.015
6.6 max
9.2±0.15
22.62
0,7 max
1
1.27
6 × 127 = 7.62
7 pins 0,7 ± 0,1
4.5±1
45±2°
14.9
17.0
25.7±0.3
1.3
0.002
0.55+0.14
2.65±0.1
5.08