

**isc Three Terminal Positive Voltage Regulator**
**7824K**
**FEATURES**

- Output current in excess of 1.5A
- Output voltage of 24V
- Internal thermal overload protection
- Short circuit protection
- Output transition Safe-Area compensation
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

**ABSOLUTE MAXIMUM RATINGS(T<sub>a</sub>=25°C)**

SYMBOL	PARAMETER	RATING	UNIT
V <sub>i</sub>	DC input voltage	40	V
I <sub>o</sub>	Output current	internally limited	
P <sub>tot</sub>	Power dissipation	internally limited	
T <sub>OP</sub>	Operating junction temperature	-40~125	°C
T <sub>stg</sub>	Storage temperature	-40~150	°C

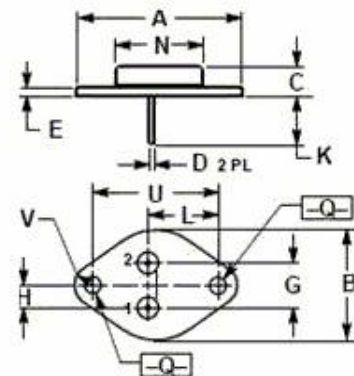
**THERMAL CHARACTERISTICS**

SYMBOL	PARAMETER	MAX	UNIT
R <sub>th j-c</sub>	Thermal Resistance, Junction to Case	3	°C/W



PIN 1, Input  
2, Output  
3, Ground

TO-3 package



DIM	mm	
	MIN	MAX
A	39.00	
B	25.30	26.67
C	7.80	8.50
D	0.90	1.10
E	1.40	1.60
G	10.92	
H	5.46	
K	11.30	13.50
L	16.75	17.05
N	19.40	19.62
Q	4.00	4.20
U	30.00	30.20
V	4.30	4.50

## isc Three Terminal Positive Voltage Regulator

7824K

## • ELECTRICAL CHARACTERISTICS

T<sub>j</sub>=25°C (V<sub>i</sub>= 33V, I<sub>o</sub>=0.5A, C<sub>i</sub>= 0.33 μ F, C<sub>o</sub>= 0.1 μ F unless otherwise specified)

SYMBOL	PARAMETER	CONDITIONS	MIN	MAX	UNIT
V <sub>o</sub>	Output Voltage	V <sub>in</sub> =33V; I <sub>o</sub> =500mA	23	25	V
ΔV <sub>v</sub>	Line Regulation	27V ≤ V <sub>in</sub> ≤ 38V; I <sub>o</sub> =500mA		480	mV
ΔV <sub>i</sub>	Load Regulation	5.0mA ≤ I <sub>o</sub> ≤ 1.5A; V <sub>in</sub> =33V		480	mV
I <sub>b</sub>	Quiescent Current	V <sub>in</sub> =33V; I <sub>o</sub> =0.5A		8.0	mA
Δ <sub>b1</sub>	Quiescent Current Change	5.0mA ≤ I <sub>o</sub> ≤ 1.0A; V <sub>in</sub> =33V		0.5	mA
Δ <sub>b2</sub>	Quiescent Current Change	27V ≤ V <sub>in</sub> ≤ 38V; I <sub>o</sub> =500mA		1.0	mA

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