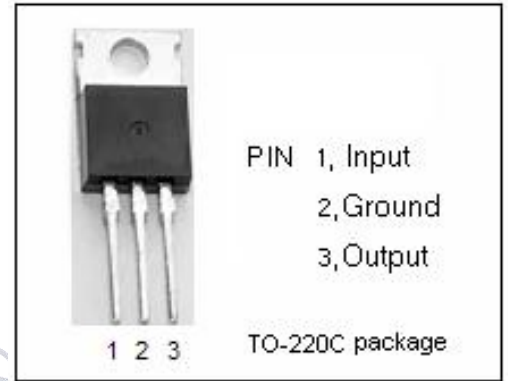


isc Three Terminal Positive Voltage Regulator

7824

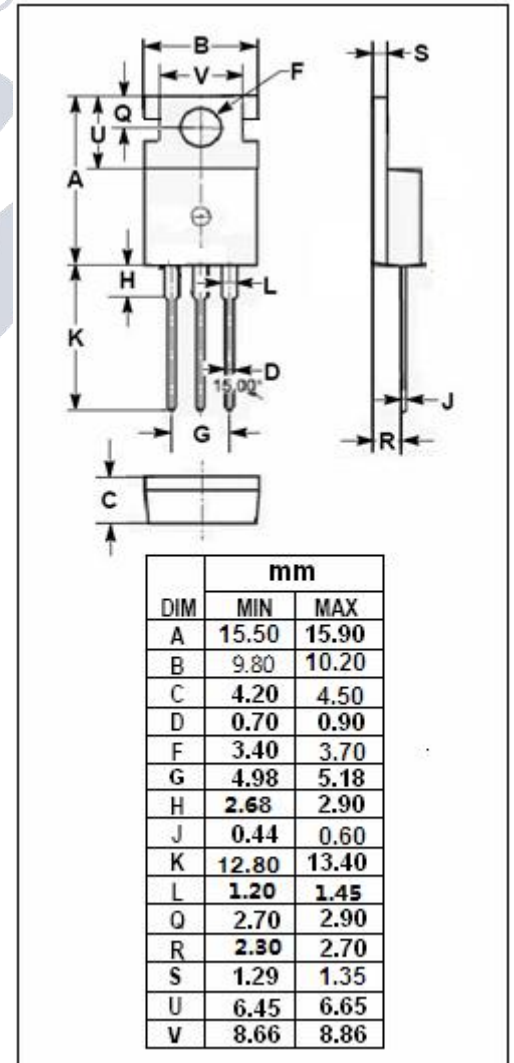
FEATURES

- 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_a=25°C)

SYMBOL	PARAMETER	RATING	UNIT
V _i	DC input voltage	40	V
I _o	Output current	internally limited	
P _{tot}	Power dissipation	internally limited	
T _{OP}	Operating junction temperature	-40~125	°C
T _{stg}	Storage temperature	-40~150	°C



THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	MAX	UNIT
R _{th j-c}	Thermal Resistance, Junction to Case	3	°C/W
R _{th j-a}	Thermal Resistance, Junction to Ambient	50	°C/W

isc Three Terminal Positive Voltage Regulator**7824****• ELECTRICAL CHARACTERISTICS** $T_J=25^{\circ}\text{C}$ ($V_i=33\text{V}$, $I_o=0.5\text{A}$, $C_i=0.33\ \mu\text{F}$, $C_o=0.1\ \mu\text{F}$ unless otherwise specified)

SYMBOL	PARAMETER	CONDITIONS	MIN	MAX	UNIT
V_o	Output Voltage	$V_{in}=33\text{V}$; $I_o=500\text{mA}$	23	25	V
ΔV_v	Line Regulation	$27\text{V}\leq V_{in}\leq 38\text{V}$; $I_o=500\text{mA}$		480	mV
ΔV_i	Load Regulation	$5.0\text{mA}\leq I_o\leq 1.5\text{A}$; $V_{in}=33\text{V}$		480	mV
I_b	Quiescent Current	$V_{in}=33\text{V}$; $I_o=0.5\text{A}$		8.0	mA
Δ_{b1}	Quiescent Current Change	$5.0\text{mA}\leq I_o\leq 1.0\text{A}$; $V_{in}=33\text{V}$		0.5	mA
Δ_{b2}	Quiescent Current Change	$27\text{V}\leq V_{in}\leq 38\text{V}$; $I_o=500\text{mA}$		1.0	mA

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