

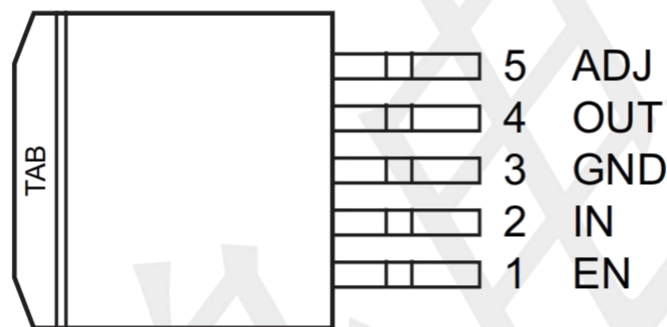
Features

- High Current Capability 1.5A
- Operating Input Voltage 26V
- Low Dropout Voltage
- Low Ground Current
- Accurate 1% Guaranteed Tolerance
- Extremely Fast Transient Response
- Adjustable-Voltage

Applications

- Battery-Powered Equipment
- High-Efficiency Green Computer Systems
- Automotive Electronics
- High-Efficiency Linear Power Supplies
- High-Efficiency Post-Regulator for Switching Supply

PIN CONFIGURATION



TO-263-5(TOP VIEW)

Pin Number	Pin Name	Pin Function
1	EN	CMOS compatible control input. Logic-high = enable, logic-low = shutdown.
2	IN	Supplies the current to the output power device.
3	GND	TAB is also connected internally to the IC's ground
4	OUT	The regulator output voltage.
5	ADJ	Adjustable regulator feedback input that connects to the resistor voltage divider that is placed from OUTPUT to GND in order to set the output voltage

MIC29152WU-TP

High-Current Low Dropout Regulators

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Absolute Maximum Ratings over operating free-air temperature range (unless otherwise noted)

SYMBOL	PARAMETER	RATINGS	UNIT
VIN	Continuous input voltage range	-20 to +60V	V
VEN	Enable Input Voltage	-20 to VIN	V
PD	Power Dissipation	Internally Limited	W

Operating Ratings

PARAMETER	SYMBOL	RATINGS	UNIT
Maximum Operating Input Voltage	VIN	26	V
Storage Temperature Range	TS	-65 ~ +150	°C
Operating Junction Temperature	TJ	-40 ~ +125	°C
Thermal Resistance	θ_{JC}	2	°C/W

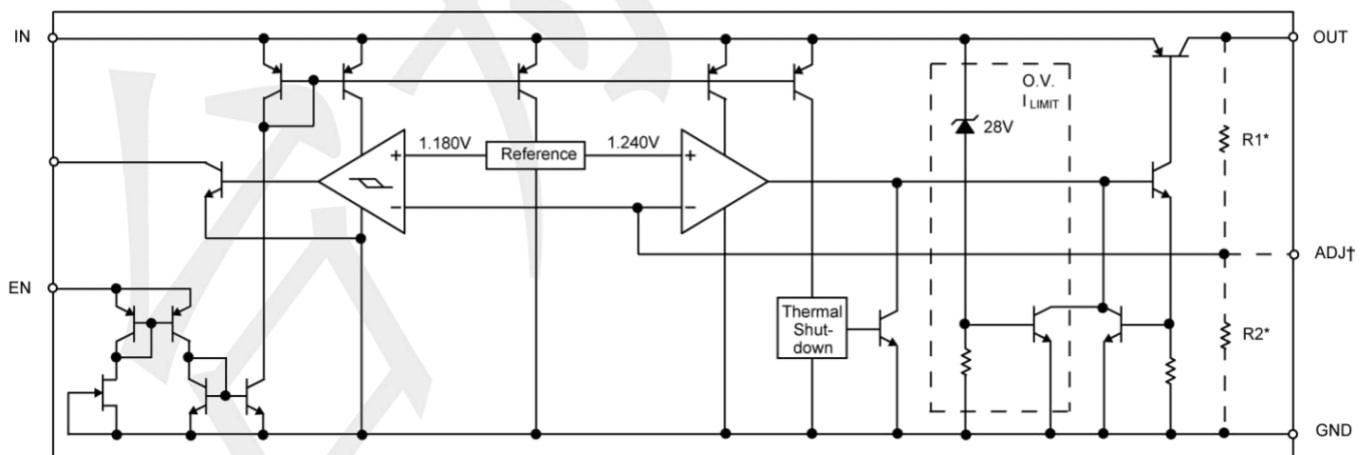
Notice: Stresses above those listed under "Absolute Maximum Ratings" may cause permanent damage to the device.

This is a stress rating only and functional operation of the device at those or any other conditions above those indicated in the operational sections of this specification is not intended. Exposure to maximum rating conditions for extended periods may affect device reliability.

Notice: The device is not guaranteed to function outside its operating ratings.

Note :Maximum positive supply voltage of 60V must be of limited duration (<100 ms) and duty cycle ($\leq 1\%$). The maximum continuous supply voltage is 26V. Exceeding the absolute maximum rating may damage the device.

BLOCK DIAGRAM



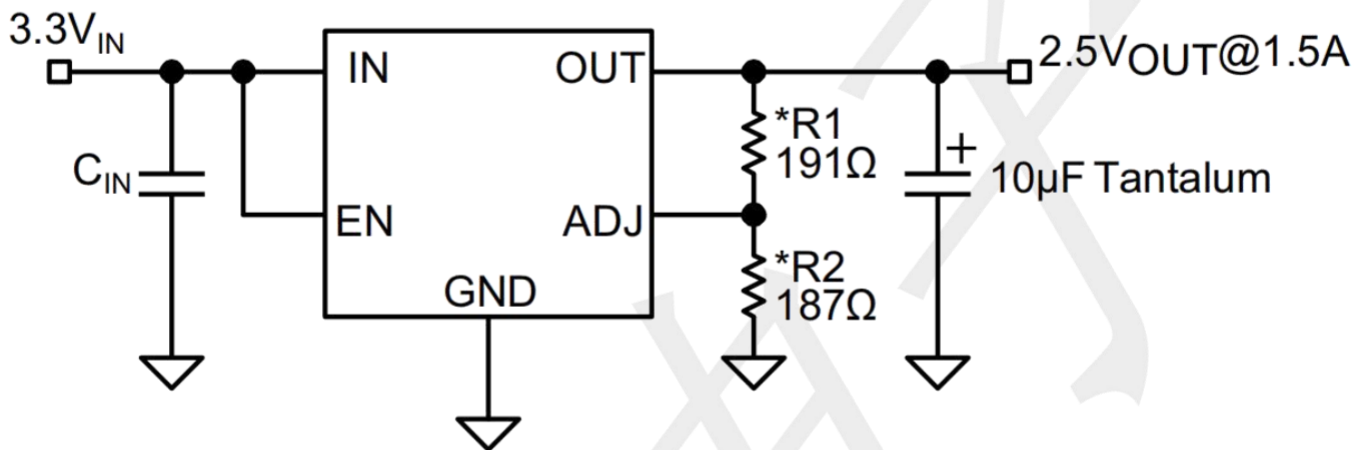
Electrical Characteristics

PARAMETER	SYMBOL	Conditions	MIN	TYP	MAX	UNIT
Output Voltage	V _{OUT}	I _{OUT} = 10 mA	-1	--	1	%
		10 mA ≤ I _{OUT} ≤ I _{FL} , (V _{OUT} + 1V) ≤ V _{IN} ≤ 26V	-2	--	2	%
Line Regulation		I _{OUT} = 10 mA, (V _{OUT} + 1V) ≤ V _{IN} ≤ 26V	--	0.06	5	%
Load Regulation		V _{IN} = V _{OUT} + 1V, 10 mA ≤ I _{OUT} ≤ 1.5A (Note 1)	--	0.2	1	%
ΔV _O /ΔT		Output Voltage (Note 1) Temperature Coefficient	--	20	100	Ppm /°C
Dropout Voltage ΔV _{OUT} = -1% (Note 2)		I _{OUT} = 100 mA	--	80	200	mV
		I _{OUT} = 750 mA	--	220	--	mV
		I _{OUT} = 1.5A	--	350	600	mV
Ground Current (Note 3)	I _{IGND}	I _{OUT} = 750 mA, V _{IN} = V _{OUT} + 1V	--	8	20	mA
		I _{OUT} = 1.5A	--	22	--	mA
Ground Pin Current at Dropout	I _{GRNDDO}	V _{IN} = 0.5V less than specified V _{OUT} × I _{OUT} = 10 mA	--	0.9	--	mA
Current Limit	I _{LIM}	V _{OUT} = 0V, (Note 4)	--	2.1	3.5	A
e _n , Output Noise Voltage (10 Hz to 100 kHz) I _L = 100 mA		C _L = 10 μF	--	400	--	μVRMS
		C _L = 33 μF	--	260	--	μVRMS
Ground Current in Shutdown		V _{EN} = 0V	--	2	10	uA
		V _{EN} = 0.4V	--	--	30	uA
Reference Voltage			1.228	1.240	1.252	V
			1.215	--	1.265	V _{MAX}
Adjust Pin Bias Current			--	40	80	nA
Input Logic Voltage Low (OFF)			--	--	0.9	V
Input Logic Voltage High (ON)			2.4	--	--	V
Enable Pin Input Current		V _{EN} = 26V	--	--	600	uA
		V _{EN} = 0.8V	0.7	--	2	uA

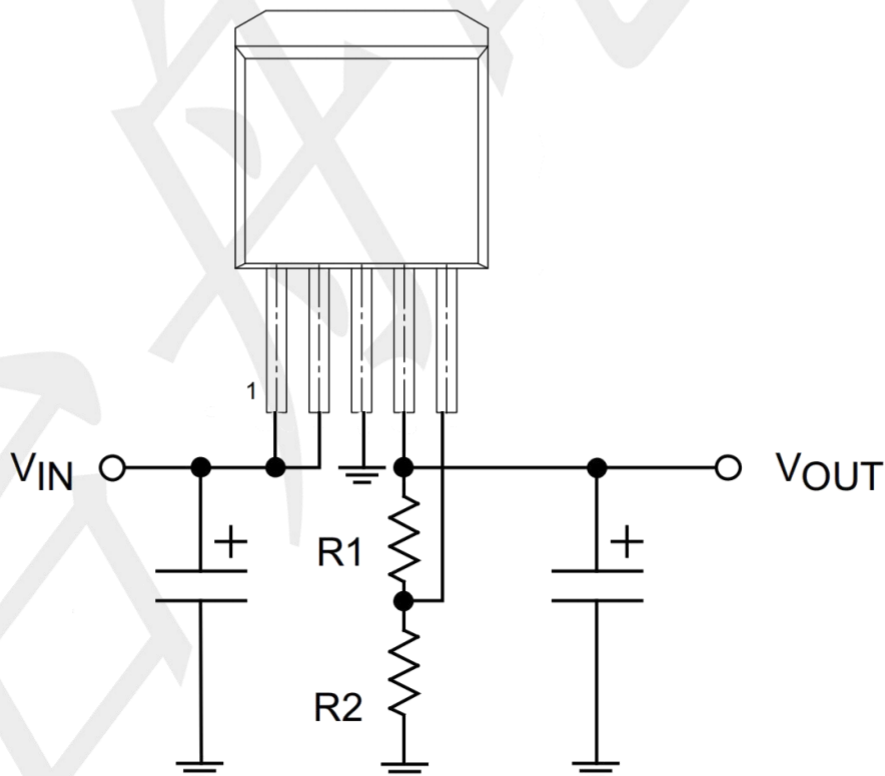
Note:

1. Output voltage temperature coefficient is defined as the worst case voltage change divided by the total temperature range.
2. Dropout voltage is defined as the input-to-output differential when the output voltage drops to 99% of its normal value with V_{OUT} + 1V applied to V_{IN}.
3. Ground pin current is the regulator quiescent current. The total current drawn from the source is the sum of the load current plus the ground pin current.
4. V_{IN} = V_{OUT} (nominal) + 1V. For example, use V_{IN} = 4.3V for a 3.3V regulator or use 6V for a 5V regulator. Employ pulse-testing procedures to pin current.

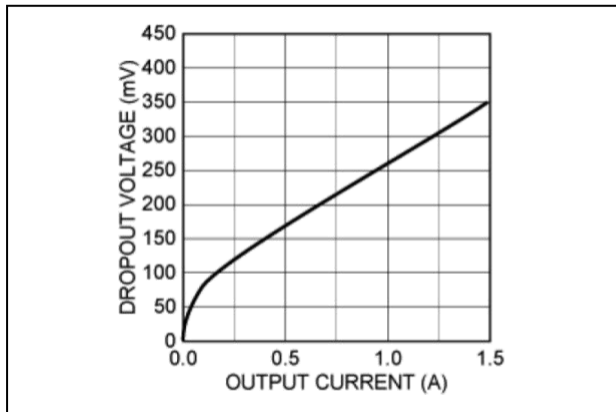
Typical Application Circuit



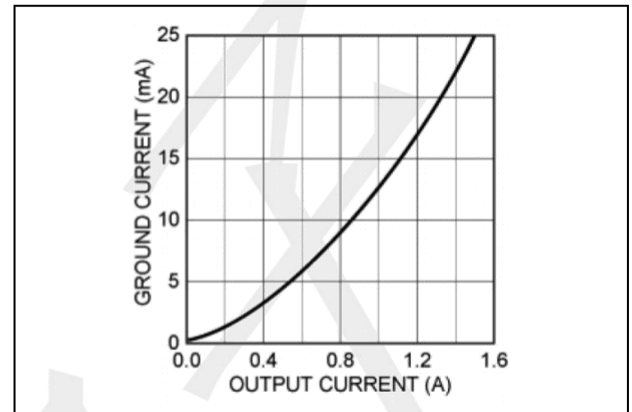
* See Minimum Load Current Section



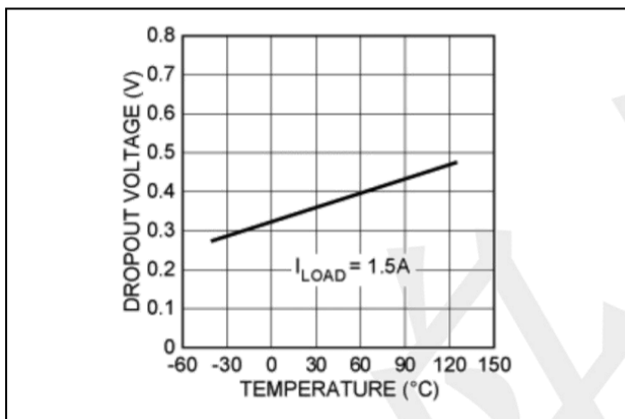
Typical Characteristics



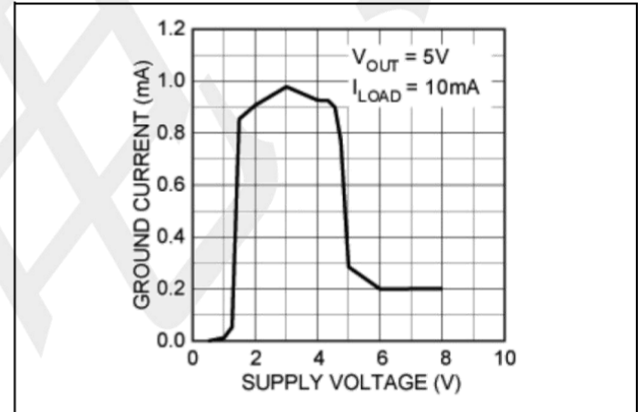
Dropout Voltage vs. Output Current.



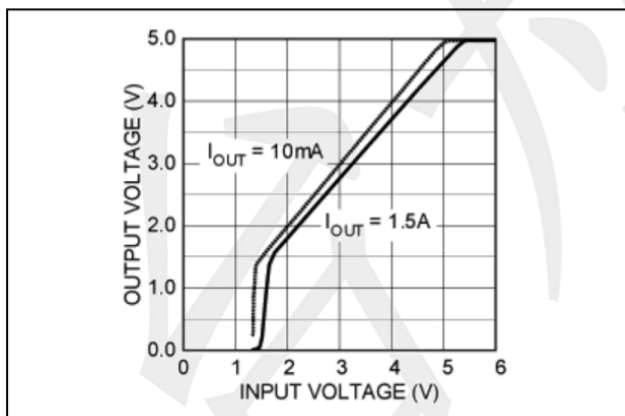
Ground Current vs. Output Current.



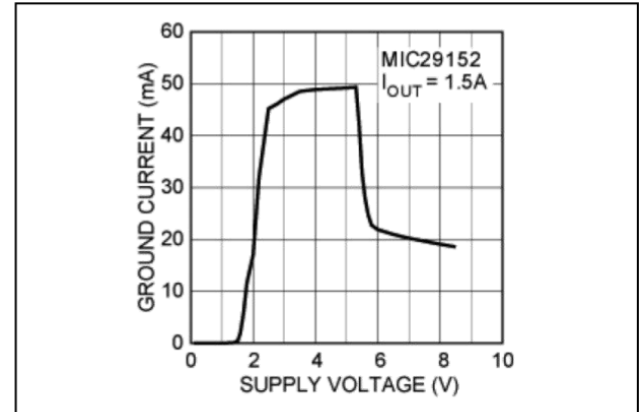
Dropout Voltage vs. Temperature.



Ground Current vs. Supply Voltage.

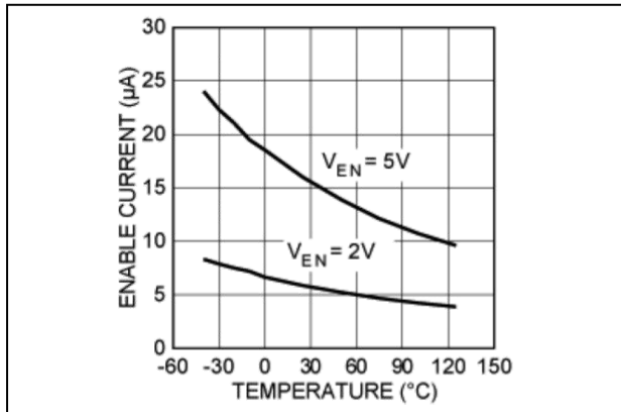


Dropout Characteristics.

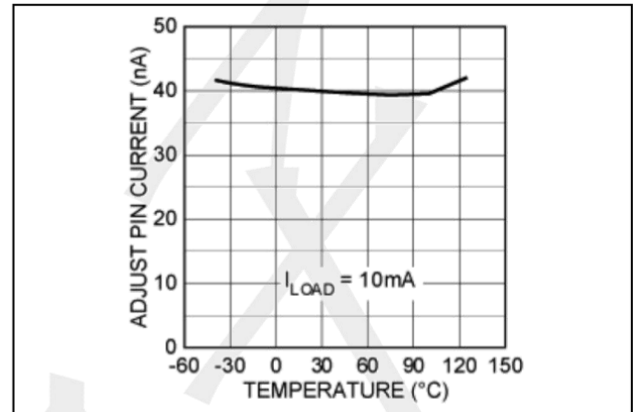


Ground Current vs. Supply Voltage.

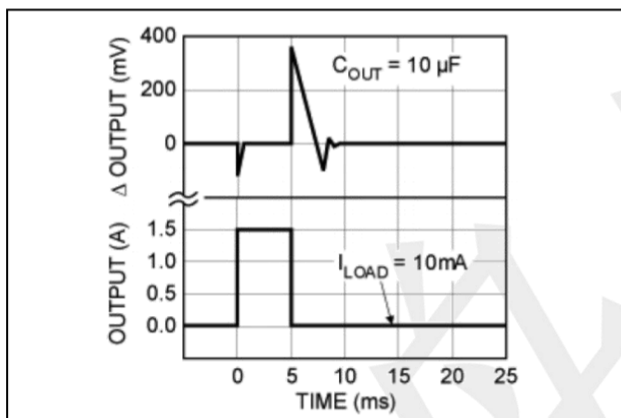
Typical Characteristics



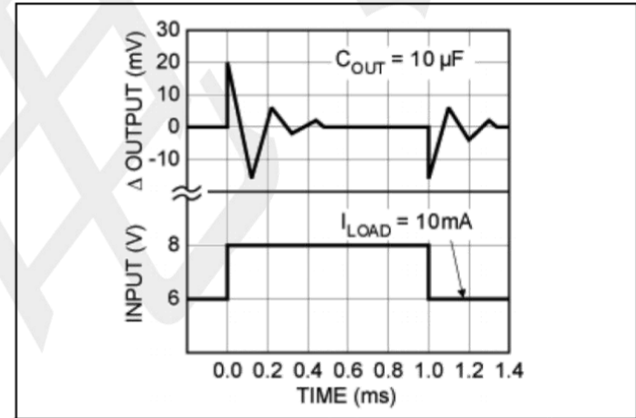
Enable Current vs. Temperature.



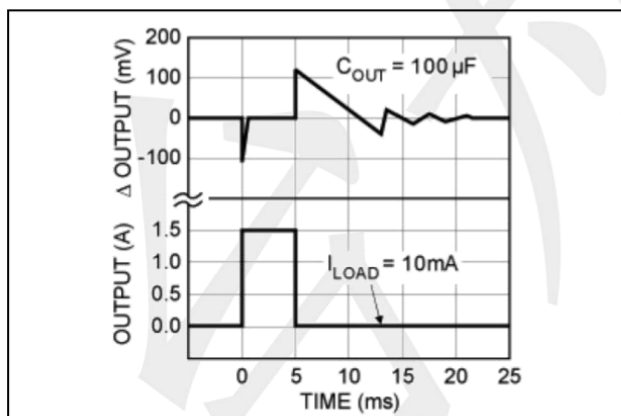
Adjust Pin Current vs. Temperature.



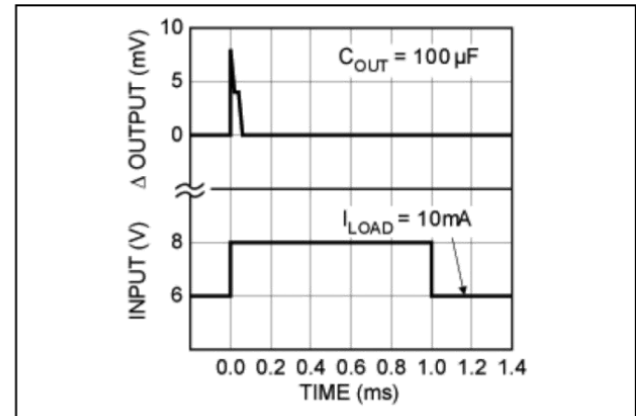
Load Transient.



Line Transient.



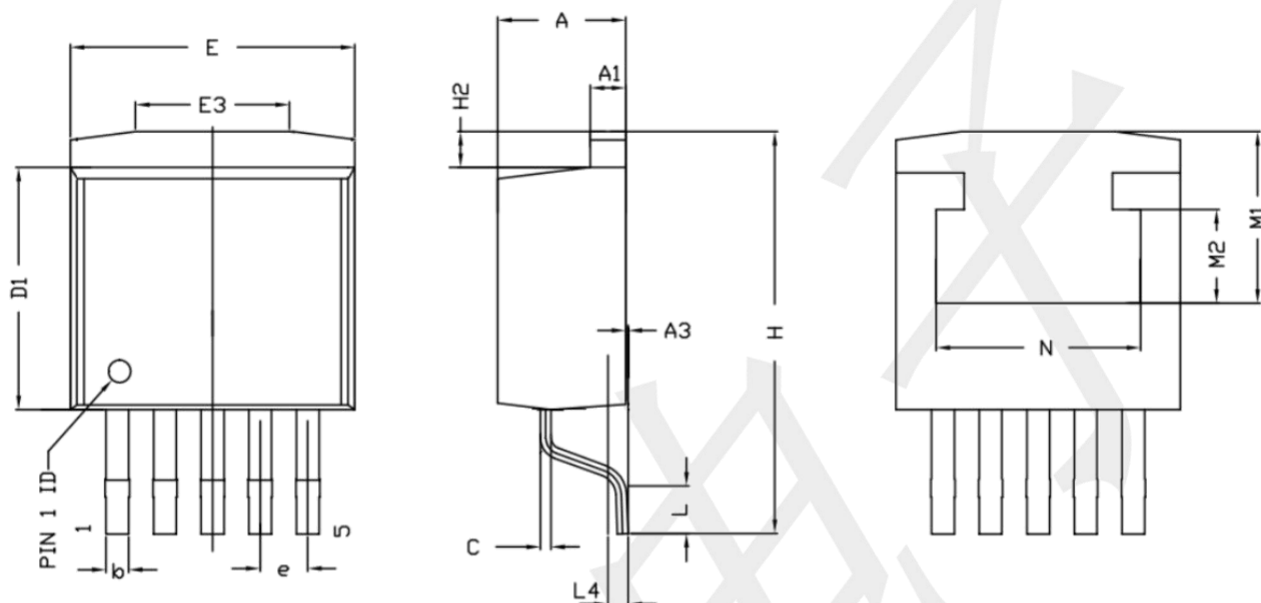
Load Transient.



Line Transient.

Package Outline Dimensions (unit: mm)

TO-263-5



Symbol	Dimensions In Millimeters			Dimensions In Inches		
	Min.	Nom.	Max.	Min.	Nom.	Max.
A	4.45	4.60	4.70	0.175	0.181	0.185
A1	1.22	1.27	1.32	0.048	0.050	0.052
A3	0.00	—	0.15	0.000	—	0.006
b	0.71	—	0.97	0.028	—	0.038
c	0.38	—	0.76	0.015	—	0.030
D1	8.38	8.70	9.00	0.330	0.343	0.354
E	9.91	10.16	10.39	0.390	0.400	0.410
E3	5.00	6.50	8.00	0.197	0.256	0.315
e	1.70 REF.			0.067 REF.		
H	—	—	14.35	—	—	0.565
H2	0.90	1.27	1.42	0.035	0.050	0.056
L	—	1.98	—	—	0.078	—
L4	—	0.76	—	—	0.030	—
M1	—	6.12	—	—	0.241	—
M2	—	3.35	—	—	0.132	—
N	—	7.30	—	—	0.287	—