

## TO-263-2L Plastic-Encapsulate Voltage Regulator

### Three-terminal positive voltage regulator

TO-263-2L

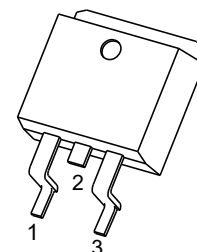
#### Features

- Maximum output current  
 $I_{OM}: 1.5\text{ A}$
- Output voltage  
 $V_O: -15\text{ V}$
- Continuous total dissipation  
 $P_D: 1.5\text{ W}$  ( $T_a = 25\text{ }^\circ\text{C}$ )

1 GND

2. IN

3. OUT



#### ABSOLUTE MAXIMUM RATINGS (Operating temperature range applies unless otherwise specified)

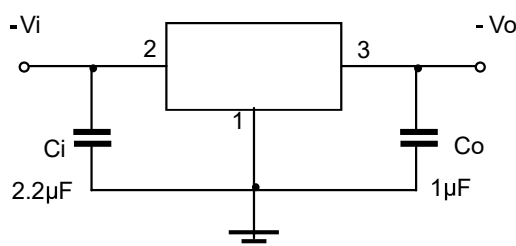
Parameter	Symbol	Value	Unit
Input Voltage	$V_i$	-35	V
Thermal Resistance from Junction to Air	$R_{\theta JA}$	83.3	$^\circ\text{C/W}$
Operating Junction Temperature Range	$T_{OPR}$	-40~+125	$^\circ\text{C}$
Storage Temperature Range	$T_{STG}$	-65~+150	$^\circ\text{C}$

#### ELECTRICAL CHARACTERISTICS AT SPECIFIED VIRTUAL JUNCTION TEMPERATURE ( $V_i = -23\text{ V}$ , $I_o = 500\text{ mA}$ , $C_i = 2.2\text{ }\mu\text{F}$ , $C_o = 1\text{ }\mu\text{F}$ , unless otherwise specified)

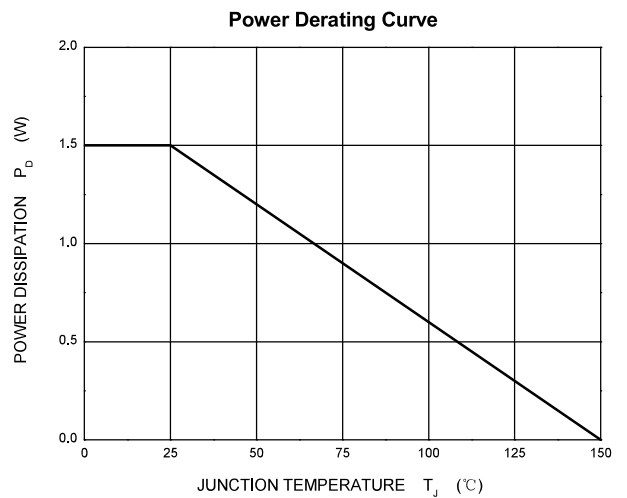
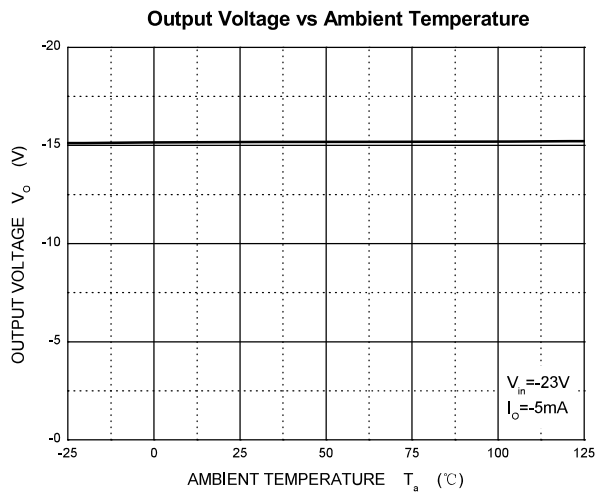
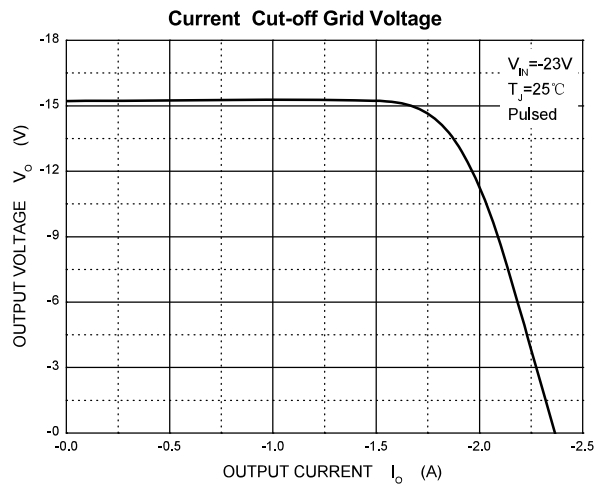
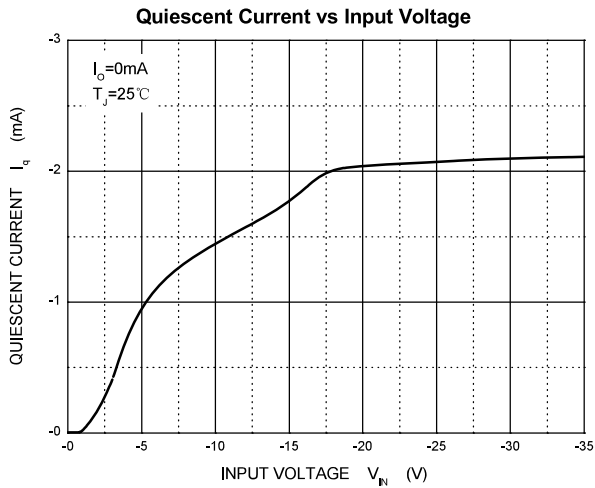
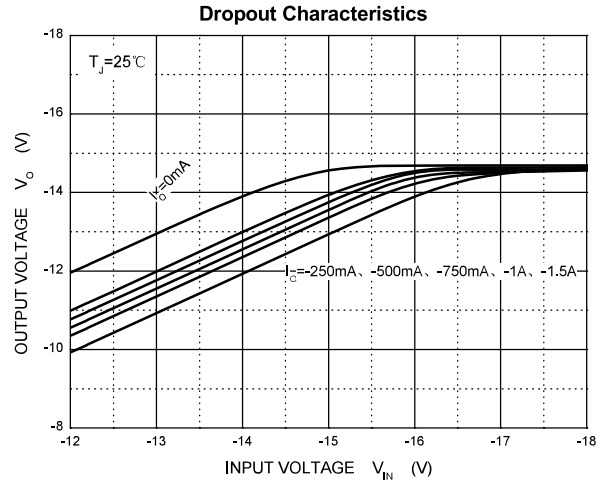
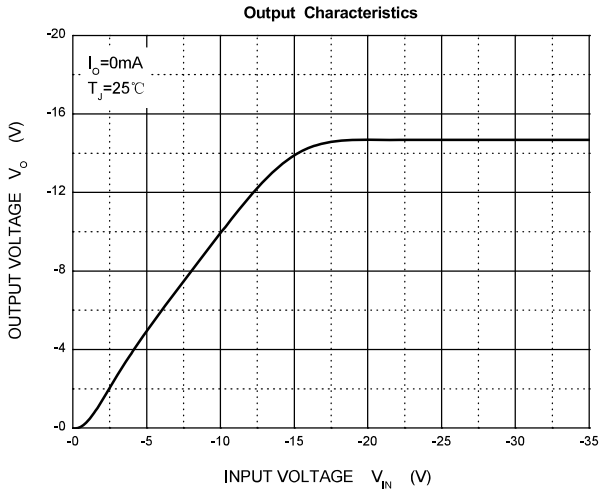
Parameter	Symbol	Test conditions	Min	Typ	Max	Unit
Output voltage	$V_o$	$25\text{ }^\circ\text{C}$	-14.4	-15	-15.6	$\Psi$
		$-17.5\text{ V} \leq V_i \leq -30\text{ V}$ , $I_o = 5\text{ mA} - 1\text{ A}$	0-125 $^\circ\text{C}$	-14.25	-15	-15.75
Load regulation	$\Delta V_o$	$I_o = 5\text{ mA} - 1.5\text{ A}$	$25\text{ }^\circ\text{C}$	15	200	mV
		$I_o = 250\text{ mA} - 750\text{ mA}$	$25\text{ }^\circ\text{C}$	5	75	mV
Line regulation	$\Delta V_o$	$-17.5\text{ V} \leq V_i \leq -30\text{ V}$	$25\text{ }^\circ\text{C}$	5	100	mV
		$-20\text{ V} \leq V_i \leq -26\text{ V}$	$25\text{ }^\circ\text{C}$	3	50	mV
Quiescent current	$I_q$	$25\text{ }^\circ\text{C}$		2	3	mA
Quiescent current change	$\Delta I_q$	$-17.5\text{ V} \leq V_i \leq -30\text{ V}$	0-125 $^\circ\text{C}$		0.5	mA
	$\Delta I_q$	$5\text{ mA} \leq I_o \leq 1\text{ A}$	0-125 $^\circ\text{C}$		0.5	mA
Output noise voltage	$V_N$	$10\text{ Hz} \leq f \leq 100\text{ KHz}$	$25\text{ }^\circ\text{C}$	375		$\mu\text{V}/V_o$
Output voltage drift	$\Delta V_o / \Delta T$	$I_o = 5\text{ mA}$	0-125 $^\circ\text{C}$	-1		$\text{mV}/^\circ\text{C}$
Ripple rejection	RR	$-18.5\text{ V} \leq V_i \leq -28.5\text{ V}$ , $f = 120\text{ Hz}$	0-125 $^\circ\text{C}$	54	60	dB
Dropout voltage	$V_d$	$I_o = 1\text{ A}$	$25\text{ }^\circ\text{C}$		1.1	V
Peak current	$I_{pk}$	$25\text{ }^\circ\text{C}$		2.1		A

\* Pulse test.

#### TYPICAL APPLICATION



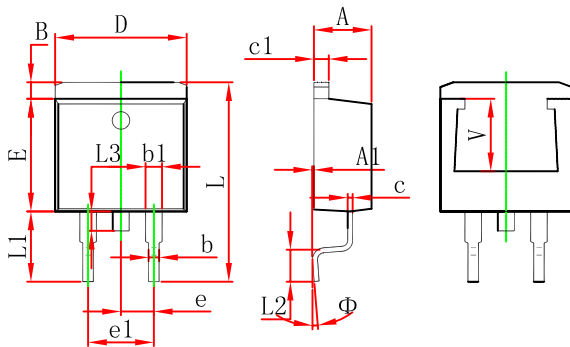
## Typical Characteristics



**Mechanical Information**

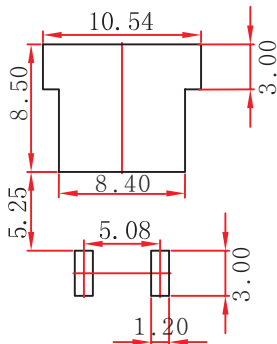
**TO-263-2L Mechanical Information**

**TO-263-2L Outline Dimensions**



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min.	Max.	Min.	Max.
A	4.470	4.670	0.176	0.184
A1	0.000	0.150	0.000	0.006
B	1.120	1.420	0.044	0.056
b	0.710	0.910	0.028	0.036
b1	1.170	1.370	0.046	0.054
c	0.310	0.530	0.012	0.021
c1	1.170	1.370	0.046	0.054
D	10.010	10.310	0.394	0.406
E	8.500	8.900	0.335	0.350
e	2.540 TYP.		0.100 TYP.	
e1	4.980	5.180	0.196	0.204
L	14.940	15.500	0.588	0.610
L1	4.950	5.450	0.195	0.215
L2	2.340	2.740	0.092	0.108
L3	1.300	1.700	0.051	0.067
Φ	0°	8°	0°	8°
V	5.600 REF.		0.220REF.	

**TO-263-2L Suggest Pad Layout**



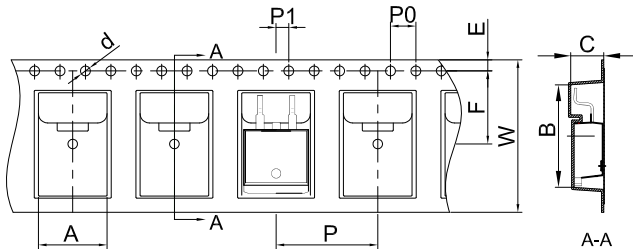
**NOTE:**

1. Controlling dimension: in millimeters.
2. General tolerance: ±0.05mm.
3. The pad layout is for reference purposes only.

**Packaging Information**

**TO-263-2L Tape and Reel Information**

**TO-263-2L Embossed Carrier Tape**

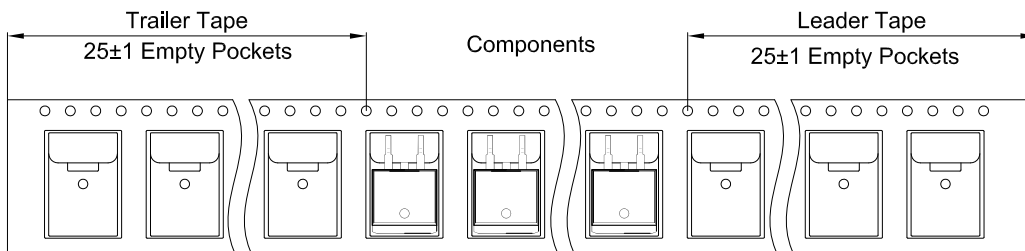


**Packaging Description:**

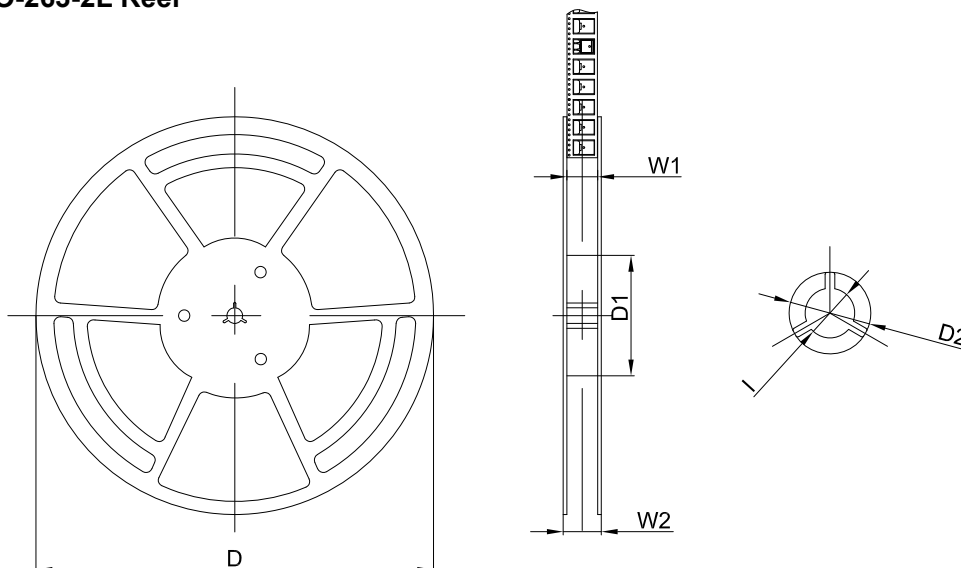
TO-263-2L parts are shipped in tape. The carrier tape is made from a dissipative (carbon filled) polycarbonate resin. The cover tape is a multilayer film (Heat Activated Adhesive in nature) primarily composed of polyester film, adhesive layer, sealant, and anti-static sprayed agent. These reeled parts in standard option are shipped with 800 units per 13" or 33.0 cm diameter reel. The reels are clear in color and is made of polystyrene plastic (anti-static coated).

Dimensions are in millimeter										
Pkg type	A	B	C	d	E	F	P0	P	P1	W
TO-263-2L	10.80	16.13	5.21	Ø1.55	1.75	11.50	4.00	16.00	2.00	24.00

**TO-263-2L Tape Leader and Trailer**



**TO-263-2L Reel**



Dimensions are in millimeter						
Reel Option	D	D1	D2	W1	W2	I
13" Dia	Ø330.00	100.00	Ø21.00	24.4	30.4	Ø13.00

REEL	Reel Size	Box	Box Size(mm)	Carton	Carton Size(mm)	G.W.(kg)
800 pcs	13 inch	800 pcs	340×336×36	8,000 pcs	400×353×365	