

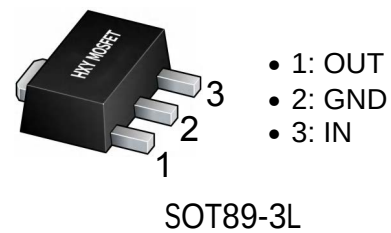


FEATURES

- Available Output Voltage:15.0V
- Maximum Input Voltage: 35V
- Maximum Output Current:
Exceed 100mA at $T_J = 25^{\circ}\text{C}$
- Output Tolerances:
 $\pm 3\%$ at $T_J = 25^{\circ}\text{C}$
 $\pm 5\%$ over the Operating T_J
- No External Components

Applications

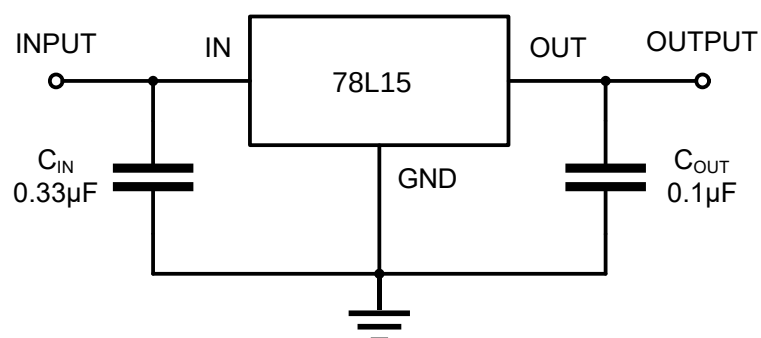
- TV Board
- Air Conditioner
- Vehicle Mounted Radar
- Charging Device



Package Marking and Ordering Information

Product ID	Pack	Marking	Qty(PCS)
78L15	SOT89-3L	78L15	1000

Typical Application Circuit





Absolute Maximum Ratings

CHARACTERISTIC	SYMBOL	VALUE	UNIT
Maximum input voltage	V_{IN}	35	V
Maximum junction temperature	$T_{J\ Max}$	150	°C
Storage temperature	T_{stg}	- 65 ~ 150	°C
Soldering temperature & time	T_{solder}	260°C, 10s	-

Electrical Characteristics

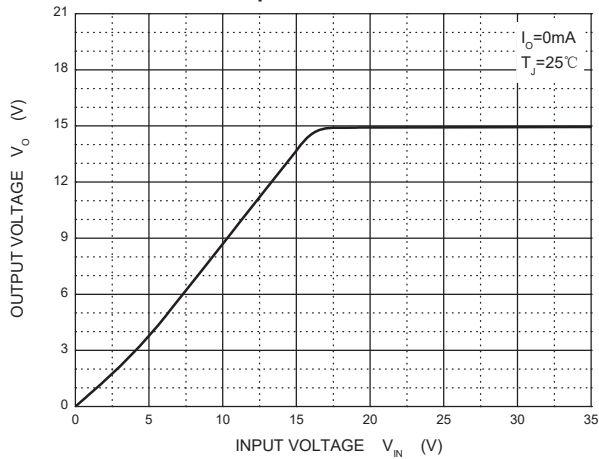
78L15 ($V_{IN} = 23V$, $I_{OUT} = 40mA$, $C_{IN} = 0.33\mu F$, $C_{OUT} = 0.1\mu F$, $T_J = 25^\circ C$, unless otherwise specified)

CHARACTERISTIC	SYMBOL	TEST CONDITIONS ⁽⁶⁾		MIN.	TYP.	MAX.	UNIT
Input voltage	V_{IN}	-		-	-	35	V
Output voltage	V_{OUT}	$T_J = 25^\circ C$	$\pm 3\%$ grade	14.55	15.00	15.45	V
		$V_{IN} = 17.5$ to $30V$, $I_{OUT} = 1$ to $40mA$		14.25		15.75	
		$I_{OUT} = 1$ to $70mA$		14.25		15.75	
Output current	I_{OUT}	-		100	-	-	mA
Quiescent current	I_Q	$I_{OUT} = 0mA$		-	4.6	6.5	mA
Quiescent current change	ΔI_Q	$V_{IN} = 19$ to $30V$		-	-	1.5	mA
		$I_{OUT} = 1$ to $40mA$		-	-	0.1	mA
Dropout voltage	$V_{DO}^{(8)}$	-		-	1.7	-	V
Line regulation	ΔV_{LINE}	$V_{IN} = 17.5$ to $30V$		-	65	300	mV
		$V_{IN} = 19$ to $30V$		-	58	250	
Load regulation	ΔV_{LOAD}	$I_{OUT} = 1$ to $100mA$		-	25	150	mV
		$I_{OUT} = 1$ to $40mA$		-	15	75	
Output noise voltage	V_N	$f = 10$ to $100kHz$		-	82	-	$\mu V/V_{OUT}$
Ripple rejection	RR	$V_{IN} = 18.5$ to $28.5V$, $f = 120Hz$		34	39	-	dB

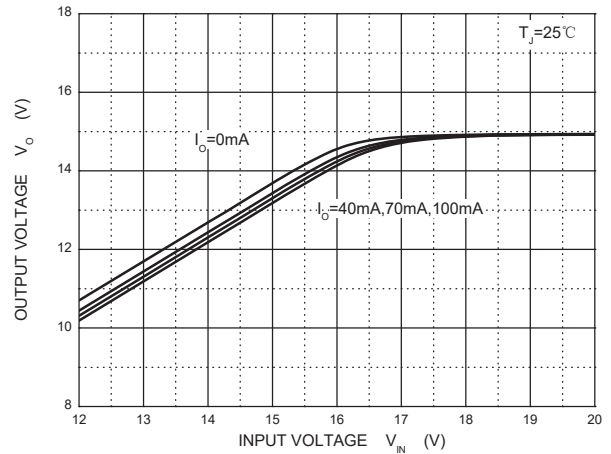


Typical Characteristics

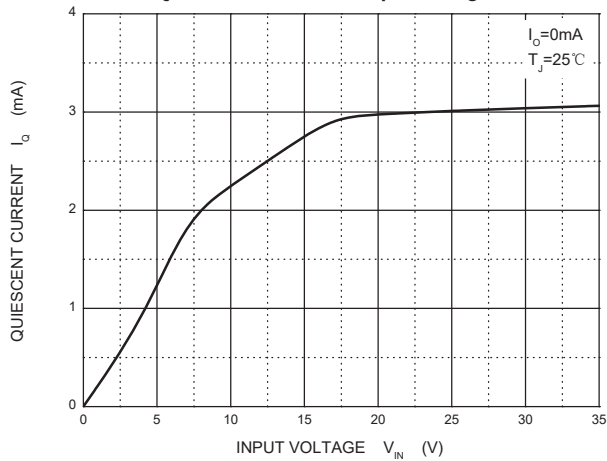
Output Characteristics



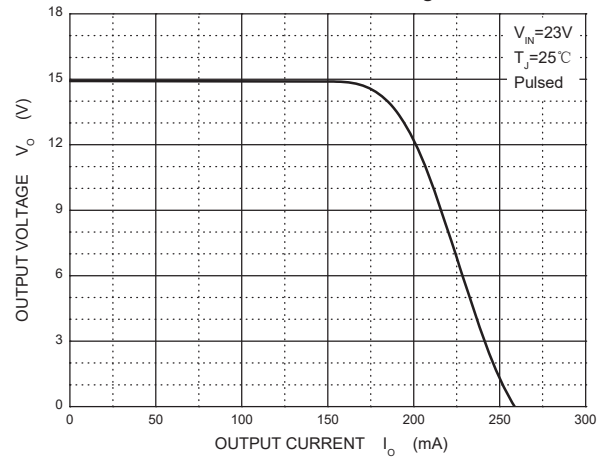
Dropout Characteristics



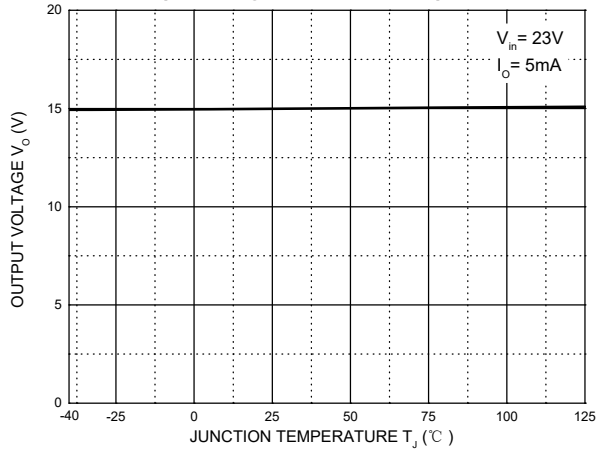
Quiescent Current vs Input Voltage



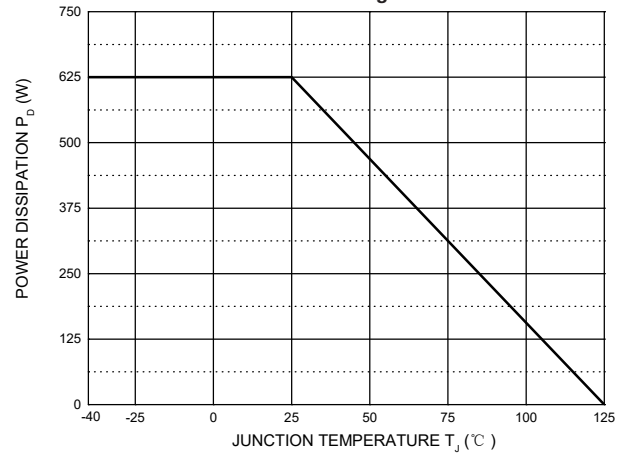
Current Cut-off Grid Voltage



Output Voltage vs Junction Temperature

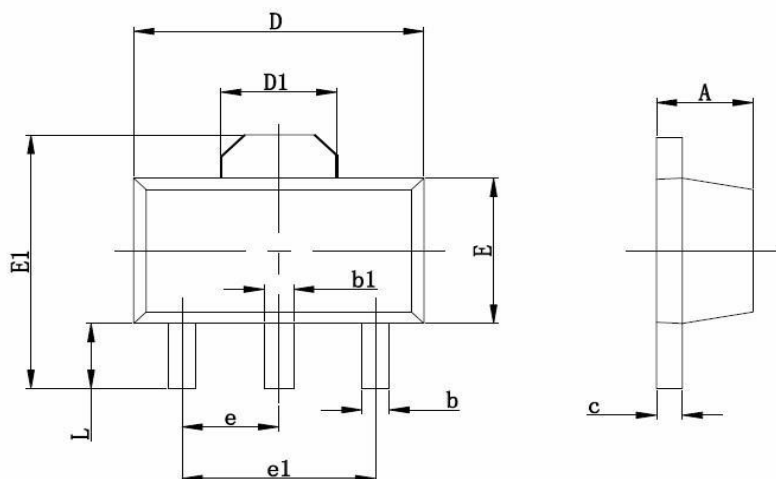


Power Derating Curve





SOT89-3L Package Outline Dimensions



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min	Max	Min	Max
A	1.400	1.600	0.055	0.063
b	0.320	0.520	0.013	0.020
b1	0.400	0.580	0.016	0.023
c	0.350	0.440	0.014	0.017
D	4.400	4.600	0.173	0.181
D1	1.550 REF.		0.061 REF.	
E	2.300	2.600	0.091	0.102
E1	3.940	4.250	0.155	0.167
e	1.500 TYP.		0.060 TYP.	
e1	3.000 TYP.		0.118 TYP.	
L	0.900	1.200	0.035	0.047



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