

Single Ultra Low VF Schottky Rectifier

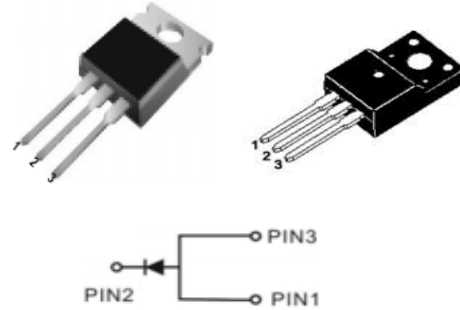
FEATURES AND BENEFITS

- Low power loss, high efficiency operation
- Low forward voltage drop
- Fast switching capability
- High forward surge capability
- Excellent High Temperature Stability

MECHANICAL DATA

- Epoxy : UL94 V-0 rated flame retardant
- Case: TO-220-3L/ ITO-220AB Package
- Terminals: Matte Tin annealed over copper
- Weight: Approximated 2.03 grams

Primary Characteristic	
I_O	80A
V_{RRM}	150V
I_{FSM}	880A
V_F Typical= 3A, $T_J=125^\circ\text{C}$	0.32V
T_{Jmax}	175°C



Maximum Ratings (Ta=25°C unless otherwise specified)						
Characteristics			Symbol	Value		Unit
Peak Repetitive Reverse Voltage			V _{RRM}	150		V
Working Peak Reverse Voltage			V _{RWM}	150		V
DC Blocking Voltage			V _{DC}	150		V
RMS Reverse Voltage			V _{RMS}	105		V
Average Forward Rectified Current (per diode)			I _O	80		Amps
Peak Forward Surge Current, 8.3 ms Single Half Sine-wave Superimposed on Rated Load (JEDEC method)			I _{FSM}	880		Amps
Electrical Characteristics (Ta=25°C unless otherwise specified)						
Characteristics			Symbol	Typ.	Max.	Unit
Forward Voltage Drop ⁽¹⁾	IF=3A	Ta=25°C	V _F	0.42	0.46	V
	IF=80A	Ta=25°C	V _F	0.80	0.84	V
	IF=3A	Ta=125°C	V _F	0.32	0.36	V
	IF=80A	Ta=125°C	V _F	0.68	0.72	V
Reverse Current ⁽²⁾	VR=150V	Ta=25°C	I _R	50	150	µA
	VR=150V	Ta=125°C	I _R	30	90	mA

THERMAL CHARACTERISTICS ($T_A = 25^\circ\text{C}$ unless otherwise noted)				
Characteristics		Symbol	Value	Unit
Typical Thermal Resistance, junction to case	TO-220AB	$R_{\theta JC}$	2.8	$^\circ\text{C/W}$
Typical Thermal Resistance, junction to case	ITO-220AB	$R_{\theta JC}$	4.0	$^\circ\text{C/W}$
Operating Temperature Range (in DC Mode)		T_J	-65 to +175	$^\circ\text{C}$
Storage Temperature Range		T_{STG}	-65 to +150	$^\circ\text{C}$

Notes (1): Pulse test: 300 μs pulse width, 1% duty cycle.

Notes (2): Pulse width $\leq 40\text{ms}$

Notes (3): FR-4 PCB, 2oz copper. Minimum recommended pad layout

Package Outline Dimensions (in millimeters)

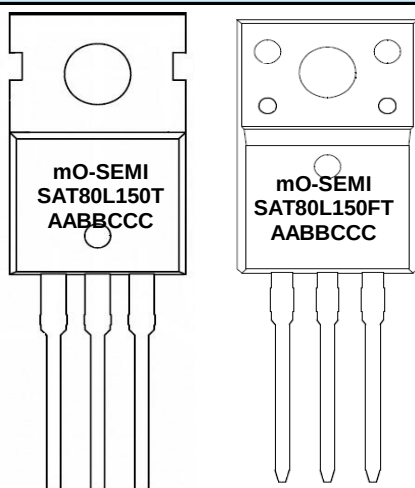
ITO-220				
SYMBOL	Dimensions			
	Millimeters		Inches	
	Min	Max	Min	Max
A	4.60	4.80	0.18	0.19
b	0.70	0.91	0.03	0.04
b1	1.20	1.47	0.05	0.06
b2	1.10	1.30	0.04	0.05
C	0.45	0.63	0.02	0.02
D	15.80	15.97	0.62	0.63
e	2.54			
E	10.00	10.10	0.39	0.40
F	2.44	2.54	0.10	0.10
G	6.50	6.70	0.26	0.26
L	12.90	13.10	0.51	0.52
L1	3.13	3.23	0.12	0.13
Q	2.65	2.75	0.10	0.11
Q1	3.20	3.30	0.13	0.13
Ψr	3.08	3.18	0.12	0.13

Technical drawing of the ITO-220 package. The front view shows a rectangular body with a central circular feature and four mounting holes. Dimensions include E (width), F (height), A (total height), G (height to mounting holes), L (height to base), L1 (height to mounting holes), Q (height to base), Q1 (height to base), and Ψr (height to base). The side view shows the profile of the package with dimensions A, F, A3, C, and D. The bottom view shows the underside of the package with dimensions 2Xb2, 2Xb1, 2Xe, and 3Xb.

TO-220				
SYMBOL	Dimensions			
	Millimeters		Inches	
	Min	Max	Min	Max
A	3.65	4.82	0.14	0.19
A1	0.51	1.39	0.02	0.05
A2	2.04	2.92	0.08	0.11
b	0.39	1.01	0.02	0.04
b1	1.15	1.82	0.05	0.07
b2	1.15	1.77	0.05	0.07
c	0.36	0.50	0.01	0.02
D	14.22	16.51	0.56	0.65
D1	8.39	9.01	0.33	0.35
D2	11.45	12.87	0.45	0.51
E	9.66	10.66	0.38	0.42
E1	6.86	8.89	0.27	0.35
e	2.54BSC		2.54BSC	
e1	5.08BSC		5.08BSC	
H1	5.85	6.85	0.23	0.27
L	12.70	14.73	0.50	0.58
L1	-	6.35	-	0.25
L2	15.80	16.20	0.62	0.64
ψP	3.54	4.08	0.14	0.16
Q	2.54	3.42	0.10	0.13

Technical drawing of the TO-220 package. The front view shows a rectangular body with a central circular feature and four mounting holes. Dimensions include E (width), F (height), A (total height), G (height to mounting holes), L (height to base), L1 (height to mounting holes), Q (height to base), Q1 (height to base), and Ψr (height to base). The side view shows the profile of the package with dimensions A, F, A3, C, and D. The bottom view shows the underside of the package with dimensions 2Xb2, 2Xb1, 2Xe, and 3Xb.

Marking Information



mO-SEMI
SAT80L150
AABBCCC
*FT=ITO-220
*T=TO-220

=Series Name
=Part Number Marking Code
=Product Tracking Code
=Single ITO-220
=Single TO-220