

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: TOLL Package
- Terminals: Matte Tin annealed over copper

Primary Characteristic	
I_O	80A
V_{RRM}	170V
I_{FSM}	880A
V_F Typical= 5A, $T_J=125^\circ\text{C}$	0.45V
T_{Jmax}	175°C



Maximum Ratings (Ta=25°C unless otherwise specified)						
Characteristics			Symbol	Value		Unit
Peak Repetitive Reverse Voltage			V _{RRM}	170		V
Working Peak Reverse Voltage			V _{RWM}	170		V
DC Blocking Voltage			V _{DC}	170		V
RMS Reverse Voltage			V _{RMS}	120		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=5A	Ta=25°C	V _F	0.60	0.64	V
	IF=80A	Ta=25°C	V _F	0.89	0.93	V
	IF=5A	Ta=125°C	V _F	0.45	0.49	V
	IF=80A	Ta=125°C	V _F	0.76	0.80	V
Reverse Current ²⁾	VR=170V	Ta=25°C	I _R	10	30	μA
	VR=170V	Ta=125°C	I _R	3	10	mA
THERMAL CHARACTERISTICS (TA = 25 °C unless otherwise noted)						
Characteristics			Symbol	Value		Unit
Typical Thermal Resistance, junction to case		TOLL	R _{θJC}	0.45		°C/W
Operating Temperature Range (in DC Mode)			T _J	-65 to +175		°C
Storage Temperature Range			T _{STG}	-65 to +150		°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

RATINGS AND CHARACTERISTICS CURVES

Fig 1. Typical Forward Characteristics

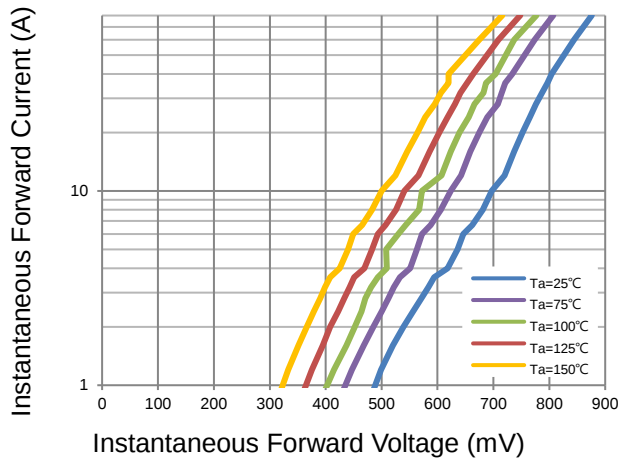


Fig 2. Typical Reverse Characteristics

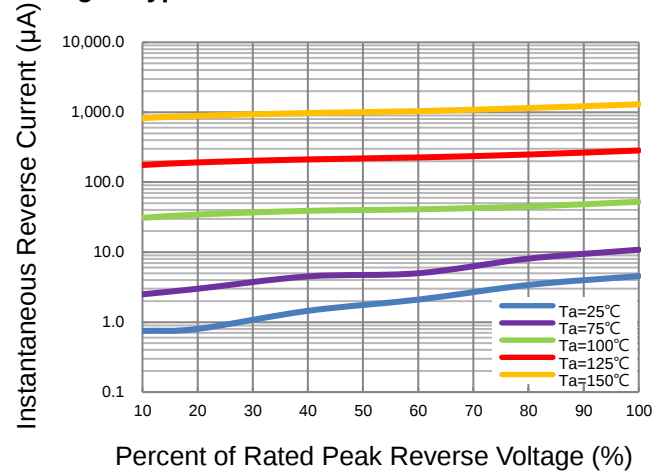


Fig 3. Typical Forward Current Derating Curve

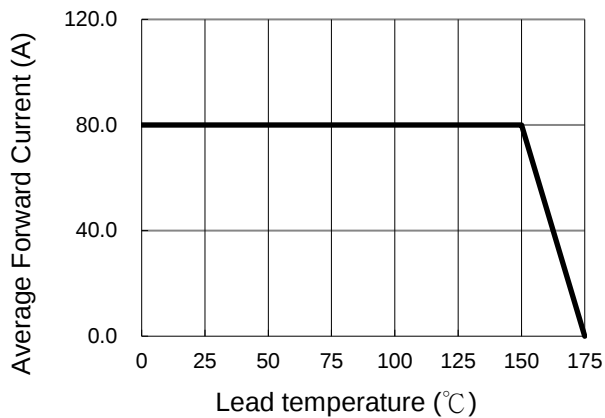
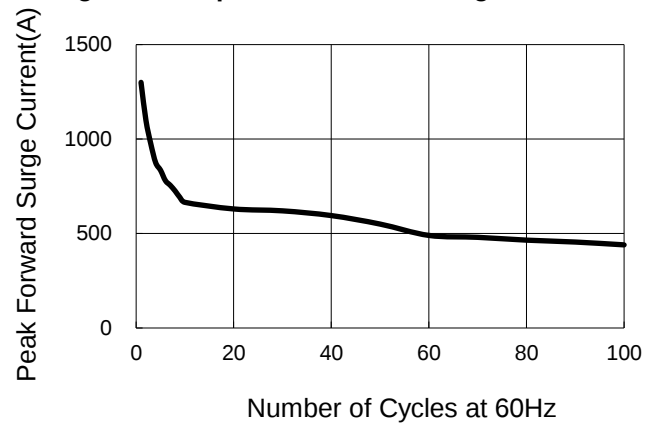
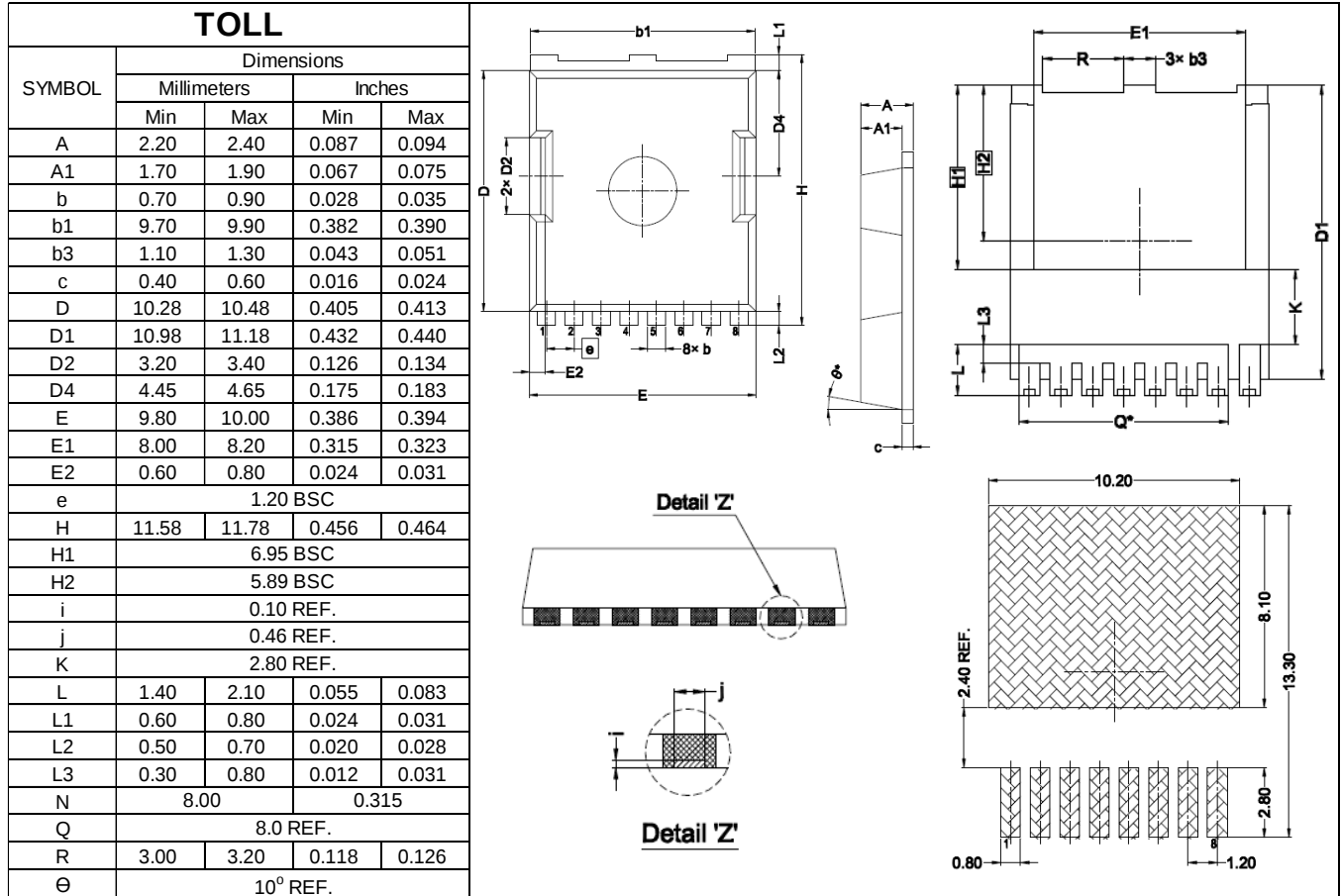


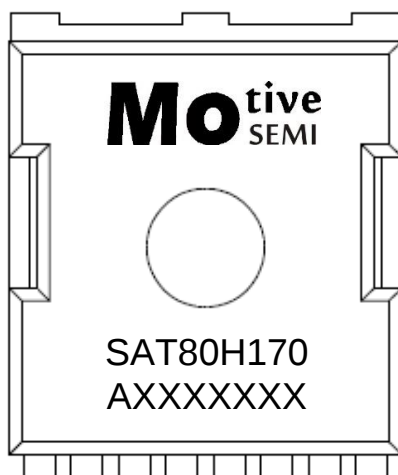
Fig 4. Non-repetitive Forward Surge Current



Package Outline Dimensions (in millimeters)



Marking Information



mO-SEMI
SAT80H170
XXXXXXX
*A=TOLL

=Series Name
=Part Number Marking Code
=Product Tracking Code
=Single TOLL