

Solar Cell Schottky Diode

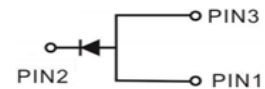
FEATURES AND BENEFITS

- 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-263 Package
- Terminals: Matte Tin annealed over copper
- Weight: Approximated 1.38 grams

Primary Characteristic	
I_O	60A
V_{RRM}	45V
I_{FSM}	880A
V_F Typical=20A, $T_J=125^\circ\text{C}$	0.38V
T_{Jmax}	175°C



Maximum Ratings (TA=25°C unless otherwise specified)						
Characteristics			Symbol	Value		Unit
Peak Repetitive Reverse Voltage			V _{RRM}	45		V
Average Forward Rectified Current (per diode)			I _O	60		Amps
Peak Forward Surge Current, 8.3 ms Single Half Sine-wave Superimposed on Rated Load (JEDEC method)			I _{FSM}	880		Amps
Electrical Characteristics						
Characteristics			Symbol	VB(min)	VB(typ.)	Unit
TA=25°C			V _{RRM}	45	55	V
TA=125°C			V _{RRM}	45		V
TA=150°C			V _{RRM}	45		V
Characteristics			Symbol	Typ.	Max.	Unit
Forward Voltage Drop ⁽¹⁾	IF=20A	Ta=25°C	V _F	0.48	0.55	V
	IF=60A	Ta=25°C	V _F	0.63	0.67	V
	IF=20A	Ta=125°C	V _F	0.38	0.45	V
	IF=60A	Ta=125°C	V _F	0.52	0.56	V
Reverse Current ⁽²⁾	VR=45V	Ta=25°C	I _R	20	60	μA
	VR=45V	Ta=125°C	I _R	10	30	mA
	VR=45V	Ta=150°C	I _R	25	75	mA
THERMAL CHARACTERISTICS (TA = 25 °C unless otherwise noted)						
Characteristics			Symbol	Value		Unit
Typical Thermal Resistance, junction to case		TO-263	R _{θJC}	3		°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: 300μs pulse width, 1% duty cycle.

Notes (2): Pulse width ≤ 40ms

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

RATINGS AND CHARACTERISTICS CURVES

Fig 1. Typical Forward Characteristics

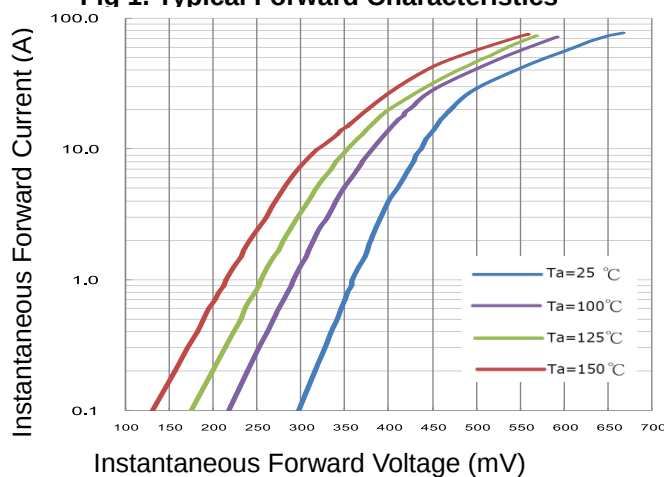


Fig 2. Typical Reverse Characteristics

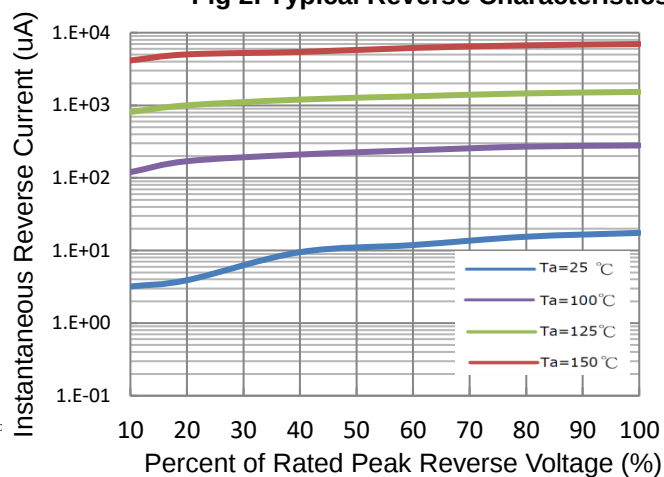


Fig 3. Typical Forward Current Derating Curve

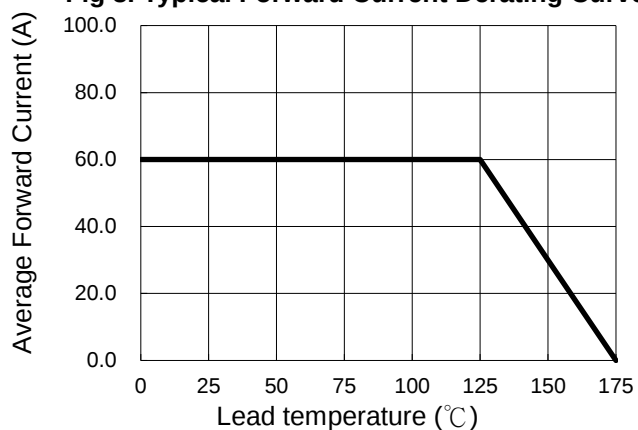
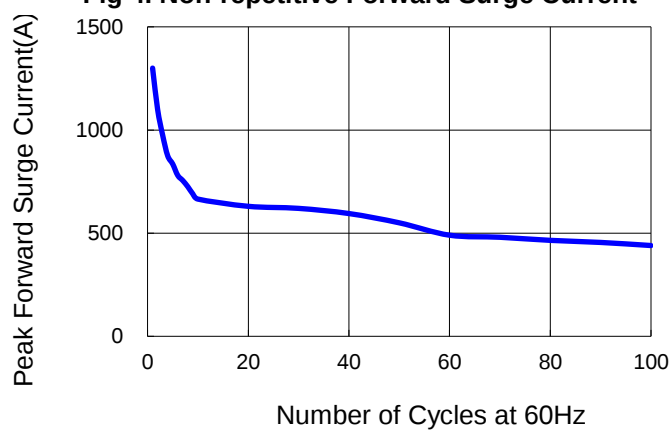
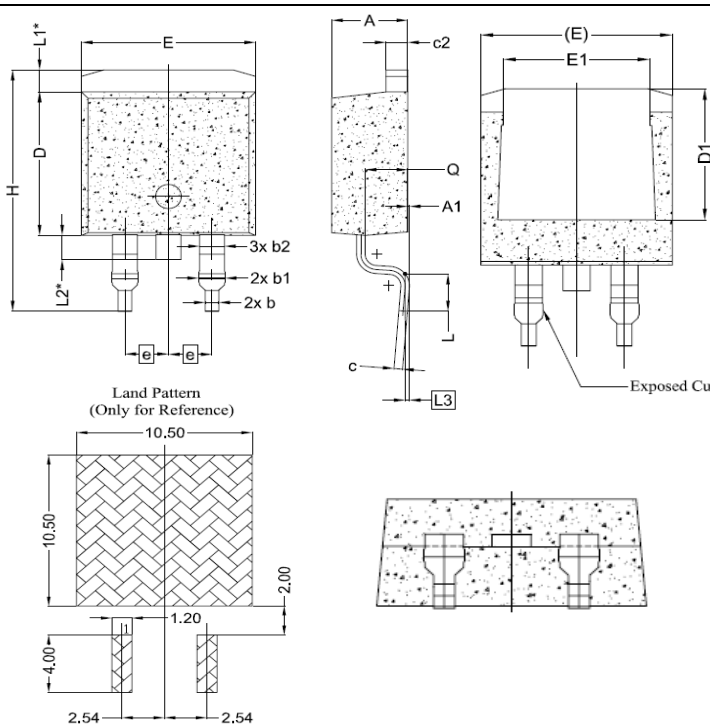


Fig 4. Non-repetitive Forward Surge Current

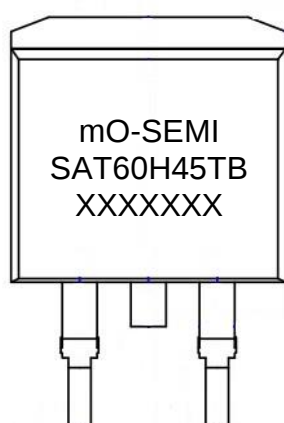


Package Outline Dimensions (in millimeters)

TO-263				
SYMBOL	Dimensions			
	Millimeters		Inches	
	Min	Max	Min	Max
A	4.24	4.64	0.17	0.18
A1	0.00	0.25	0.00	0.01
b	0.70	0.90	0.03	0.04
b1	1.20	1.75	0.05	0.07
b2	1.20	1.70	0.05	0.07
c	0.40	0.60	0.02	0.02
c2	1.15	1.40	0.05	0.06
D	8.82	9.02	0.35	0.36
D1	6.86	-	0.27	-
E	9.96	10.36	0.39	0.41
E1	6.89	7.89	0.27	0.31
e	2.54BSC			
H	14.61	15.88	0.58	0.63
L	1.78	2.79	0.07	0.11
L1	1.36REF			
L2	1.50REF			
L3	0.25BSC			
Q	2.30	2.70	0.09	0.11



Marking Information



mO-SEMI
SAT60H45
XXXXXXX
*TB=TO-263

=Series Name
=Part Number Marking Code
=Product Tracking Code
=Single TO-263