Dual Common-Cathode Ultra Low VF Schottky Rectifier

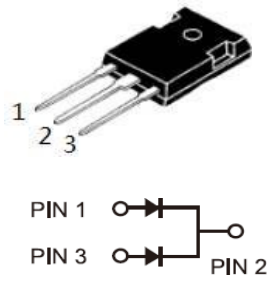
FEATURES AND BENEFITS

- 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-247 Package
- Terminals: Matte Tin annealed over copper
- Weight: Approximated 2.03 grams

Primary Characteristic	
I_O	2X30A
V_{RRM}	45V
I_{FSM}	500A
V_F Typical=15A, T_J=125°C	0.36V
T_{Jmax}	175°C



Maximum Ratings (Ta=25°C unless otherwise specified)			
Characteristics	Symbol	Value	Unit
Peak Repetitive Reverse Voltage	V_{RRM}	45	V
Working Peak Reverse Voltage	V_{RWM}	45	V
DC Blocking Voltage	V_{DC}	45	V
RMS Reverse Voltage	V_{RMS}	32	V
Average Forward Rectified Current (per diode)	I_O	30	Amps
Peak Forward Surge Current, 8.3 ms Single Half Sine-wave Superimposed on Rated Load (JEDEC method)	I_{FSM}	500	Amps

Electrical Characteristics (Ta=25°C unless otherwise specified)						
Characteristics			Symbol	Typ.	Max.	Unit
Forward Voltage Drop [1)]	IF=15A	Ta=25°C	V_F	0.45	0.49	V
	IF=30A	Ta=25°C	V_F	0.52	0.56	V
	IF=15A	Ta=125°C	V_F	0.36	0.4	V
	IF=30A	Ta=125°C	V_F	0.43	0.47	V
Reverse Current [2)]	VR=45V	Ta=25°C	I_R	35	105	μA
	VR=45V	Ta=125°C	I_R	15	45	mA

THERMAL CHARACTERISTICS (TA = 25 °C unless otherwise noted)				
Characteristics		Symbol	Value	Unit
Typical Thermal Resistance, junction to case	TO-247	$R_{\theta JC}$	2.8	°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

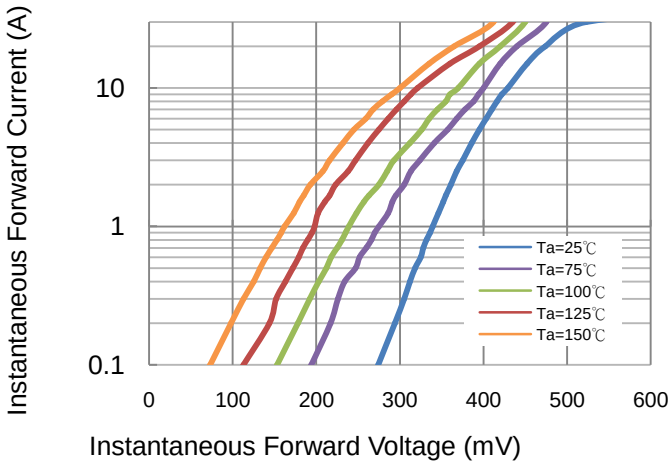


Fig 2. Typical Reverse Characteristics

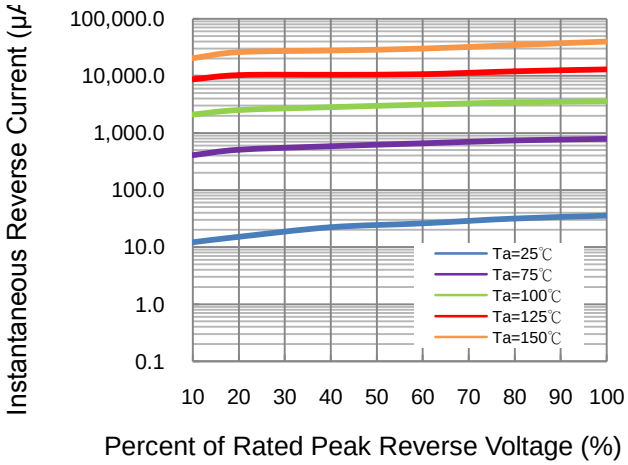


Fig 3. Typical Forward Current Derating Curve

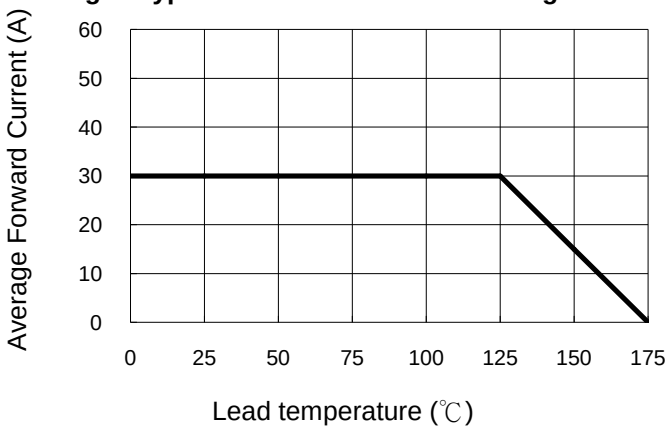
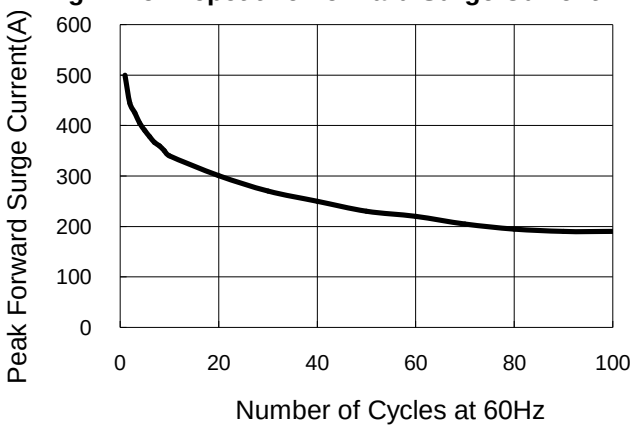
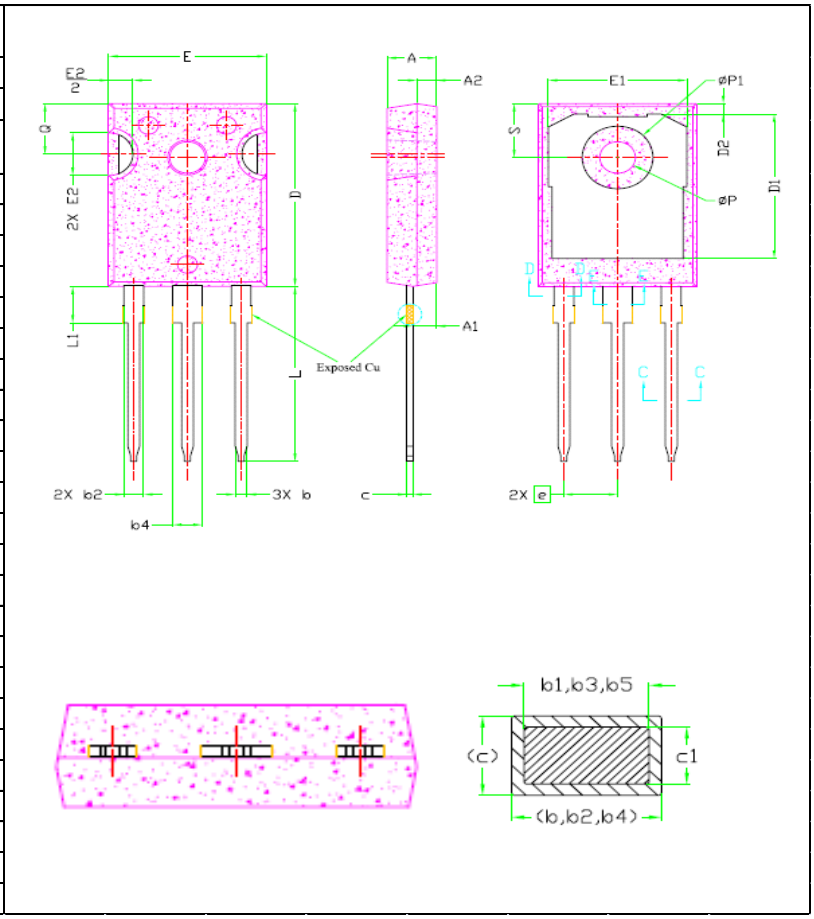


Fig 4. Non-repetitive Forward Surge Current

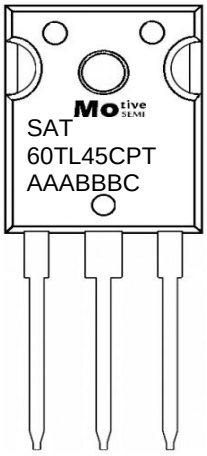


Package Outline Dimensions (in millimeters)

TO-247				
SYMBOL	Dimensions			
	Millimeters		Inches	
	Min	Max	Min	Max
A	4.83	5.21	0.19	0.21
A1	2.29	2.55	0.09	0.10
A2	1.50	2.49	0.06	0.10
b	1.12	1.33	0.04	0.05
b1	1.12	1.28	0.04	0.05
b2	1.91	2.39	0.08	0.09
b3	1.91	2.34	0.08	0.09
b4	2.87	3.22	0.11	0.13
b5	2.87	3.18	0.11	0.13
c	0.55	0.69	0.02	0.03
c1	0.55	0.65	0.02	0.03
D	20.80	21.10	0.82	0.83
D1	16.25	17.65	0.64	0.69
D2	0.51	1.35	0.02	0.05
E	15.75	16.13	0.62	0.64
E1	13.46	14.16	0.53	0.56
E2	4.32	5.49	0.17	0.22
e	5.44			
L	19.81	20.32	0.78	0.80
L1	4.10	4.40	0.16	0.17
ψP	3.56	3.65	0.14	0.14
Ψp1	7.19REF			
Q	5.39	6.20	0.21	0.24
S	6.04	6.30	0.24	0.25



Marking Information



Motive SEMI	=Series Name
SAT	=Product Type Marking Code
60TL45CPT	=Part Number Marking Code
AAABBBC	=Product Tracking Code
CPT=TO-247	=Dual TO-247