

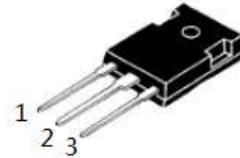
### FEATURES AND BENEFITS

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

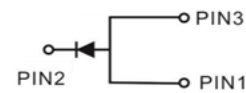
### MECHANICAL DATA

- Epoxy : UL94 V-0 rated flame retardant
- Case: TO-247 Package
- Terminals: Matte Tin annealed over copper
- Weight: Approximated 2.03 grams

Primary Characteristic	
$I_O$	120A
$V_{RRM}$	100V
$I_{FSM}$	880A
$V_F$ Typical=10A, $T_J=125^\circ\text{C}$	0.36V
$T_{Jmax}$	175°C



TO-247



### Maximum Ratings (TA=25°C unless otherwise specified)

Characteristics	Symbol	Value	Unit
Peak Repetitive Reverse Voltage	$V_{RRM}$	100	V
Working Peak Reverse Voltage	$V_{RWM}$	100	V
DC Blocking Voltage	$V_{DC}$	100	V
RMS Reverse Voltage	$V_{RMS}$	70	V
Average Forward Rectified Current (per diode)	$I_O$	120	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 <sup>(1)</sup>	IF=10A	Ta=25°C	$V_F$	0.44	0.48	V
	IF=120A	Ta=25°C	$V_F$	0.99	1.03	V
	IF=10A	Ta=125°C	$V_F$	0.36	0.40	V
	IF=120A	Ta=125°C	$V_F$	0.90	0.94	V
Reverse Current <sup>(2)</sup>	VR=100V	Ta=25°C	$I_R$	30	90	μA
	VR=100V	Ta=125°C	$I_R$	5	15	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	°C/W
Operating Temperature Range ( in DC Mode)		$T_J$	-65 to +175	°C
Storage Temperature Range		$T_{STG}$	-65 to +150	°C

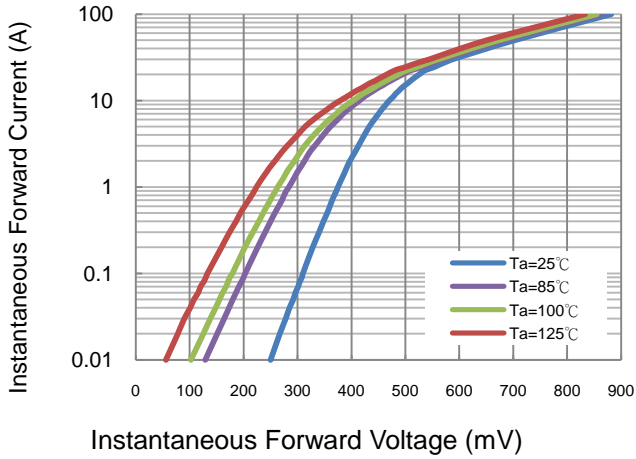
Notes (1): Pulse test: 300μs pulse width, 1% duty cycle.

Notes (2): Pulse width ≤ 40ms

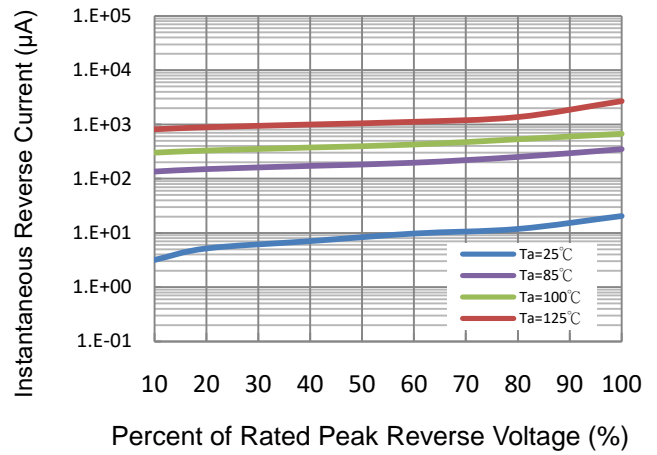
Notes (3): FR-4 PCB, 2oz copper. Minimum recommended pad layout

## RATINGS AND CHARACTERISTICS CURVES

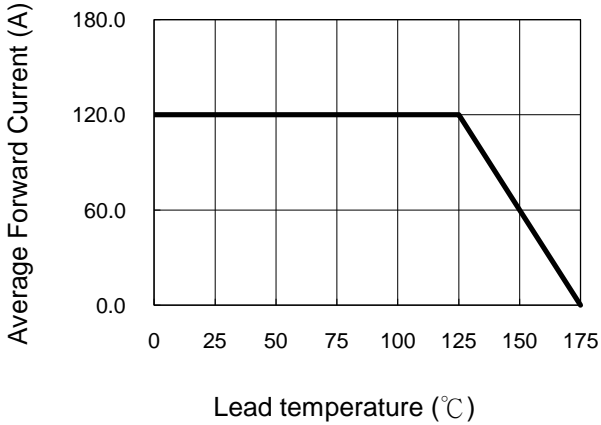
**Fig 1. Typical Forward Characteristics**



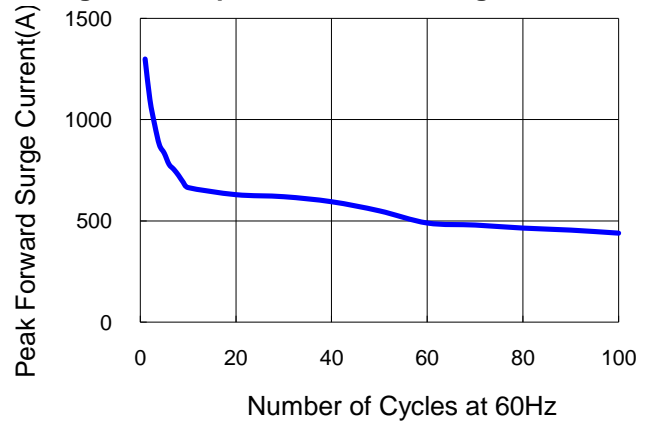
**Fig 2. Typical Reverse Characteristics**



**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

