AUK Semiconductor

SF20A300HPI

Ultra Fast Recovery Diode

Applications

- High speed switching and rectification
- Switching mode power supply

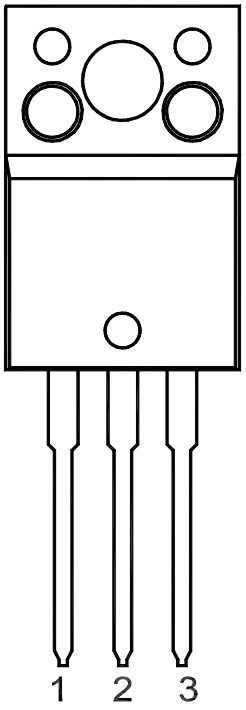
Features

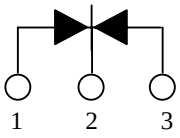
- Ultra-fast reverse recovery time: t_{rr}=35ns Max.
- Low forward voltage & low reverse current
- Low switching loss

Ordering Information

Type No.	Marking	Package Code
SF20A300HPI	SF20A300HPI	TO-220F-3L

PIN Connections





1. Anode
2. Cathode
3. Anode

Absolute Maximum Ratings

[Ta=25°C]

Characteristic	Symbol	Rating	Unit
Repetitive peak reverse voltage	V_{RRM}	300	V
Average rectified output current	I_O	20	A
Peak forward surge current (Non-repetitive 60Hz sine wave)	I_{FSM}	120	A
Junction temperature	T_J	150	°C
Storage temperature range	T_{stg}	-45 ~ 150	°C

Electrical Characteristics

[Ta=25°C]

Characteristic	Symbol	Test Condition	Min.	Typ.	Max.	Unit
Peak forward voltage	V_{FM} 1)	I_F=10A 2)	-	-	1.3	V
Repetitive peak reverse current	I_{RRM} 1)	V_R=300V 2)	-	-	20	μA
Reverse recovery time	t_{rr} 1)	I_F=1A, di/dt=-100A/μs	-	-	35	ns
Thermal resistance	R_{th}	Junction to case	-	-	4	°C/W

1) Per Diode

2) Pulse test : $t_P \leq 380$ μs, Duty cycle ≤ 2%

Electrical Characteristic Curves

Fig. 1 V_F - I_F (Per Diode)

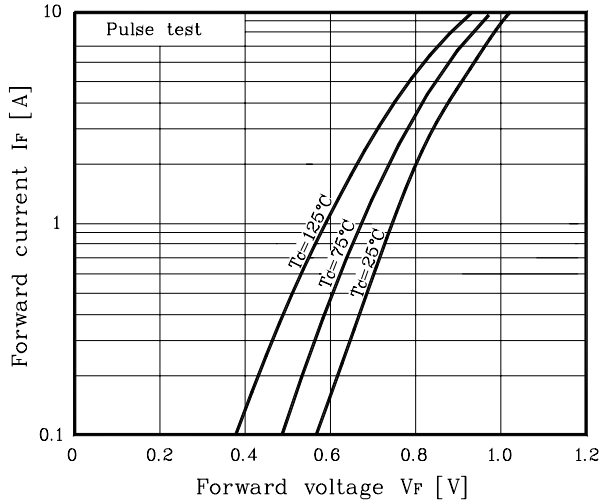


Fig. 2 I_R - V_R (Per Diode)

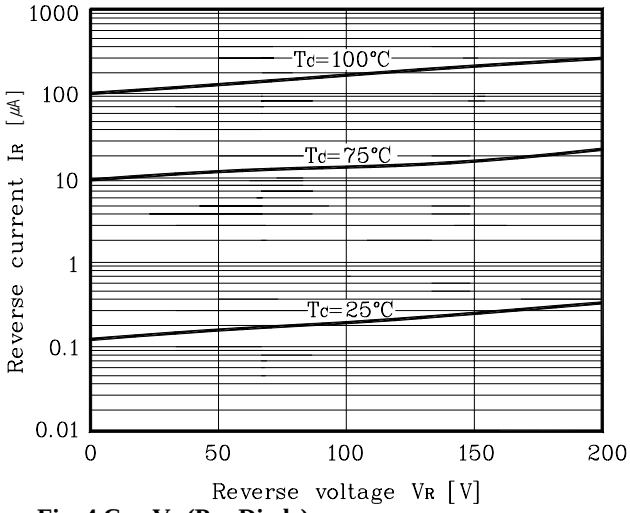


Fig. 3 I_O – P_F (Per Diode)

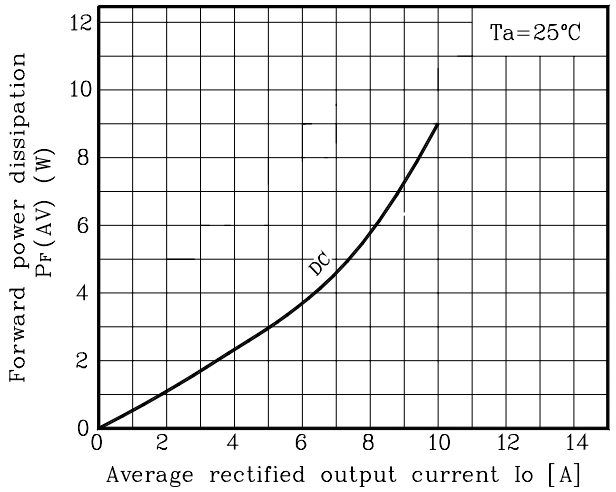


Fig. 4 C_T - V_R (Per Diode)

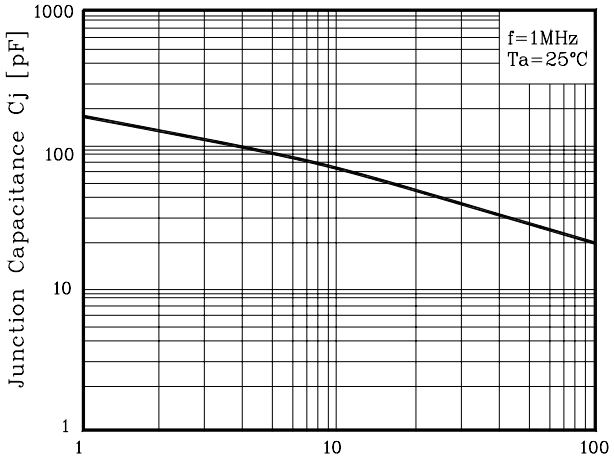


Fig. 5 I_{FSM} – Number of cycle (Total)

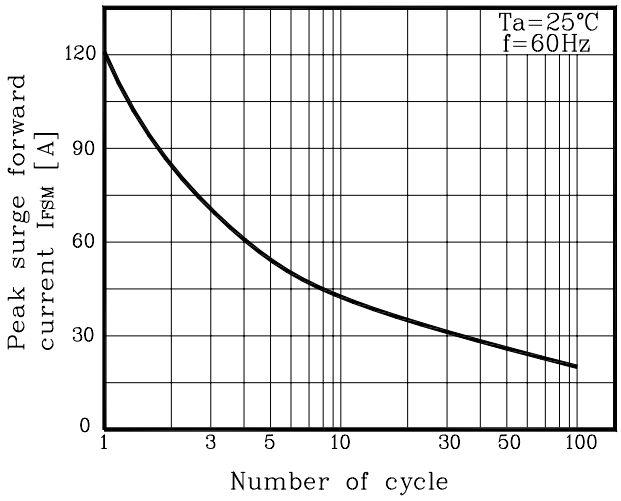
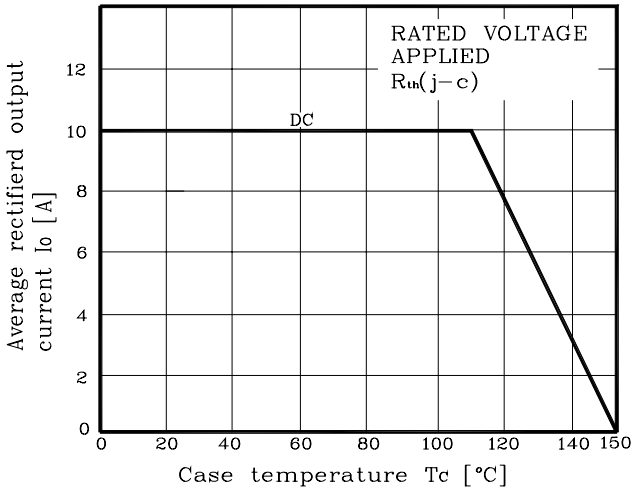
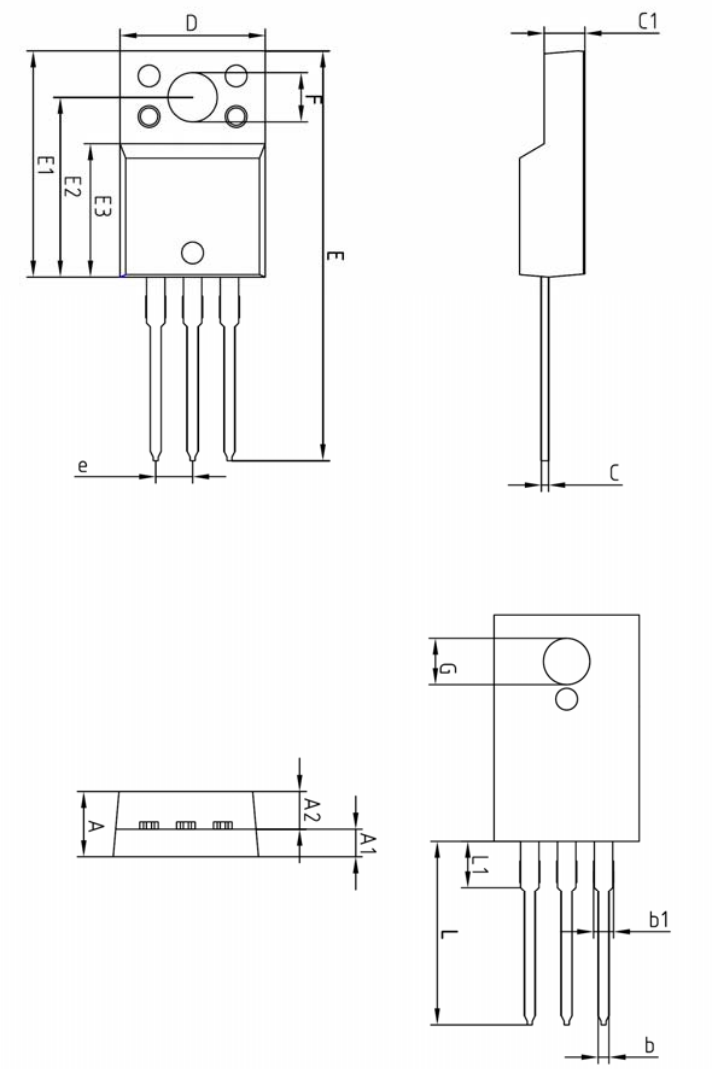


Fig. 6 I_O derating - T_C (Per Diode)



Outline Dimension



SYMBOL	MILLIMETERS			NOTE
	MINIMUM	NOMINAL	MAXIMUM	
A	–	–	4.60	
A1	2.45	2.50	2.55	
A2	1.95	2.00	2.05	
b	0.65	0.75	0.85	
b1	1.07	1.27	1.47	
C	0.40	0.50	0.60	
C1	2.70	2.80	2.90	
D	9.90	10.00	10.10	
E	28.00	–	28.60	
E1	15.50	15.60	15.70	
E2	12.30	12.40	12.50	
E3	9.15	9.20	9.25	
F	3.30	3.40	3.50	
G	3.10	3.20	3.30	
e	2.54 BSC			
L	12.40	–	13.00	
L1	3.46 BSC			

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