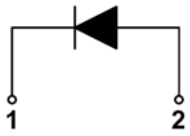
ULTRA FAST RECOVERY POWER RECTIFIER

Features

- Low forward voltage drop
- Ultrafast reverse recovery time : trr=30ns
- High speed switching
- Low power loss and High efficiency
- Full lead (Pb)-free and RoHS compliant device



Pin Configuration
Pin 1: Cathode
Pin 2: Anode

SOD-106

Applications

- General purpose
- Switching mode power supply
- Free-wheeling diode for motor application
- Power switching circuits
- DC-DC converter systems

Description

The SF1A200H is specially suited for switching mode base drive & transistor circuits. The device is also intended for use as a freewheeling diode in power supplies and other power switching applications.

Ordering Information

Device	Marking Code	Package	Packaging
SF1A200H	1A2H	SOD-106	Tape & Reel

Marking Information

1A2H = Specific Device Code
YWW = Year & Week Code Marking
-. Y = Year Code
-. WW = Week Code
■ = Color band denote cathode

Absolute Maximum Ratings (Limiting Values)

Characteristic	Symbol	Value	Unit
Maximum repetitive reverse voltage Maximum working peak reverse voltage Maximum DC blocking voltage	V_{RRM} V_{RWM} V_R	200	V
Maximum average forward rectified current	$I_{F(AV)}$	1	A
Peak forward surge current 8.3ms single half sine-wave superimposed on rated load per diode	I_{FSM}	20	A
Storage temperature range	T_{stg}	-45℃ to +150℃	℃
Maximum operating junction temperature	T_J	150	℃

Thermal Characteristics

Characteristic		Symbol	Value	Unit
Maximum thermal resistance	junction to ambient	$R_{th(j-a)}$	76	℃/W

Electrical Characteristics

Characteristic	Symbol	Test Condition		Min.	Typ.	Max.	Unit
Peak forward voltage drop	V_{FM} (1)	I_{FM} = 1A	T_j=25℃	-	-	0.98	V
			T_j=125℃	-	-	0.85	V
Reverse leakage current	I_{RM} (1)	$V_R = V_{RRM}$	T_j=25℃	-	-	10	uA
			T_j=125℃	-	-	100	uA
Reverse recovery time	t_{rr}	I_F = 0.5A, di/dt =-100 A/us		-	-	30	ns
Junction capacitance	C_j	$V_R = 4V_{DC}$, f=1MHz		-	20	-	pF

Note : (1) Pulse test : $t_P \leq 380\ \mu s$, Duty cycle $\leq 2\%$

Electrical Characteristic Curves

Fig. 1 I_F - V_F

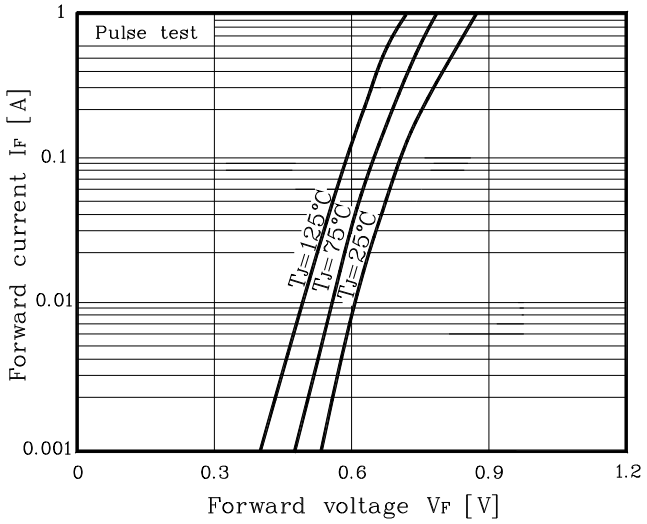


Fig. 2 I_R - V_R

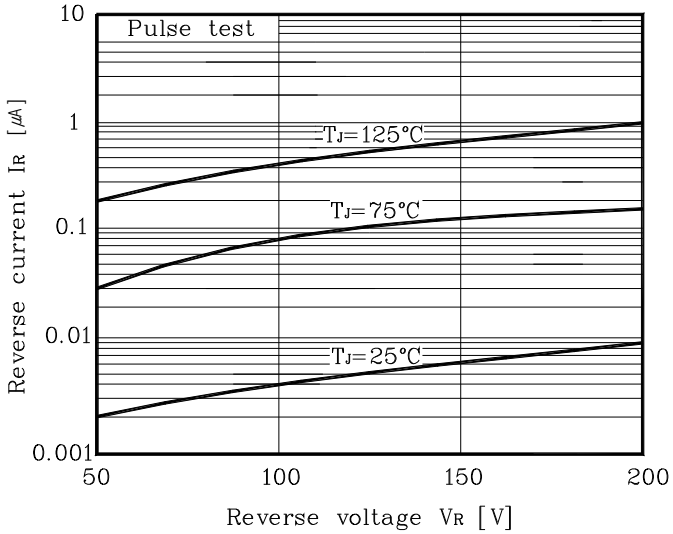


Fig. 3 P_F - I_O

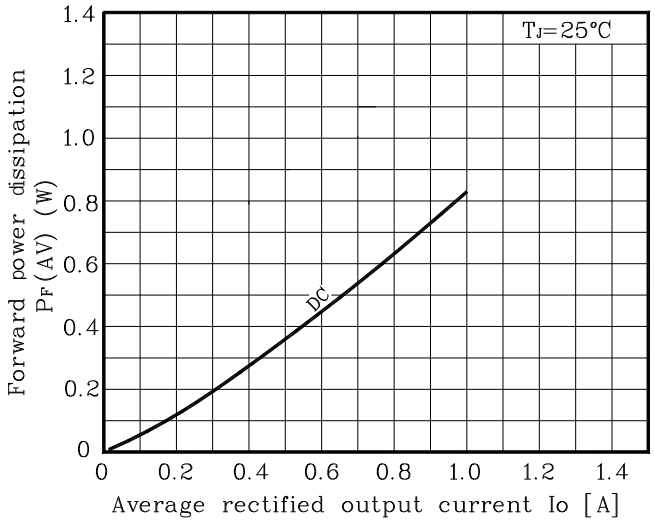


Fig. 4 C_T - V_R

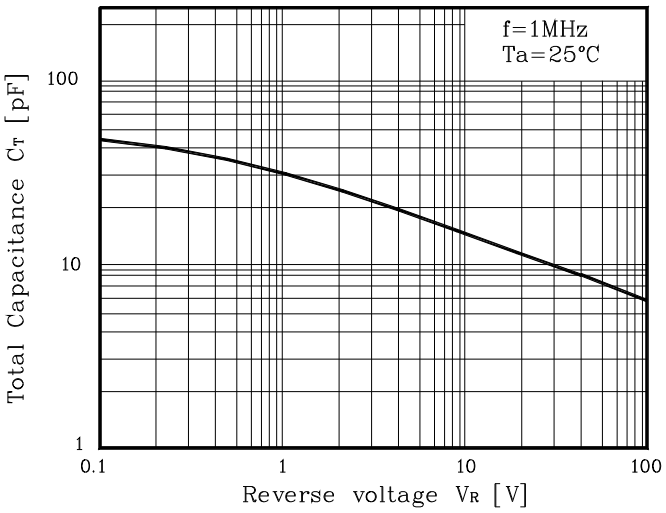


Fig. 5 I_{FSM} – Number of cycle

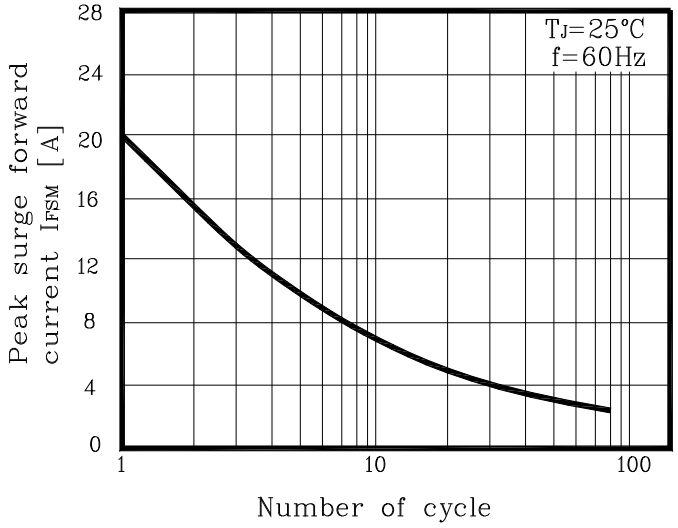
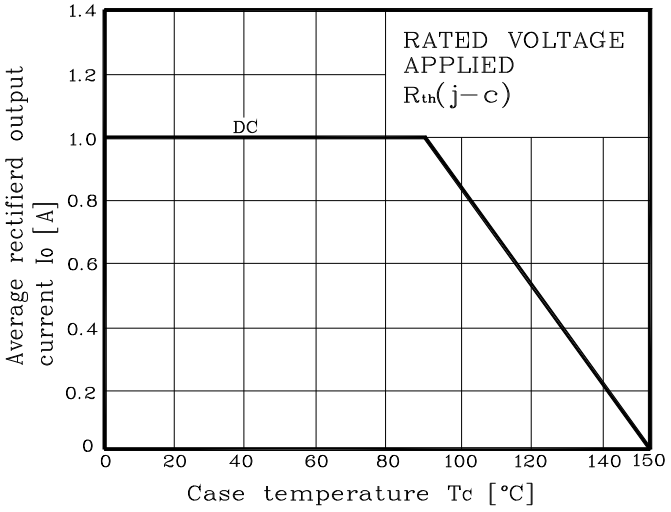
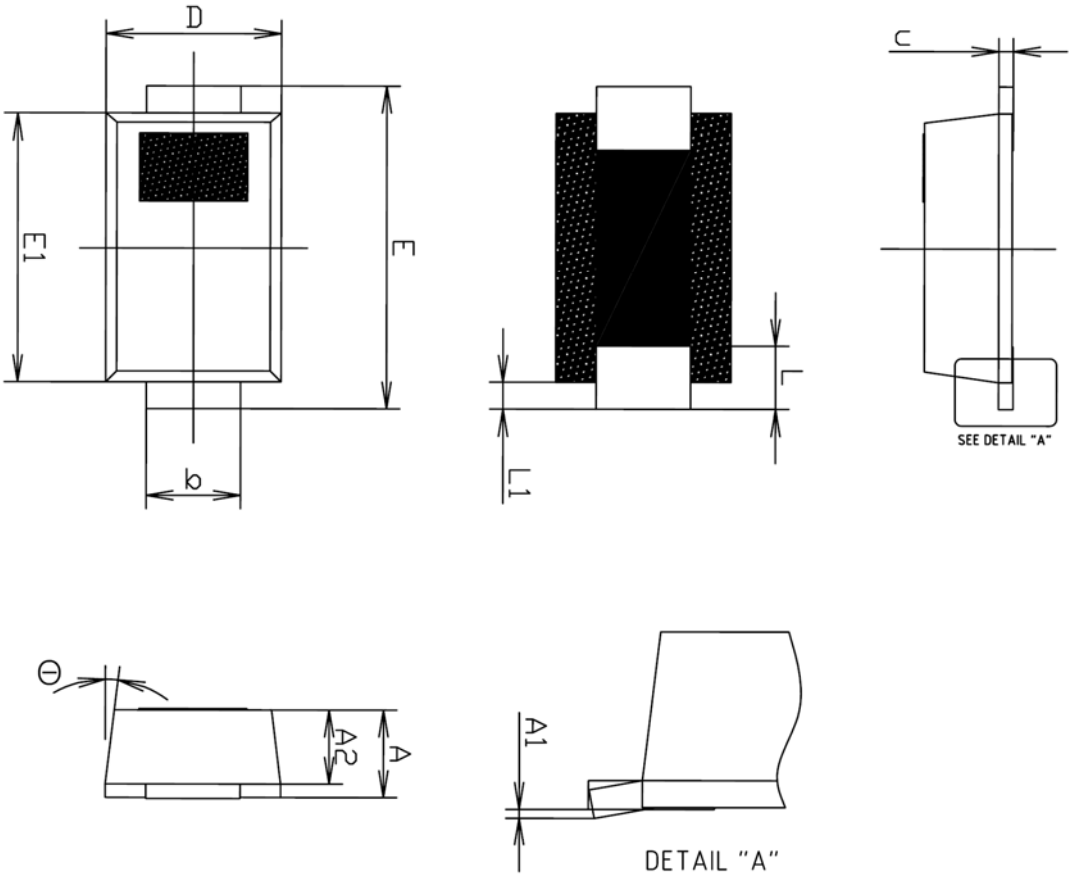


Fig. 6 I_O derating - T_C

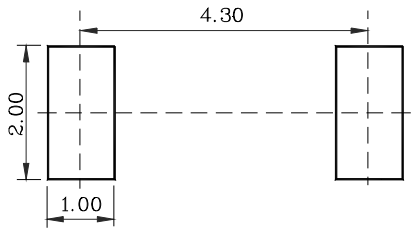


Package Outline Dimension



SYMBOL	MILLIMETERS			NOTE
	MINIMUM	NOMINAL	MAXIMUM	
A	1.25	1.30	1.35	
A1	0.00	—	0.10	
A2	1.05	1.10	1.15	
b	1.35	1.42	1.49	
c	0.17	0.22	0.27	
D	2.50	2.60	2.70	
E	4.60	4.80	5.00	
E1	3.90	4.00	4.10	
L	0.79	0.94	1.09	
L1	0.30	0.40	0.50	
Θ	4°	—	10°	

※ Recommend PCB solder land [Unit : mm]



The AUK Corp. products are intended for the use as components in general electronic equipment (Office and communication equipment, measuring equipment, home appliance, etc.).

Please make sure that you consult with us before you use these AUK Corp. products in equipments which require high quality and / or reliability, and in equipments which could have major impact to the welfare of human life(atomic energy control, airplane, spaceship, transportation, combustion control, all types of safety device, etc.). AUK Corp. cannot accept liability to any damage which may occur in case these AUK Corp. products were used in the mentioned equipments without prior consultation with AUK Corp..

Specifications mentioned in this publication are subject to change without notice.