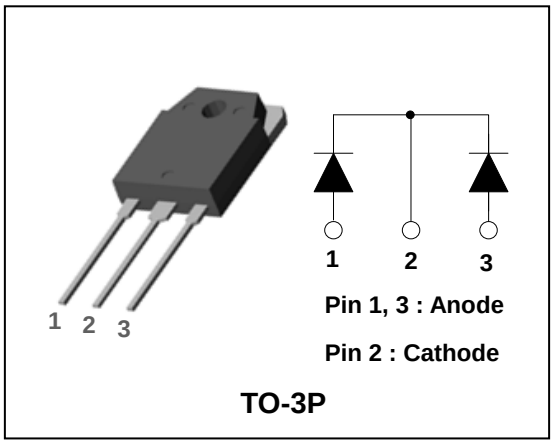
200V, 20A ULTRAFAST DUAL RECTIFIERS

Features

- Low forward voltage drop and leakage current
- Ultrafast reverse recovery time (trr<30ns)
- Low power loss and high efficiency
- Dual common cathode rectifier construction
- Full lead (Pb)-free and RoHS compliant device



Applications

- Switching power supply
- Power inverters
- Free-wheeling diode
- Power conversion system
- Motor drives

Product Characteristics

$I_{F(AV)}$	2 X 10A
V_{RRM}	200V
V_{FM} at 125℃	0.88V
t_{rr}	30ns

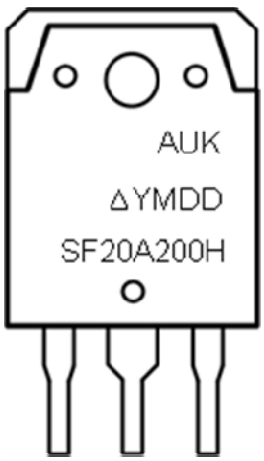
Description

The SF20A200HCI is an ultrafast rectifier. It has a low forward voltage drop and reverse recovery time (trr<30ns). The device is intended for use as a free wheeling, clamping rectifier in a variety of switching power supplies and other power switching applications.

Ordering Information

Device	Marking Code	Package	Packaging
SF20A200HCI	SF20A200H	TO-3P	Tube

Marking Information



AUK = Manufacture Logo
Δ = Control Code of Manufacture
YMDD = Date Code Marking
-. Y = Year Code
-. M = Monthly Code
-. DD = Daily Code
SF20A200H = Specific Device Code

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	per diode	$I_{F(AV)}$	10	A
	total device		20	
Peak forward surge current 8.3ms single half sine-wave superimposed on rated load per diode		I_{FSM}	120	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 case	per diode	$R_{th(j-c)}$	2.5	℃/W
	total device		2.0	

Electrical Characteristics (Per Diode)

Characteristic	Symbol	Test Condition		Min.	Typ.	Max.	Unit
Peak forward voltage drop	V_{FM} (1)	I_{FM} = 10A	T_j=25℃	-	-	0.98	V
			T_j=125℃	-	-	0.88	
Reverse leakage current	I_{RM}	$V_R = V_{RRM}$	T_j=25℃	-	-	25	uA
			T_j=125℃	-	-	500	
Reverse recovery time	t_{rr}	I_F = 1A, di/dt =-100 A/us		-	-	30	ns
Junction capacitance	C_j	$V_R = 4V_{DC}$, f=1MHz		-	150	-	pF

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

Rating and Characteristic Curves (Per Diode)

Fig. 1 V_F - I_F

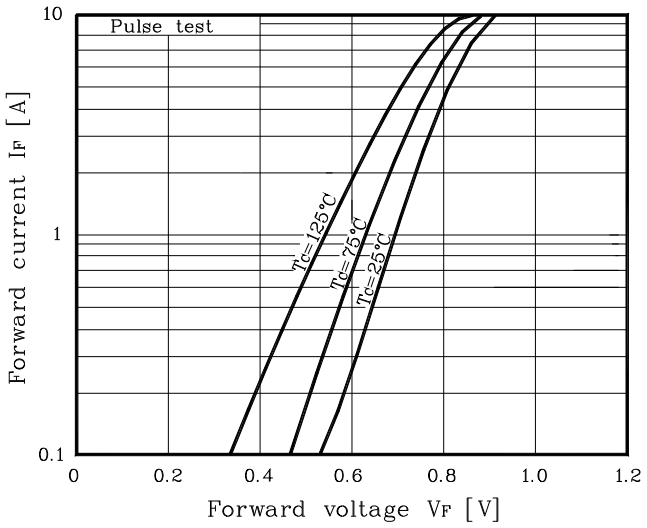


Fig. 2 I_R - V_R

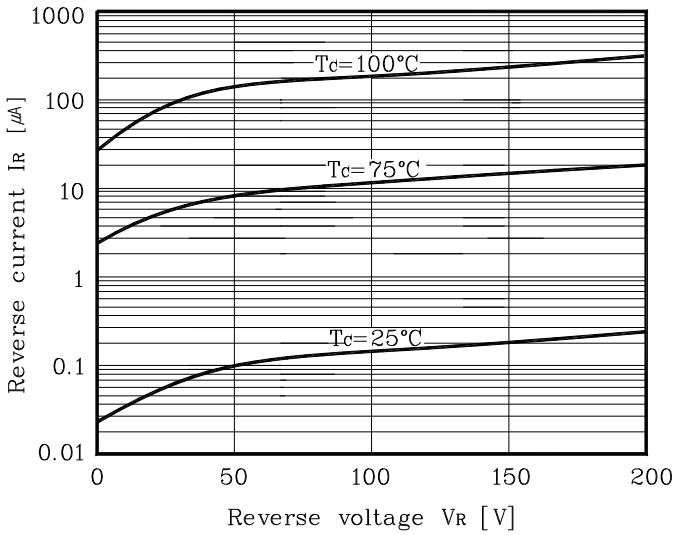


Fig. 3 I_O – P_F

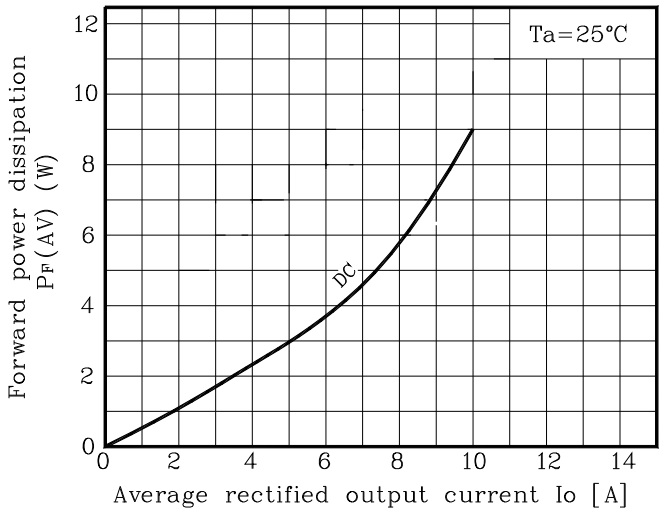


Fig. 4 C_T - V_R

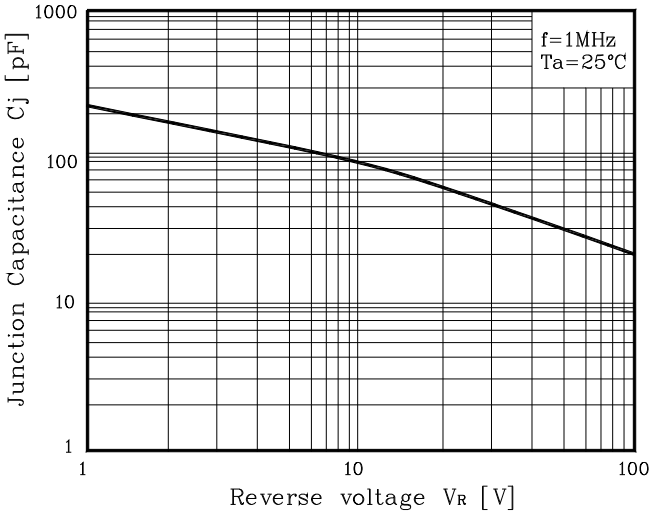


Fig. 5 I_{FSM} – Number of cycle

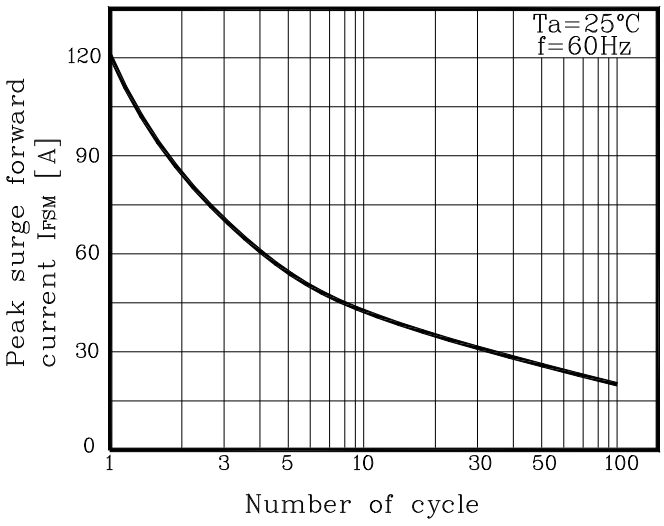
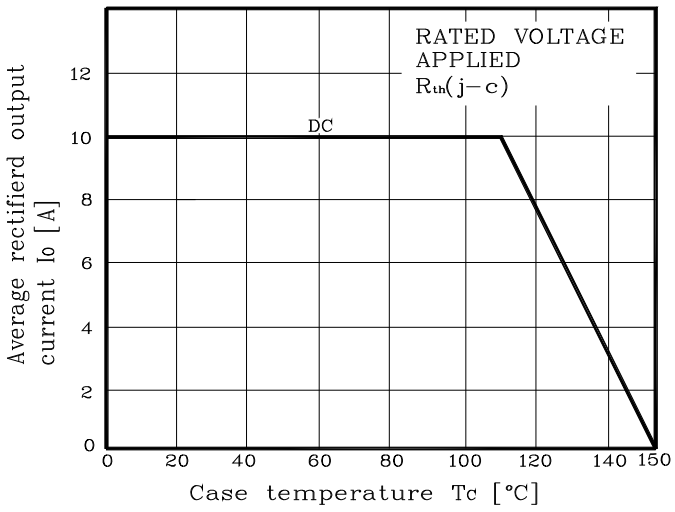
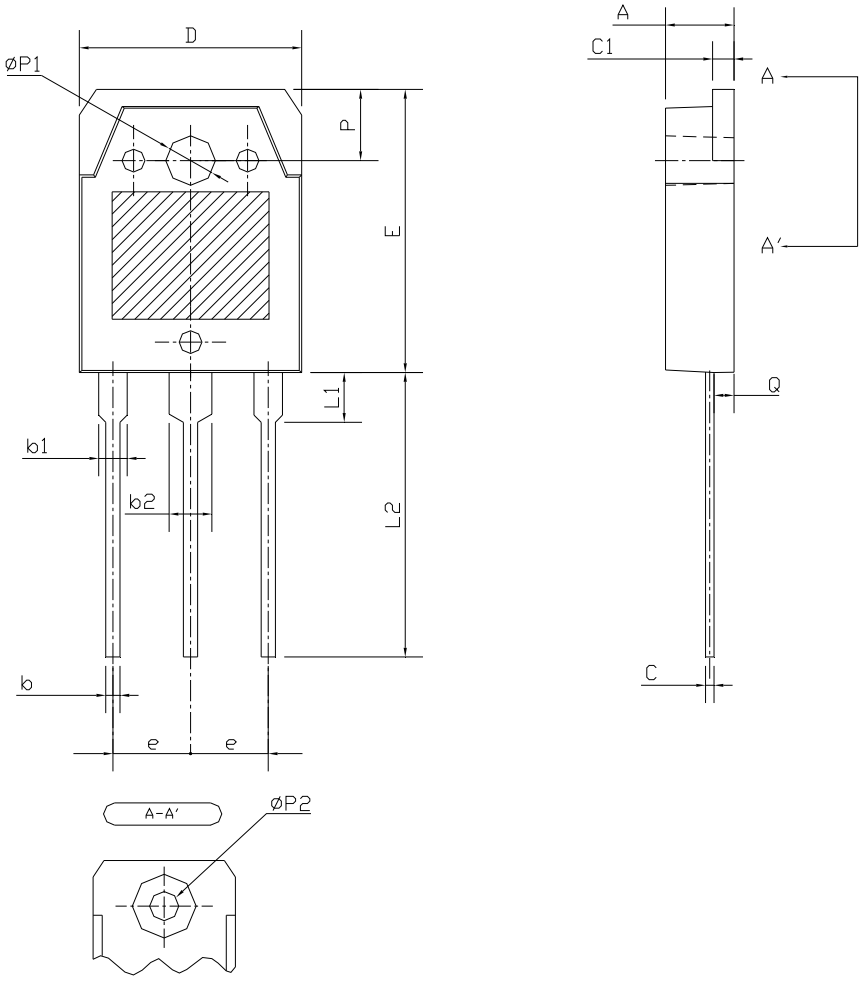


Fig. 6 I_O derating - T_C



Package Outline Dimension (Unit: mm)



SYMBOL	MIN	NOM	MAX
A	4.60	4.80	5.00
b	0.80	1.00	1.20
b1	1.80	2.00	2.20
b2	2.80	3.00	3.20
C	0.55	0.60	0.75
C1	1.45	1.50	1.65
D	15.40	15.60	15.80
E	19.70	19.90	20.10
e	5.15	5.45	5.75
L1	3.30	3.50	3.70
L2	19.80	20.00	20.20
P	4.80	5.00	5.20
øP1	3.30	3.40	3.50
øP2		(3.20)	
Q	1.20	1.40	1.60

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