KODENSHI AUK

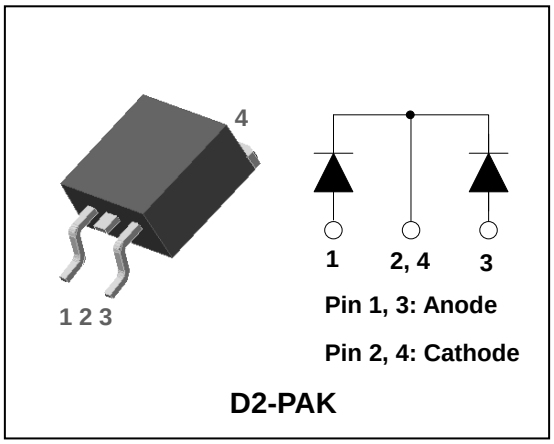
SF10S600D2

Ultrafast Recovery Diode

ULTRAFAST RECOVERY POWER RECTIFIER

Description

The SF10S600D2 power rectifier is designed for use in switching power supplies, inverters, and as free-wheeling diode.



Feature

- Low forward voltage drop and leakage current
- Ultra fast reverse recovery time
- Low power loss and High efficiency
- Full lead (Pb)-free and RoHS compliant device

Applications

- Switching mode power supply
- Free-wheeling diode for motor application
- Polarity protection
- Power switching circuits

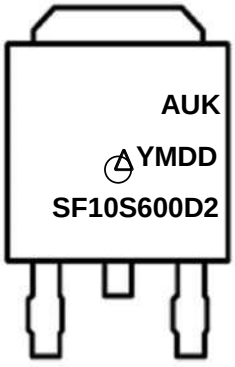
Product Characteristics

$I_{F(AV)}$	10A
V_{RRM}	600V
V_{FM} @ Tj=125℃	1.68V
t_{rr}	35ns

Ordering Information

Device	Marking Code	Package	Packaging
SF10S600D2	SF10S600D2	D2-PAK	Tape & Reel

Marking Information



AUK = Manufacture Logo

Δ = Control Code of Manufacture

YMDD = Date Code Marking

-. Y = Year Code

-. M = Monthly Code

-. DD = Daily Code

SF10S600D2 = 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	600	V
Maximum average forward rectified current	$I_{F(AV)}$	10	A
Peak forward surge current 8.3ms single half sine-wave superimposed on rated load per diode	I_{FSM}	100	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	$R_{th(j-c)}$	3.0	℃/W

Electrical Characteristics

Characteristic	Symbol	Test Condition		Min.	Typ.	Max.	Unit
Peak forward voltage drop	V_{FM} (1)	I_{FM} = 10A	T_j=25℃	-	-	1.90	V
			T_j=125℃	-	-	1.68	V
Reverse leakage current	I_{RM} (1)	$V_R = V_{RRM}$	T_j=25℃	-	-	20	uA
			T_j=125℃	-	-	200	uA
Reverse recovery time	t_{rr}	I_F = 1A, di/dt =-100 A/us		-	-	35	ns
Junction capacitance	C_j	$V_R = 4V_{DC}$, f=1MHz		-	-	250	pF

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

Rating and Characteristic Curves

Fig. 1) Typical Forward Characteristics

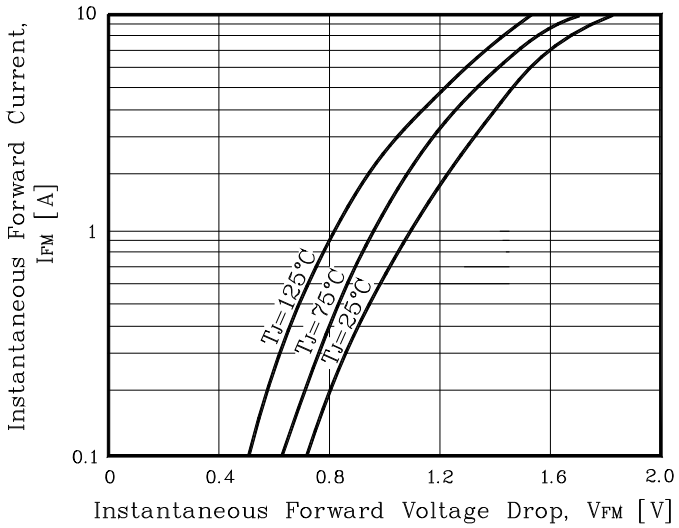


Fig. 2) Typical Reverse Characteristics

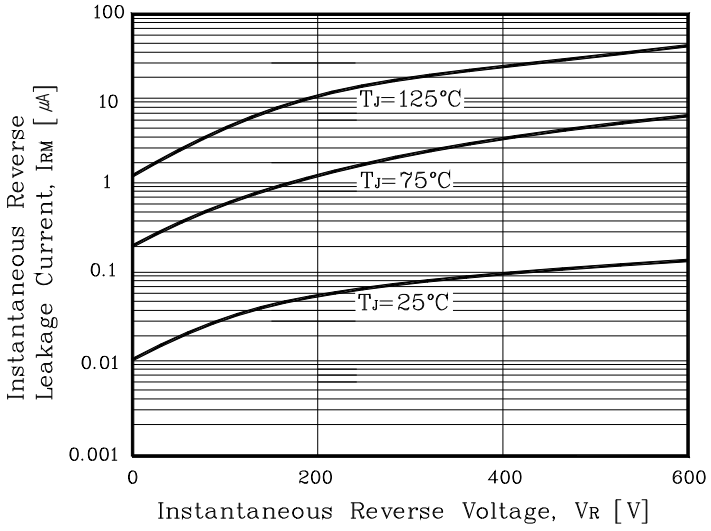


Fig. 3) Maximum Forward Derative Curve

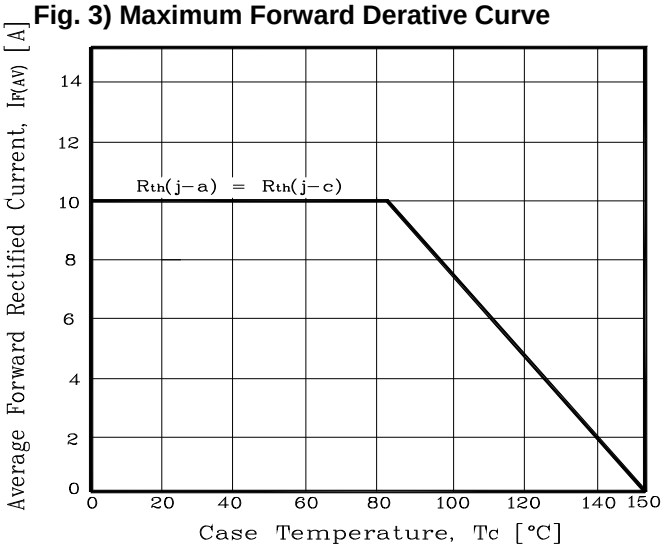


Fig. 4) Forward Power Dissipation

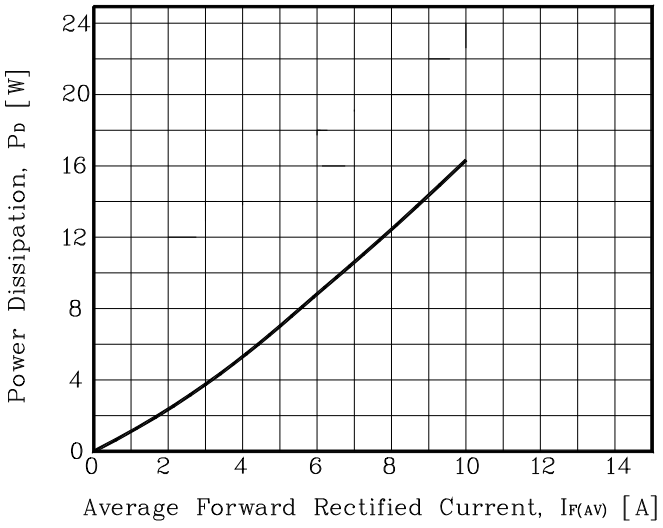


Fig. 5) Maximum Non-Repetitive Peak Forward Surge Current

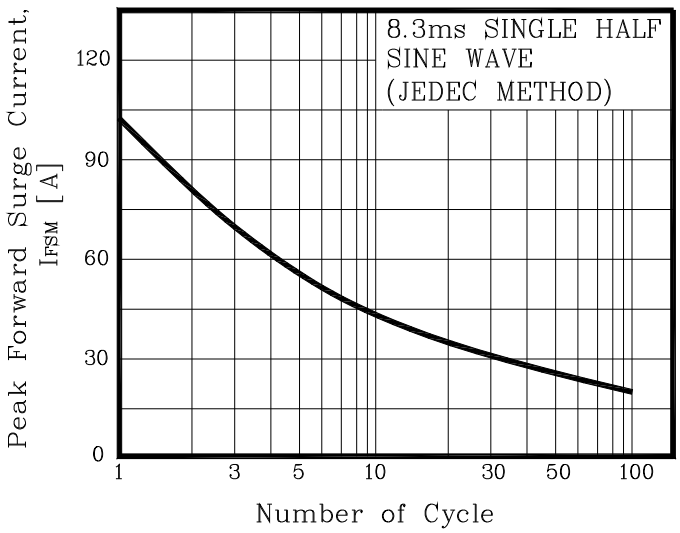
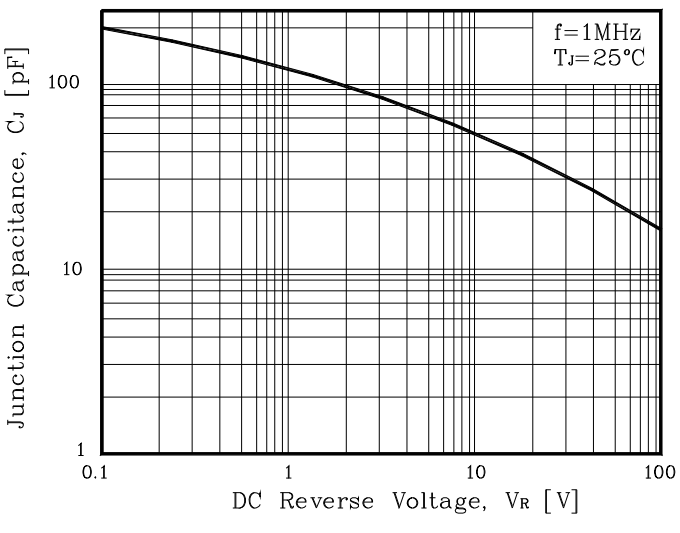
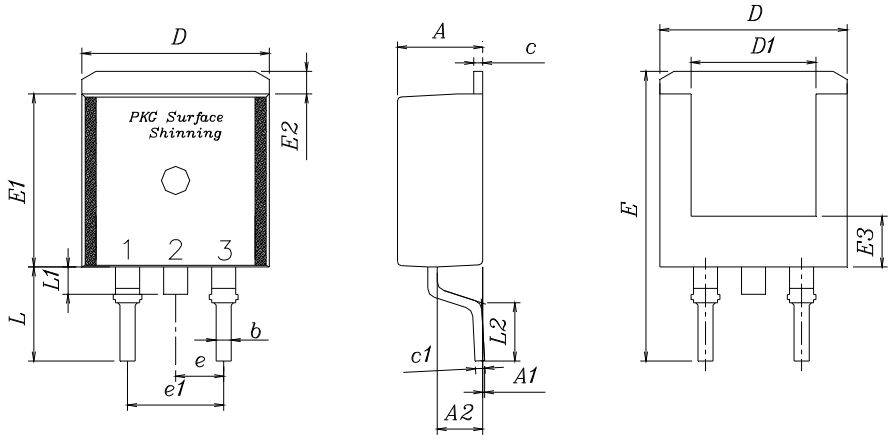


Fig. 6) Typical Junction Capacitance

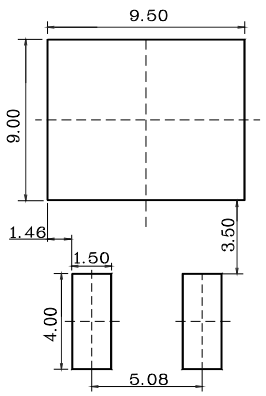


Package Outline Dimension



SYMBOL	MILLIMETERS			NOTE
	MINIMUM	NOMINAL	MAXIMUM	
A	4.35	4.50	4.65	
A1	–	–	0.15	
A2	2.20	2.40	2.60	
b	0.70	0.80	0.90	
c	0.40	0.50	0.60	
c1	0.40	0.50	0.60	
D	9.80	10.00	10.20	
D1	6.40	6.60	6.80	
E	15.00	15.40	15.80	
E1	9.05	9.20	9.35	
E2	1.00	1.20	1.40	
E3	2.50	2.70	2.90	
e	2.34	2.54	2.74	
e1	4.88	5.08	5.28	
L	4.60	5.00	5.40	
L1	1.40	1.45	1.50	
L2	2.50	–	–	

※ Recommend PCB solder land (Unit: mm)



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