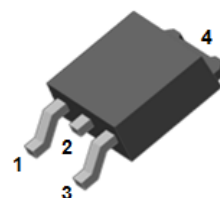


Ultrafast Recovery Power Rectifier

General Description

The SFN20A600D is ideally as boost diode in discontinuous or critical mode power factor corrections. The planar structure and the platinum doper life time control guarantee the best overall performance, ruggedness reliability characteristics. The device is also intended for use as a freewheeling diode in power supplies and other power switching applications.



TO-252

Features and Benefits

- Low forward drop voltage
- Ultrafast recovery time and high speed switching
- Full lead (Pb)-free device and RoHS compliant device

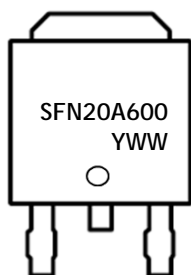
Applications

- Switching power supply
- Power inverters
- Power conversion system

Ordering Information

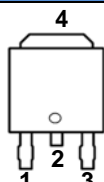
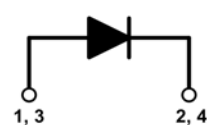
Part Number	Marking Code	Package	Packaging
SFN20A600D	SFN20A600	TO-252	Tape & Reel

Marking Information



SFN20A600 = Specific Device Code
YWW = Year & Week Code Marking
- Y = Year Code
- WW = Week Code

Pinning Information

Pin	Description	Simplified Outline	Graphic Symbol
1, 3	Anode		
2, 4	Cathode		

Absolute Maximum Ratings (Limiting values at 25°C, unless otherwise specified)

Characteristic	Symbol	Ratings	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	$I_{F(AV)}$	20	A
Peak forward surge current 8.3ms single half sine-wave superimposed on rated load	I_{FSM}	130	A
Storage temperature range	T_{stg}	-45 to +150	°C
Maximum operating junction temperature	T_J	150	

Thermal Characteristics

Characteristic	Symbol	Ratings	Unit
Maximum thermal resistance, junction to case	$R_{th(j-c)}$	4.0	°C/W

Electrical Characteristics

Characteristic	Symbol	Test Condition		Min.	Typ.	Max.	Unit
Peak forward voltage drop	$V_{FM}^{(1)}$	$I_{FM} = 20A$	$T_J = 25^\circ C$	-	1.64	2.1	V
Reverse leakage current	I_{RM}	$V_R = V_{RRM}$	$T_J = 25^\circ C$	-	-	10	uA
			$T_J = 125^\circ C$	-	-	200	
Reverse recovery time	t_{rr}	$I_F = 1A, di/dt = -100A/us$		-	25	30	ns
Junction capacitance	C_j	$V_R = 10V_{DC}, f=1MHz$		-	62	-	pF

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

Typical Electrical Characteristics Curves

Fig. 1) Typical Forward Characteristics

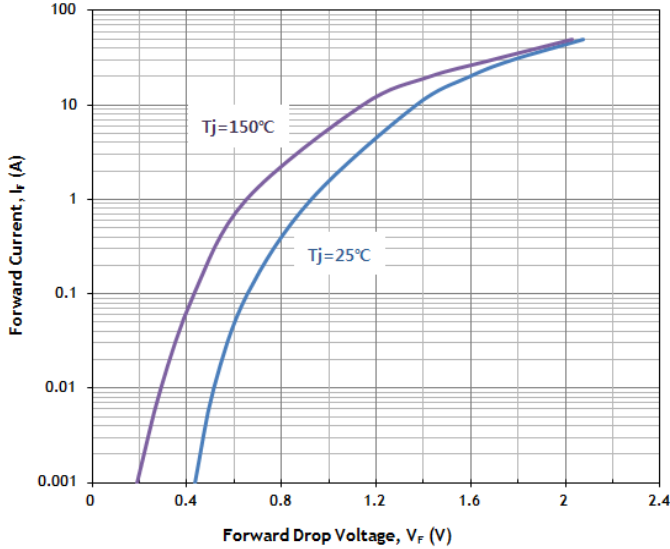


Fig. 2) Typical Reverse Characteristics

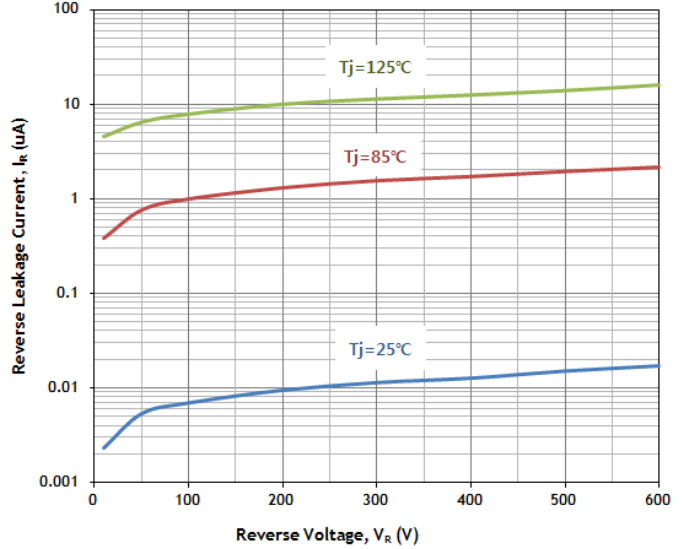


Fig. 3) Typical Junction Capacitance Characteristics

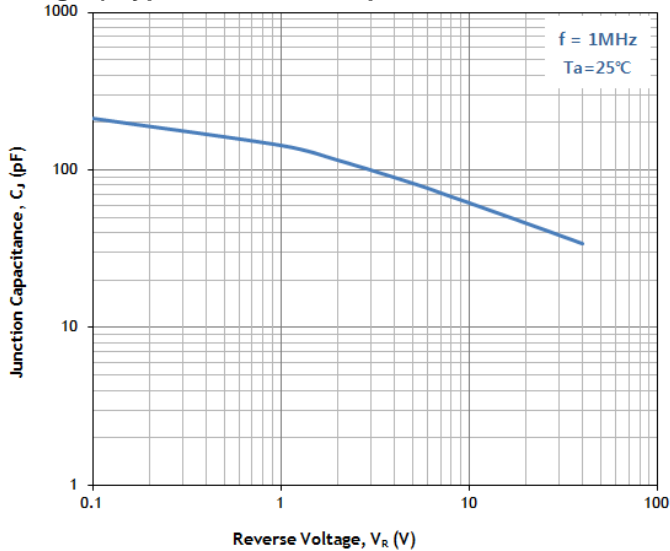


Fig. 4) Peak Forward Surge Current Characteristics

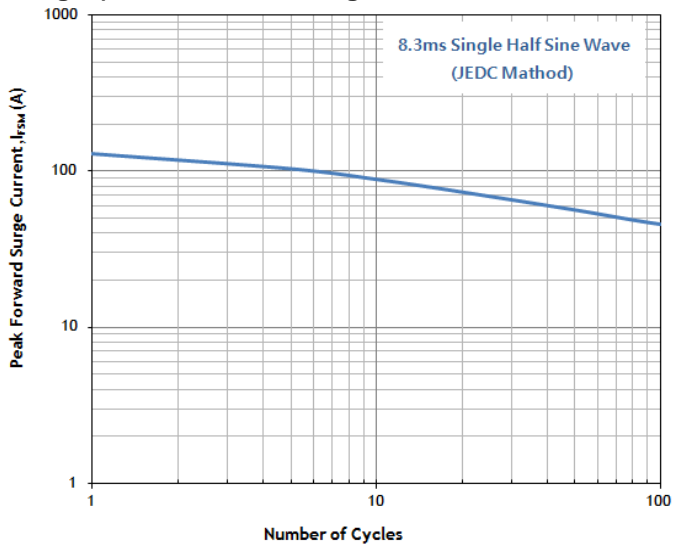


Fig. 5) Thermal Impedance Characteristics

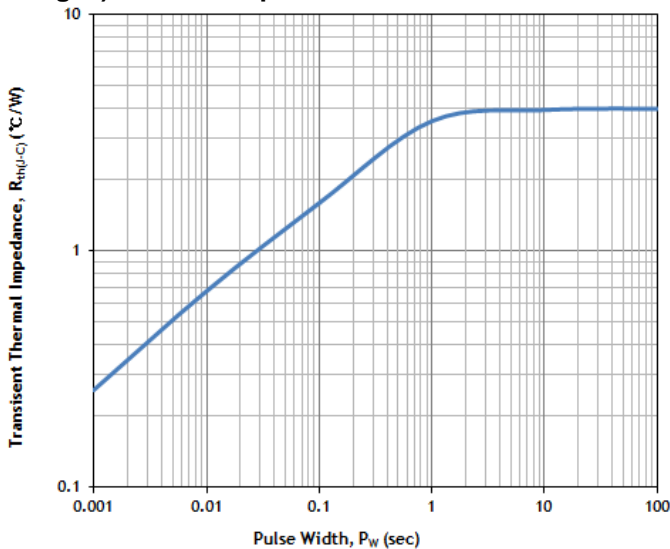
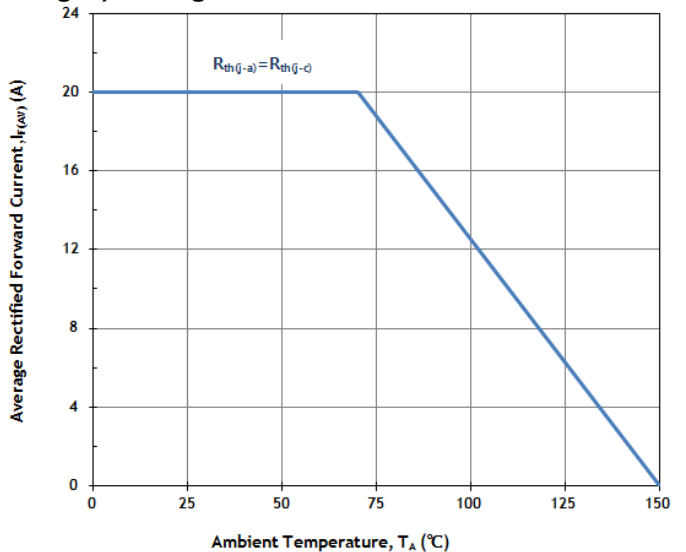
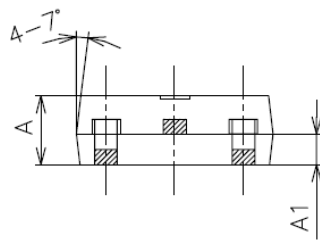
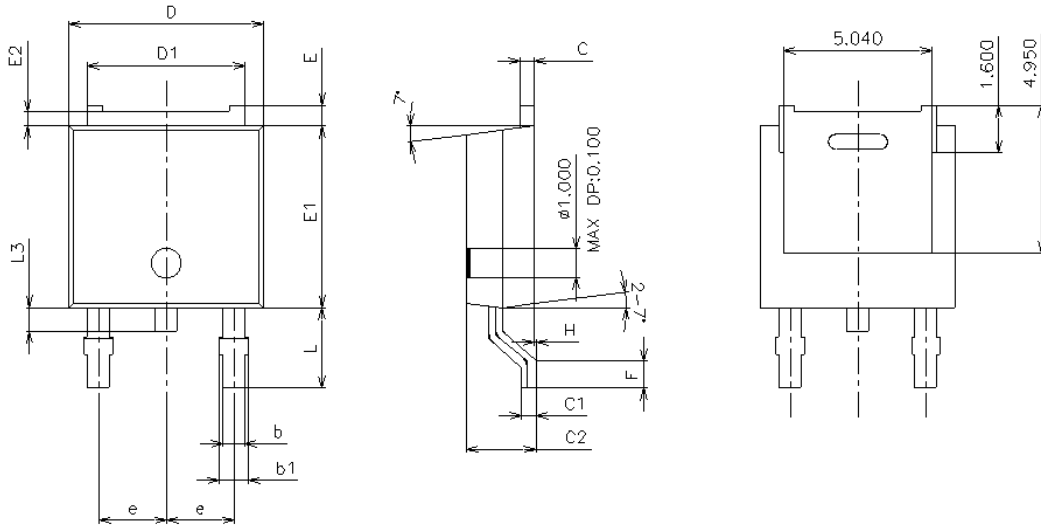


Fig. 6) Average Forward Current Characteristics

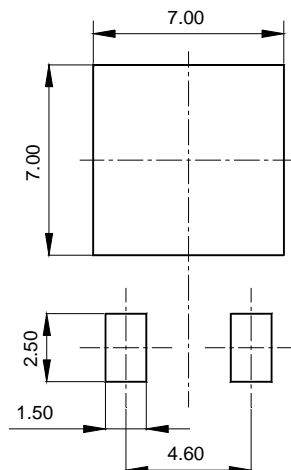


Package Outline Dimensions (Unit: mm)



SYMBOL	MILLIMETERS			NOTE
	MINIMUM	NOMINAL	MAXIMUM	
D	6.40	6.60	6.80	
D1	5.14	5.34	5.54	
E	0.50	0.70	0.90	
E1	5.90	6.10	6.30	
E2	0.50 TYP			
A	2.20	2.30	2.40	
A1	0.87	1.07	1.27	
C	0.40	0.50	0.60	
C1	0.40	0.50	0.60	
C2	2.10	2.30	2.50	
L	2.50	2.70	2.90	
L3	0.60	0.80	1.00	
b	0.66	0.76	0.86	
b1	0.96 MAX			
e	2.10	2.30	2.50	
F	0.80 MIN			
H	0.00	-	0.10	

※ Recommended Land Pattern (Unit: mm)



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