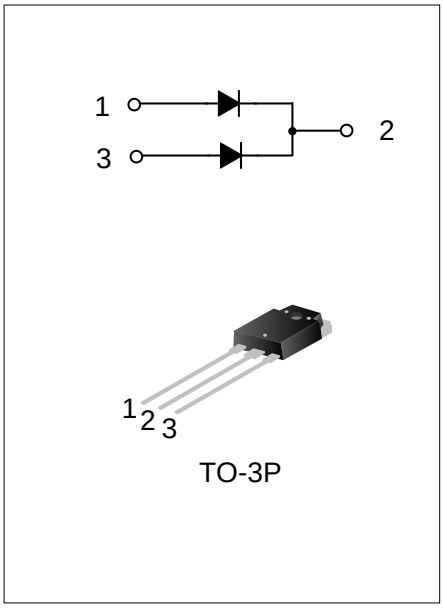
25A, 200V ULTRA-FAST RECOVERY RECTIFIER

DESCRIPTION

SFR25U20EPN is an Ultra-Fast Recovery Diode, fabricated in advanced silicon planar epitaxial technology. The process parameter and the device structure are fine tuned with optimized performance of forward voltage drop and reverse recovery time.

Accuracy epitaxial dope control, advanced planar junction terminal structure and the platinum doped life control, guarantee the best overall performance, ruggedness and reliability characteristics.

This device is widely used in the SMPS, UPS, PFC, and other fields.



FEATURES

- Ultrafast 25 Nanosecond Recovery Time
- Low Forward Voltage Drop
- Low Leakage Current

ORDERING INFORMATION

Part No.	Package	Marking	Hazardous Substance Control	Packing Type
SFR25U20EPN	TO-3P	25U20E	Pb free	Tube

ABSOLUTE MAXIMUM RATINGS

Characteristics		Symbol	Rating	Unit
Peak Repetitive Reverse Voltage		V_{RRM}	200	V
Average Rectified Forward Current	Per Leg	$I_{F(AV)}$	12.5	A
	Total Device		25	
Forward Peak Surge Current@8.3ms	Per Leg	I_{FSM}	200	A
Operation Junction Temperature Range		T_J	-55~+150	°C
Storage Temperature Range		T_{stg}	-55~+150	°C

THERMAL CHARACTERISTICS (PER LEG)

Characteristics	Symbol	Rating	Unit
Thermal Resistance, Junction-to-Case (TO-3P)	$R_{\theta JC}$	1.5	°C/W

ELECTRICAL CHARACTERISTICS (PER LEG)

Characteristics	Symbol	Test condition	Min.	Typ.	Max.	Unit
Maximum Forward Voltage	V_F	I_F=12.5Amps, T_C=25°C	--	0.91	0.95	V
		I_F=12.5Amps, T_C=125°C	--	0.78	0.82	V
Maximum Reverse Leakage Current	I_R	Rated DC voltage, T_C=25°C	--	--	5.0	μA
		Rated DC voltage, T_C=125°C	--	--	50	μA
Maximum Reverse Recovery Time	t_{rr}	I_F=0.5Amps, I_R=1.0Amps, I_{REC}=0.25Amps	--	25	--	ns
Reverse Recovery Time	T_{rr}	V_R=200V, I_F=12.5A, dI_F/dt=200.0A/μs	--	41	--	ns
Reverse Recovery Charge	Q_{rr}		--	67	--	nC
Reverse Recovery Peak Current	I_{rrm}		--	3.5	--	A

TYPICAL CHARACTERISTICS

Figure 1. Forward Characteristics

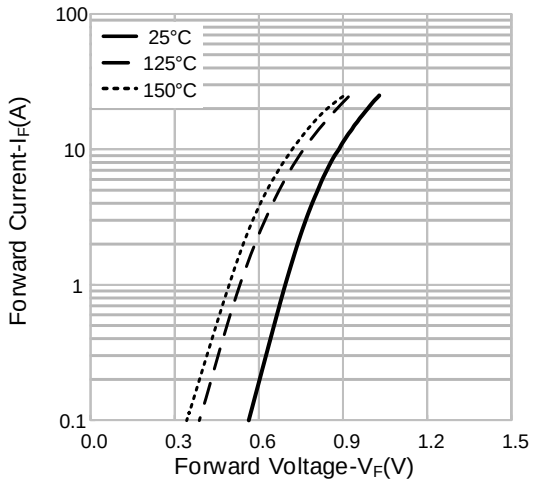


Figure 2. Reverse Characteristics

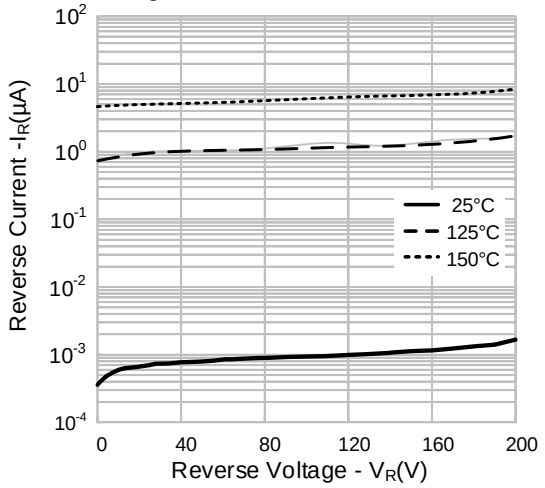


Figure 3. Junction Capacitance Characteristics

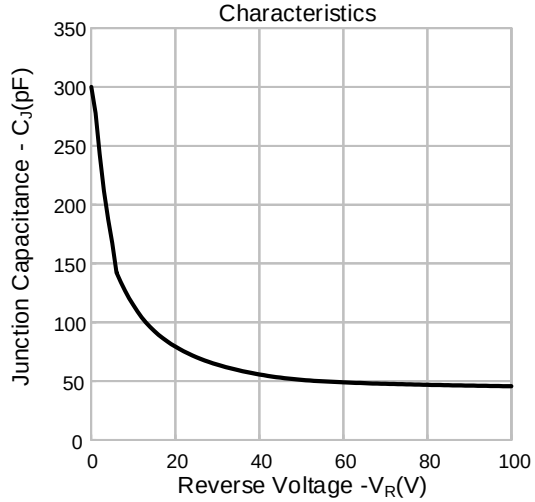
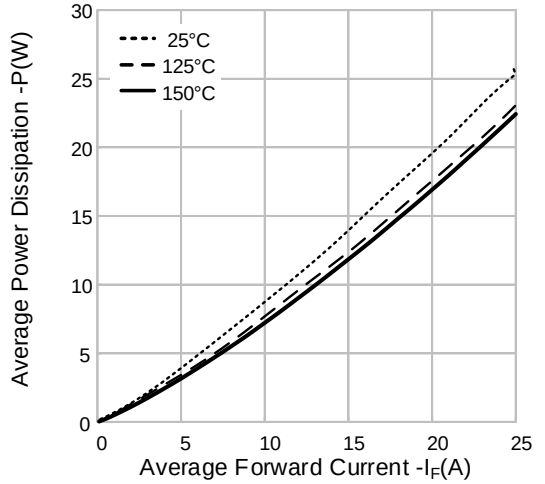
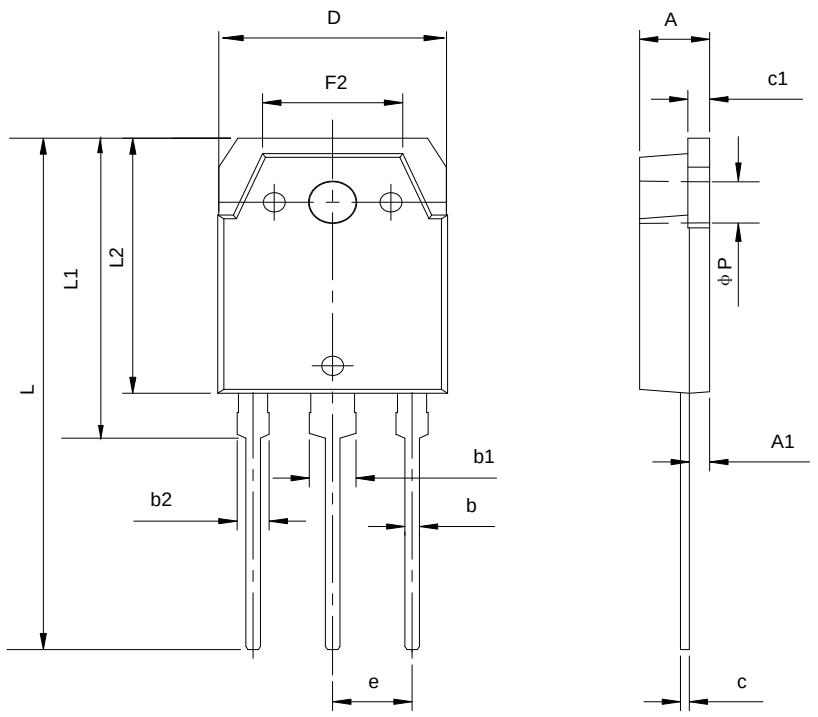


Figure 4. Power Dissipation (Per Leg)



PACKAGE OUTLINE

TO-3P **UNIT: mm**



SYMBOL	MILLIMETER		
	MIN	NOM	MAX
A	4.4	—	5.2
c1	1.2	—	1.8
A1	1.2	—	2.0
b	0.7	1.0	1.3
b1	2.7	3.0	3.3
b2	1.7	2.0	2.3
D	15.0	15.5	16.0
c	0.4	0.6	0.8
F2	8.5	—	10.0
e	5.45 TYP		
L1	22.6	—	23.6
L	39.0	—	41.5
L2	19.5	—	21.0
P	3.0	—	3.4

Important notice:

1. **The instructions are subject to change without notice!**
2. **Customers should obtain the latest relevant information before placing orders and should verify that such information is complete and current. Please read the instructions carefully before using our products, including the circuit operation precautions.**
3. **Our products are consumer electronic products or the other civil electronic products.**
4. **When using our products, please do not exceed the maximum rating of the products, otherwise the reliability of the whole machine will be affected. There is a certain possibility of failure or malfunction of any semiconductor product under specific conditions. The buyer is responsible for complying with safety standards and taking safety measures when using our products for system design, sample and whole machine manufacturing, so as to avoid potential failure risk that may cause personal injury or property loss.**
5. **It is strongly recommended to identify the trademark when buying our products. Please contact us if there is any question.**
6. **Product promotion is endless, our company will wholeheartedly provide customers with better products!**
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Rev.: 1.0

Revision History:

1. First release