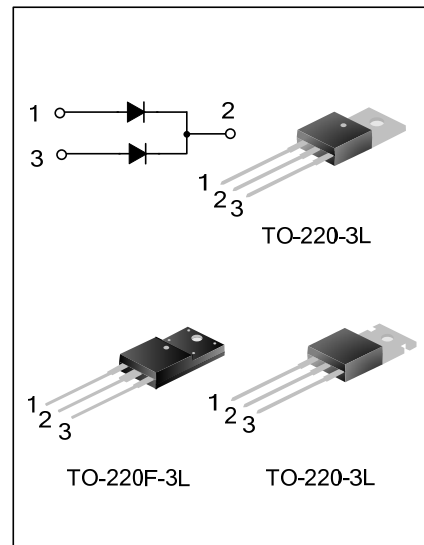


20A, 200V SUPER-FAST RECOVERY RECTIFIER

GENERAL DESCRIPTION

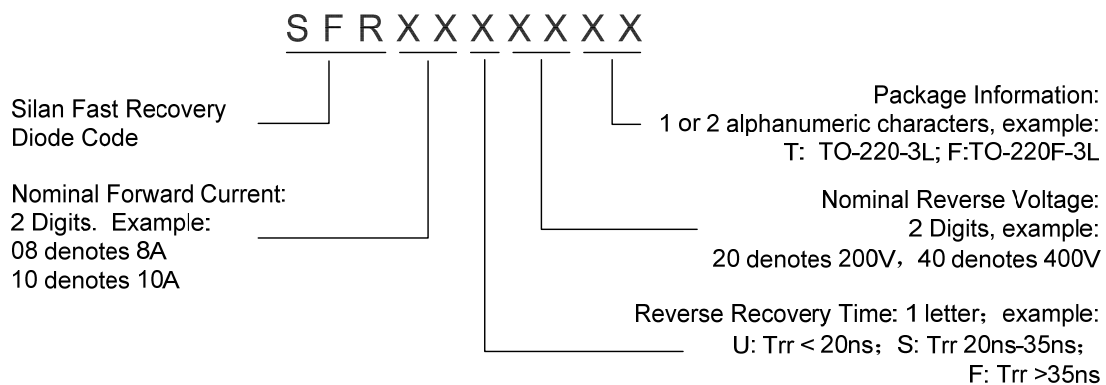
SFR20S20T/F is a Super-Fast Recovery Diode, fabricated in advanced silicon planar epitaxial technology. The process parameter and the device structure are fine tuned with optimized performance of forward voltage drop and reverse recovery time. Accuracy epitaxial dope control, advanced planar junction terminal structure and the platinum doped life control, guarantee the best overall performance, ruggedness and reliability characteristics. SFR20S20T/F is intended for use in the output rectification stage of SMPS, UPS, DC-DC converters as well as free-wheeling diode in low voltage inverters and chopper motor drivers.



FEATURES

- * Ultrafast 35 Nanosecond Recovery Time
- * Low Forward Voltage Drop
- * Low Leakage Current
- * 175 °C Operating Junction Temperature

NOMENCLATURE



ORDERING SPECIFICATIONS

Part No.	Package	Marking	Material	Packing
SFR20S20T	TO-220-3L	SFR20S20T	Pb free	Tube
SFR20S20F	TO-220F-3L	SFR20S20F	Pb free	Tube

ABSOLUTE MAXIMUM RATINGS

Parameter	Symbol	Ratings	Unit
Peak Repetitive Reverse Voltage	VRRM	200	V
Average Rectified Forward Current Per Leg Total Device	IF(AV)	10.0 20	A
Non Repetitive Peak Surge Current Per Leg	IFSM	100	A
Operation Junction Temperature	TJ	-40~+175	°C
Storage Temperature	Tstg	-40~+175	°C

THERMAL CHARACTERISTICS

Parameter	Symbol	Ratings	Unit
Thermal Resistance, Junction-to-Case	RθJC	1.5	°C/W

ELECTRICAL CHARACTERISTICS

Parameter	Symbol	Min.	Typ.	Max.	Unit
Maximum Instantaneous Forward Voltage (Note 1) (IF=10.0 Amps, Tc=150°C) (IF=10.0 Amps, Tc=25°C)	VF	--	--	0.975 1.0	V
Maximum Instantaneous Reverse Current(Note 1) (Rated dc Voltage, Tc=150°C) (Rated dc Voltage, Tc=25°C)	IR	--	--	250 5.0	μA
Maximum Reverse Recovery Time (IF=0.5 Amp, IR=1.0Amp, IREC=0.25Amp)	trr	--	--	35	ns

Notes:

1. Pulse Test: Pulse Width=300μs, Duty Cycle≤2.0%

TYPICAL CHARACTERISTICS

Figure 1: Forward Characteristic

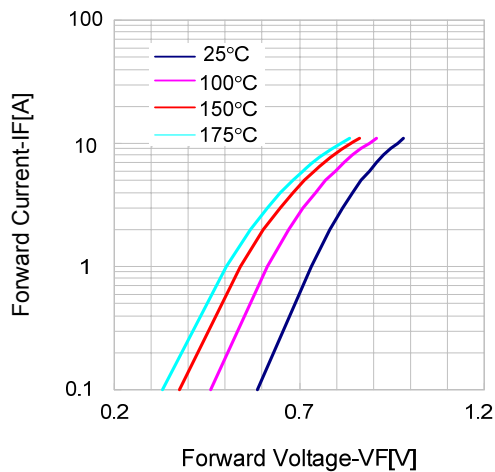


Figure 2: Reverse Characteristic

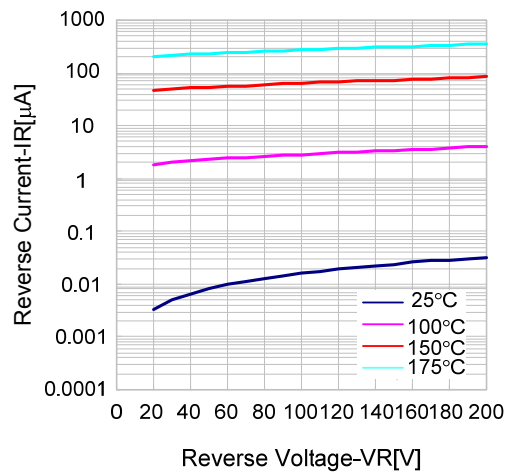
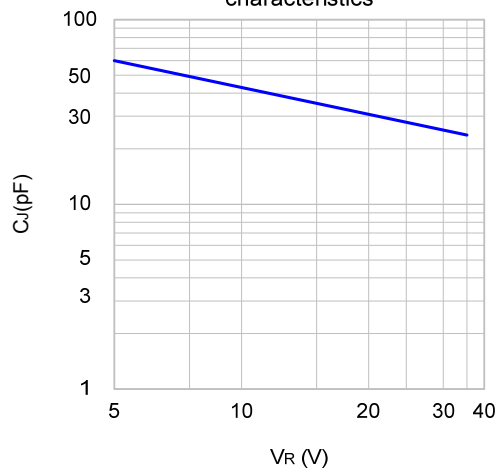


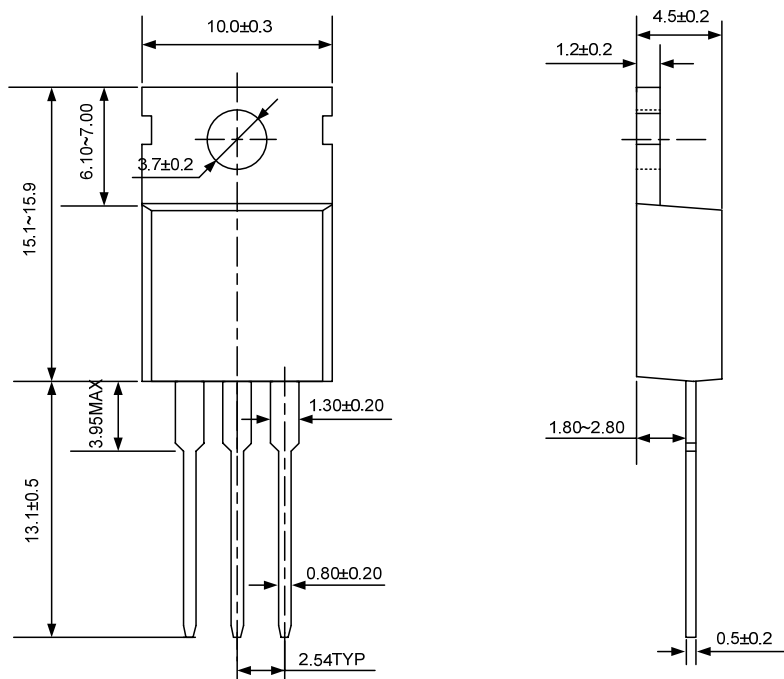
Figure 3: junction capacitance characteristics



PACKAGE OUTLINE

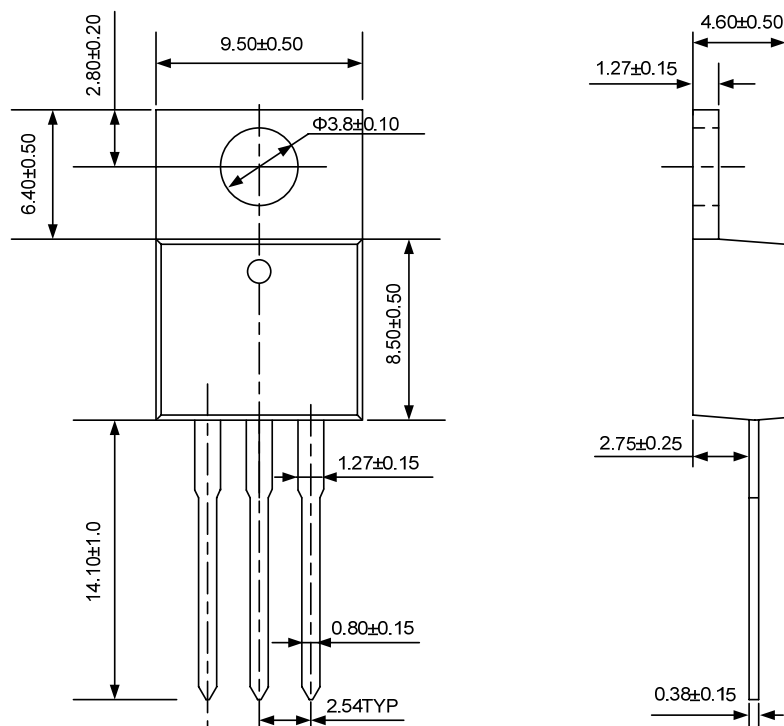
TO-220-3L

UNIT: mm

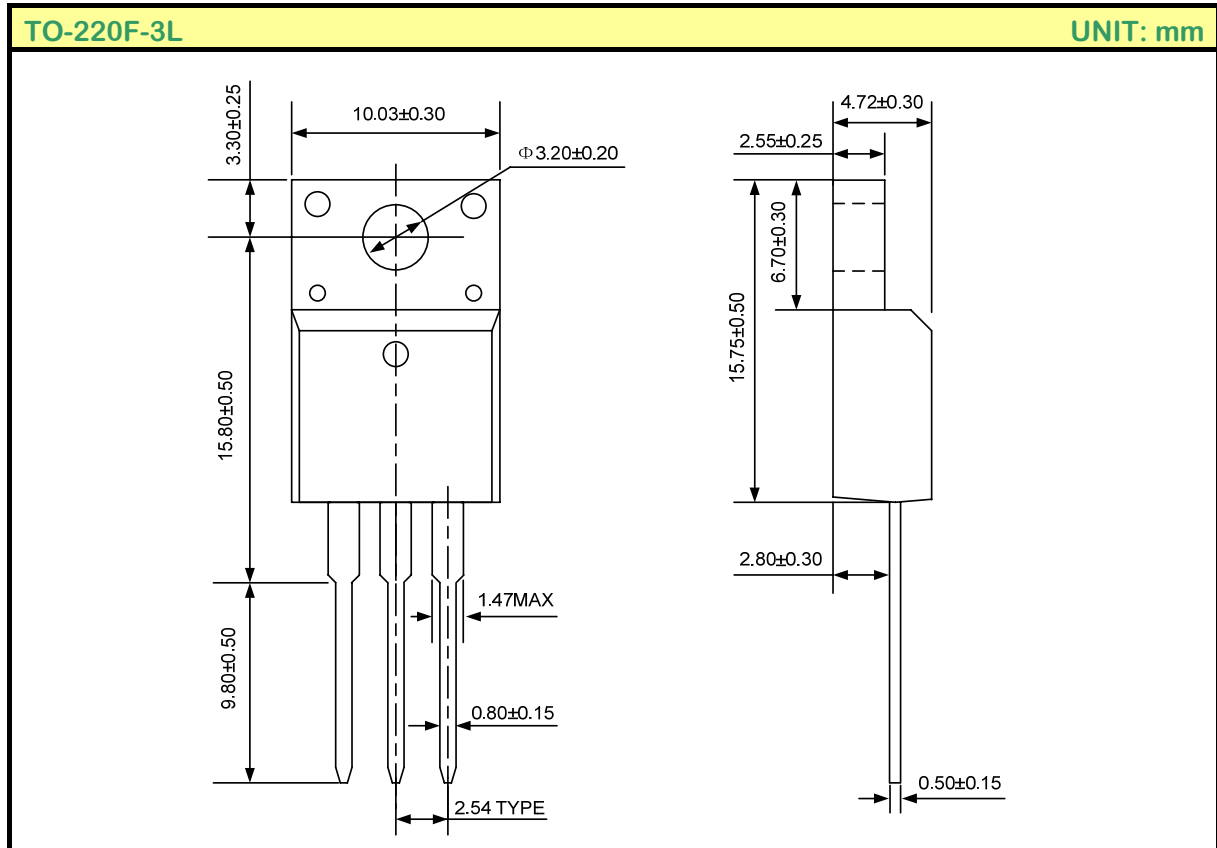


TO-220-3L

UNIT: mm



PACKAGE OUTLINE (continued)



Disclaimer:

- Silan reserves the right to make changes to the information herein for the improvement of the design and performance without further notice! Customers should obtain the latest relevant information before placing orders and should verify that such information is complete and current.
- All semiconductor products malfunction or fail with some probability under special conditions. When using Silan products in system design or complete machine manufacturing, it is the responsibility of the buyer to comply with the safety standards strictly and take essential measures to avoid situations in which a malfunction or failure of such Silan products could cause loss of body injury or damage to property.
- Silan will supply the best possible product for customers!

ATTACHMENT**Revision History**

Date	REV	Description	Page
2010.08.24	1.0	Original	
2010.10.21	1.1	Modify the template of Datasheet	