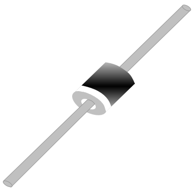
5A, 400V SUPER-FAST RECOVERY RECTIFIER

GENERAL DESCRIPTION

SFR05S40E 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.

SFR05S40E 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.

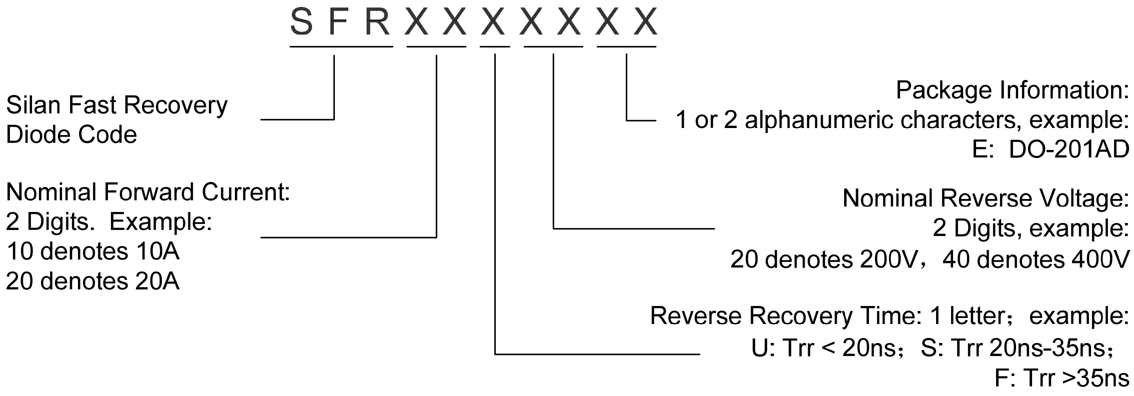


DO-201AD

FEATURES

- Ultrafast 35 Nanosecond Recovery Time
- Low Forward Voltage Drop
- Low Leakage Current
- 150 °C Operating Junction Temperature

NOMENCLATURE



S F R X X X X X X X

Silan Fast Recovery
Diode Code

Nominal Forward Current:
2 Digits. Example:
10 denotes 10A
20 denotes 20A

Package Information:
1 or 2 alphanumeric characters, example:
E: DO-201AD

Nominal Reverse Voltage:
2 Digits, example:
20 denotes 200V，40 denotes 400V

Reverse Recovery Time: 1 letter；example:
U: Trr < 20ns；S: Trr 20ns-35ns；
F: Trr >35ns

ORDERING INFORMATION

Part No.	Package	Marking	Material	Packing
SFR05S40E	DO-201AD	SFR05S40E	Pb free	Bulk
SFR05S40ETR	DO-201AD	SFR05S40E	Pb free	AMMO

ABSOLUTE MAXIMUM RATINGS

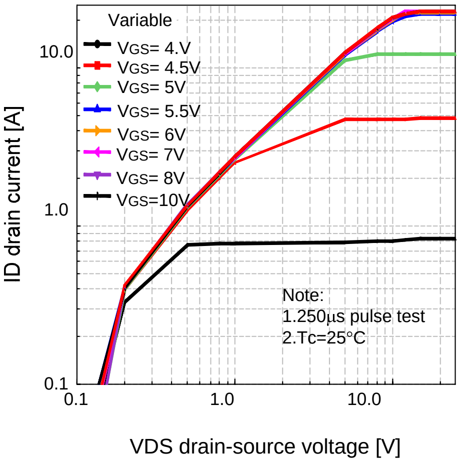
Characteristics	Symbol	Rating	Unit
Peak Repetitive Reverse Voltage	V_{RRM}	400	V
Average Rectified Forward Cuttent Per Leg	$I_{F(AV)}$	5.0	A
Non Repetitive Peak Surge Current Per Leg	I_{FSM}	150	A
Operation Junction Temperature	T_J	-55～+150	°C
Storage Temperature	T_{stg}	-55～+150	°C

ELECTRICAL CHARACTERISTICS（Per Leg）

Characteristics	Symbol	Min.	Typ.	Max.	Unit
Maximum Instantaneous Forward Voltage (Note 1) IF=5.0 Amps, Tc=25°C	V_F	--	--	1.25	V
Maximum Instantaneous Reverse Current(Note 1) (Rated dc Voltage, Tc=150°C) (Rated dc Voltage, Tc=25°C)	I_R	--	--	300 5.0	µA
Maximum Reverse Recovery Time (I_F=0.5 Amp, I_R=1.0Amp, I_{REC}=0.25Amp)	t_{rr}	--	--	35	ns

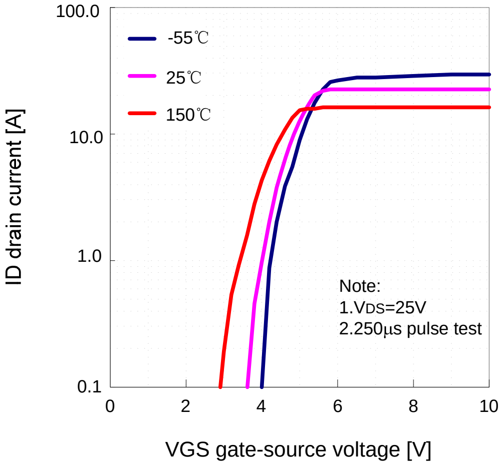
TYPICAL CHARACTERISTICS

Figure 1. On-region characteristics



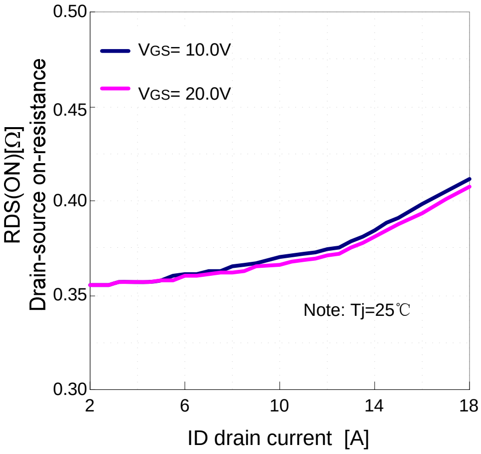
Note:
1.250µs pulse test
2.Tc=25°C

Figure 2. Transfer characteristics



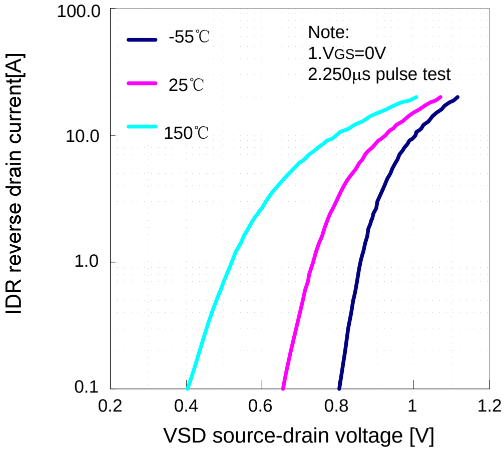
Note:
1.VDS=25V
2.250µs pulse test

Figure 3. On-resistance variation vs. drain current and gate voltage



Note: Tj=25℃

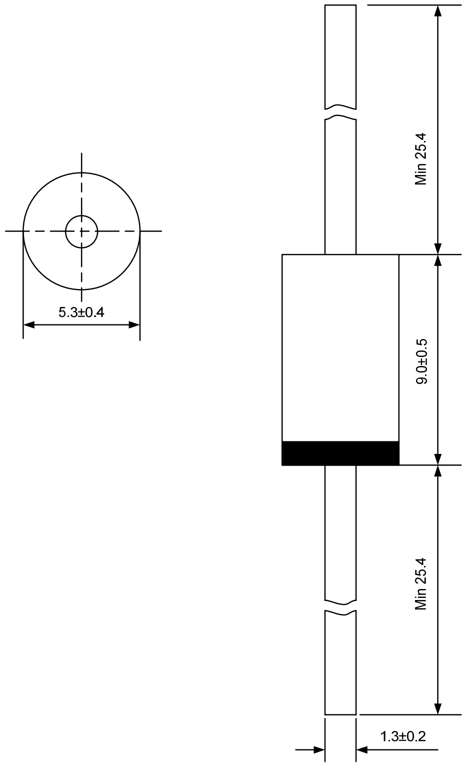
Figure 4. Body diode forward voltage variation vs. source current



Note:
1.VGS=0V
2.250µs pulse test

PACKAGE OUTLINE

DO-201AD **UNIT: mm**



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ATTACHMENT

Revision History

Date	REV	Description	Page
2011.04.28	1.0	Original	