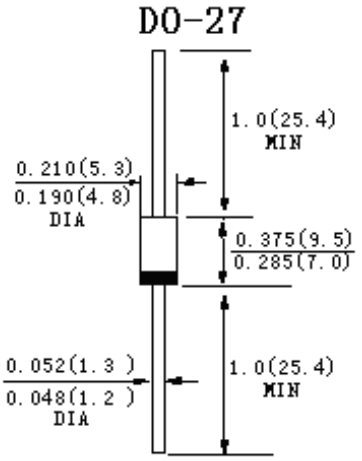
SUPER FAST RECTIFIER

SF51 THRU SF58

Features

- Low reverse leakage
- High forward surge capability
- High reliability
- Ultrafast recovery time for high efficiency
- High temperature soldering guaranteed:260℃/10seconds, 9.5mm lead length
- Lead and body according with RoHS standard



Dimensions in inches and (millimeters)

Mechanical Data

Case: DO-27 Molded plastic

Terminals: Plated axial leads, solderable per MIL-STD-750, Method 2026

Polarity: Color band denotes cathode end

Mounting Position: Any

Maximum Ratings and Electrical Characteristics

Rating at 25℃ ambient temperature unless otherwise specified

Single phase, half wave, 60 Hz, resistive or inductive load

For capacitive load, derate current by 20%

TYPE NUMBER		Symbols	SF51	SF52	SF54	SF56	SF57	SF58	Units
Maximum repetitive peak reverse voltage		V_{RRM}	50	100	200	400	500	600	V
Maximum RMS voltage		V_{RMS}	35	70	140	280	350	420	V
Maximum DC blocking voltage		V_{DC}	50	100	200	400	500	600	V
Maximum average forward rectified current 9.5mm lead length at T_A=55℃		$I_{F(AV)}$	5.0						A
Peak Forward Surge Current,8.3ms single half-wave superimposed on rated load(JEDEC method)		I_{FSM}	150						A
Maximum instantaneous forward voltage at5.0A		V_F	0.95			1.25	1.7		V
Maximum reverse recovery time (**Note:** 1)		T_{rr}	35						nS
Maximum DC reverse current at rated DC blocking voltage	Ta=25℃	I_{R1}	10						μA
	Ta=100℃	I_{R2}	200						μA
Operating junction temperature range		T_J	-55to+150						℃
Storage temperature range		T_{stg}	-55to+150						℃

Note: 1. Reverse Recovery Test Conditions: IF=0.5A, IR=1.0A, IRR=0.25A.

Characteristic Curves

Fig. 1 – Forward Current Derating Curve

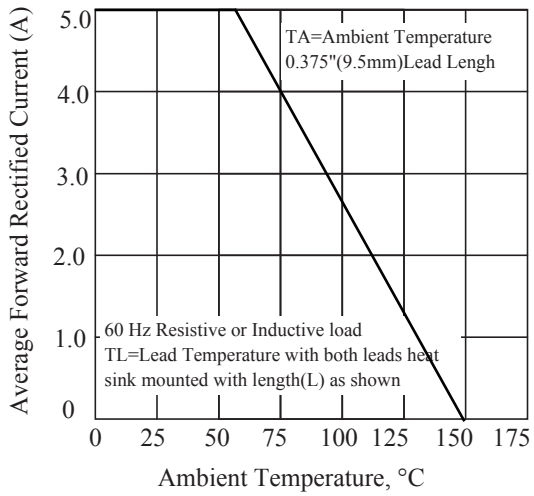


Fig. 2 – Maximum Non-repetitive Peak Forward Surge Current

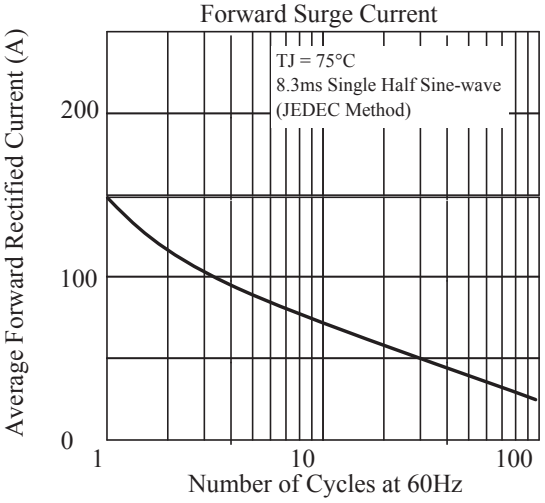


Fig 3. – Typical Instantaneous Forward Characteristics

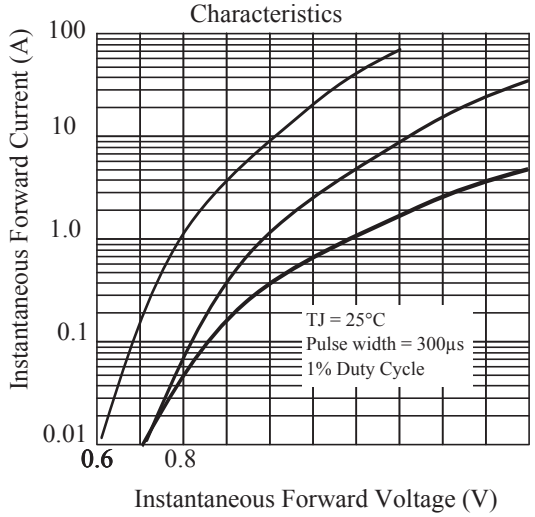


Fig 4. – Typical Reverse Characteristics

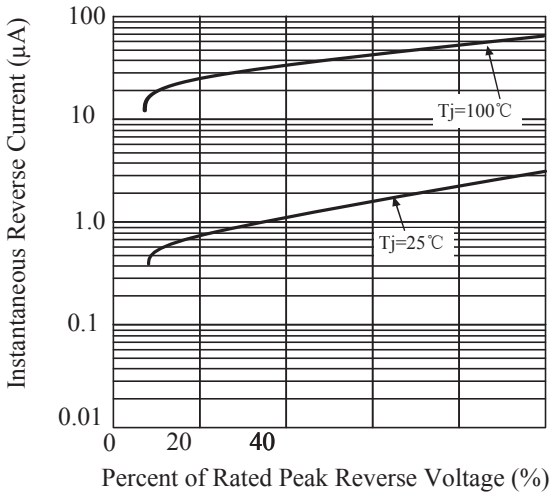


Fig 5. – typical Junction Capacitance