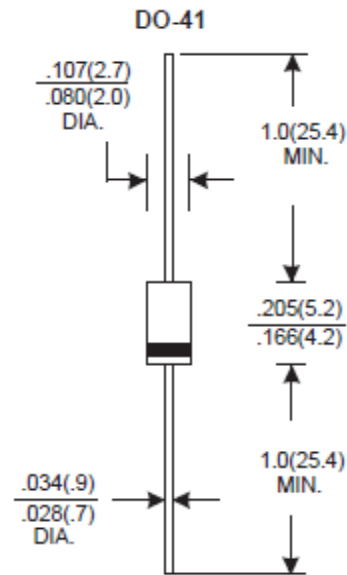


Features

- Low forward voltage drop
- High current capability
- High reliability
- High surge current capability

Mechanical Data

- **Case:** Molded plastic, DO-41
- **Epoxy:** UL 94V-O rate flame retardant
- **Lead:** Axial leads, solderable per MIL-STD-202 method 208 guaranteed
- **Polarity:** Color band denotes cathode end
- **Mounting position:** Any
- **Weight:** 0.34 gram
- **Both normal and Pb free product are available:**
- **Normal:** 80~95%Sn, 5~20%Pb
- **Pb free:** 99 Sn above can meet Rohs environment substance directive request



Dimensions in inches and (millimeters)

Major Ratings and Characteristics

$I_{F(AV)}$	1.0 A
V_{RRM}	50 V to 600 V
I_{FSM}	30A
V_F	0.95V, 1.25V, 1.7V
$T_J \text{ max.}$	150 °C

Maximum Ratings & Electrical Characteristics

Rating at 25°C ambient temperature unless otherwise specified

Single phase, half wave, 60Hz, resistive or inductive load, For capacitive load, derate current by 20%.

	Symbol	SF11	SF12	SF13	SF14	SF15	SF16	SF18	UNIT
Maximum repetitive peak reverse voltage	V_{RRM}	50	100	150	200	300	400	600	V
Maximum RMS voltage	V_{RMS}	35	70	105	140	210	280	420	V
Maximum DC blocking voltage	V_{DC}	50	100	150	200	300	400	600	V
Maximum average forward rectified current .375"(9.5mm) lead length at $T_A=55^\circ\text{C}$	$I_{F(AV)}$	1.0							A
Peak forward surge current 8.3 ms single half sine-wave superimposed on rated load	I_{FSM}	30							A
Operating junction temperature range	T_J	-65 to +150							°C
Storage temperature range	T_{STG}	-65 to +150							°C

Electrical Characteristics ($T_A = 25^\circ\text{C}$ unless otherwise noted)

Items	Test conditions	Symbol	SF11~SF14	SF15~SF16	SF18	UNIT
Instantaneous forward voltage	$I_F=1.0\text{ A}$	V_F	0.95	1.25	1.70	V
Reverse current	$V_R=V_{DC}$	I_R	$T_A=25^\circ\text{C}$			μA
			$T_A=100^\circ\text{C}$			
Reverse recovery time	$I_F = 0.5\text{ A}, I_R = 1.0\text{ A}, I_{rr} = 0.25\text{ A}$	t_{rr}	35			nS
Typical junction capacitance	4.0 V, 1MHz	C_J	50			pF

Rating and Characteristic Curves ($T_A=25^\circ\text{C}$ unless otherwise noted)

FIG.1 Reverse Recovery Time Characteristic and Test Circuit Diagram

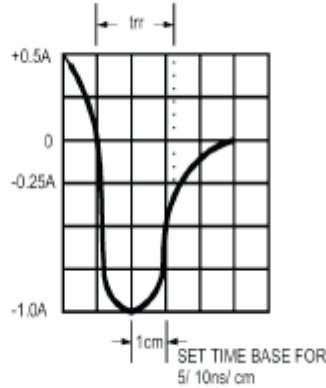
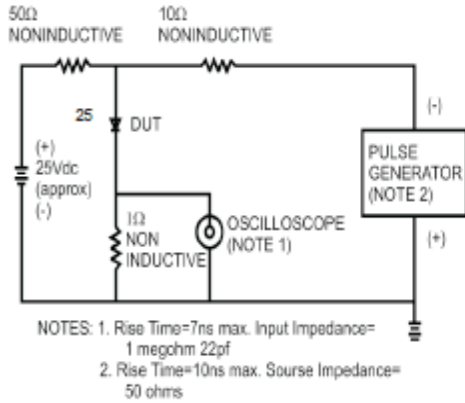


FIG.2 Maximum Average Forward Current Derating

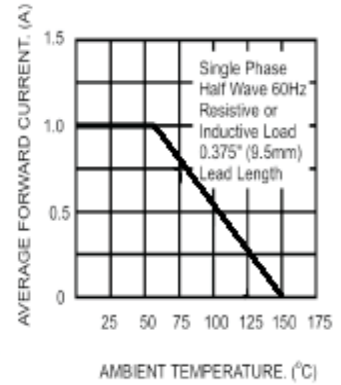


FIG.3 Typical Reverse Characteristics

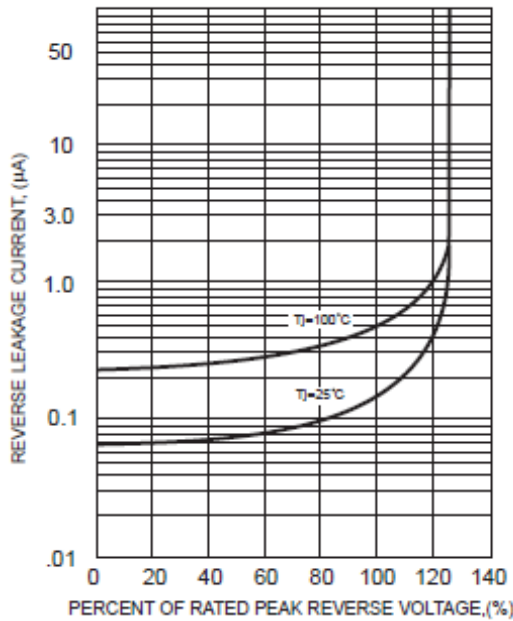


FIG.4 Typical Forward Characteristics

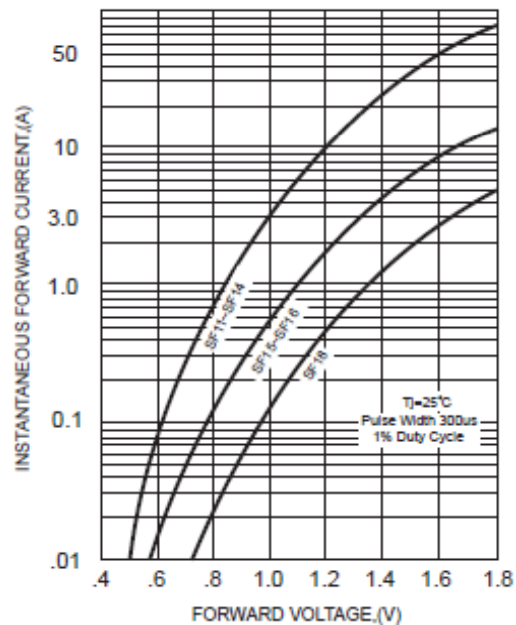


FIG.5 Maximum Non-repetitive Forward Surge Current

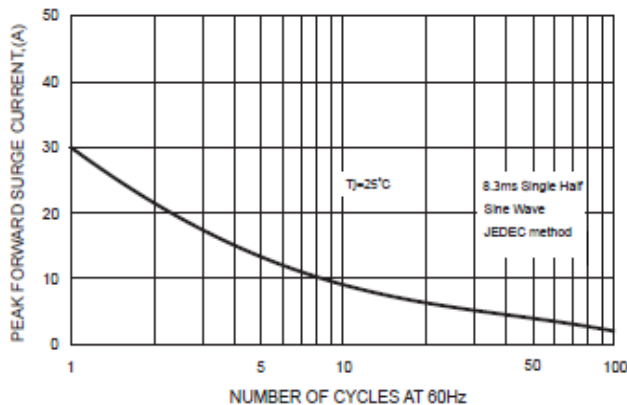


FIG.6 Typical Junction Capacitance

