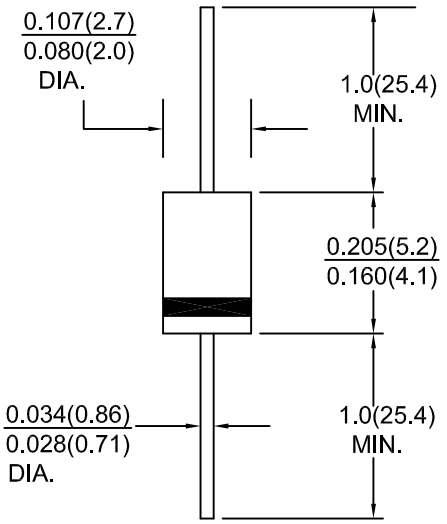
SF11 THRU SF17

SUPER FAST RECOVERY SILICON RECTIFIER

DO-204AL/DO-41

FEATURES:

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



MECHANICAL DATA

Case : Molded plastic
Epoxy: UL 94V-0 rate flame retardant
Lead : Axial leads solderable per MIL-STD-202
Method 2028 guaranteed
Polarity : Color band denotes cathode end
Mounting Position : Any
Mounting Torque 5 in - lbs.max
Weight : 0.34 grams

Dimensions in inches and (millimeters)

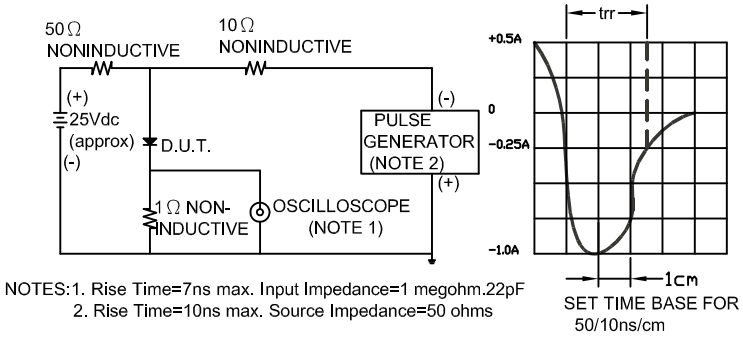
MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

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%.

Characteristic	Symbol	SF 11	SF 12	SF 13	SF 14	SF 15	SF 16	SF 17	Units
Maximum recurrent peak reverse voltage	V_{RRM}	50	100	150	200	300	400	600	Volts
Maximum RMS voltage	V_{RMS}	35	70	105	140	210	280	420	Volts
Maximum DC blocking voltage	V_{DC}	50	100	150	200	300	400	600	Volts
Maximum average forward rectified current .375"(9.5mm) lead length at Ta=55℃	$I_{(AV)}$	1.0							Amps
Peak forward surge current 8.3ms single half sine-wave superimposed on rated load (JEDEC Method)	I_{FSM}	30							Amps
Maximum instantaneous forward voltage IF=1.0A	V_F	0.95				1.25		1.70	Volts
Maximum DC reverse current Ta=25℃ / at rated DC blocking voltage Ta=100℃	I_R	5.0 / 100							uA
Maximum reverse recovery time(NOTE 1)	T_{RR}	35							ns
Typical Junction Capacitance(NOTE 2)	C_J	50							PF
Operating temperature range	T_J	-65to+150							℃
Storage temperature range	T_{Stg}	-65to+175							℃

NOTES :
1.Reverse recovery test condition : IF=0.5A ; IR=1.0A ; IRR=0.25A
2.Measured 1MHZ and applied reverse voltage of 4.0VDC

FIG.1-TEST CIRCUIT DIAGRAM AND REVERSE RECOVERY TIME CHARACTERISTIC



NOTES:1. Rise Time=7ns max. Input Impedance=1 megohm.22pF
2. Rise Time=10ns max. Source Impedance=50 ohms

SET TIME BASE FOR
50/10ns/cm

FIG.2 - TYPICAL FORWARD CURRENT DERATING CURVE

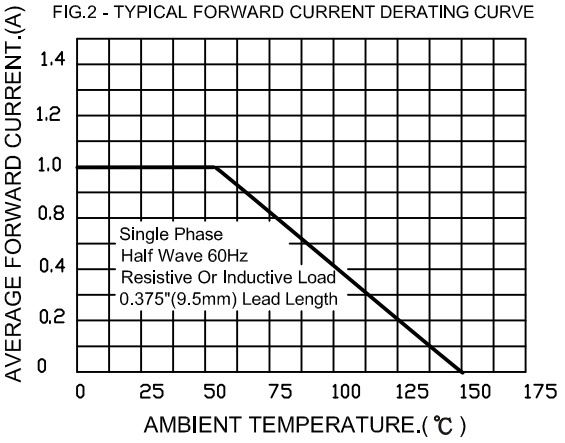


FIG.3-TYPICAL FORWARD CHARACTERISTICS

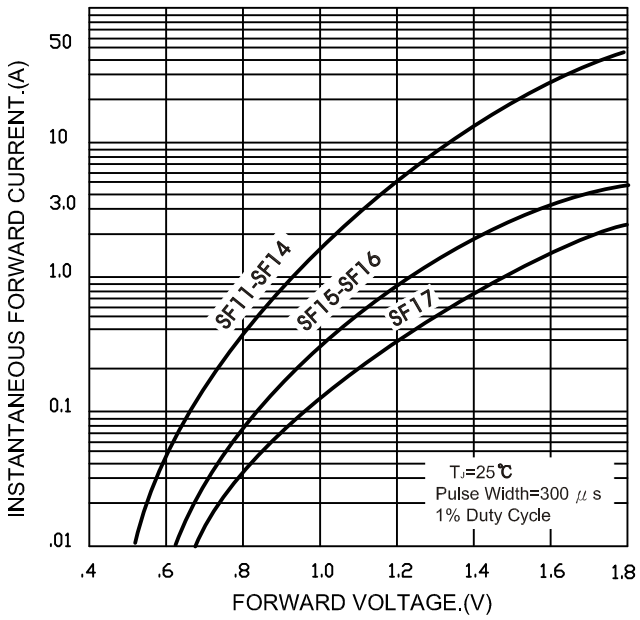


FIG.4-TYPICAL REVERSE CHARACTERISTICS

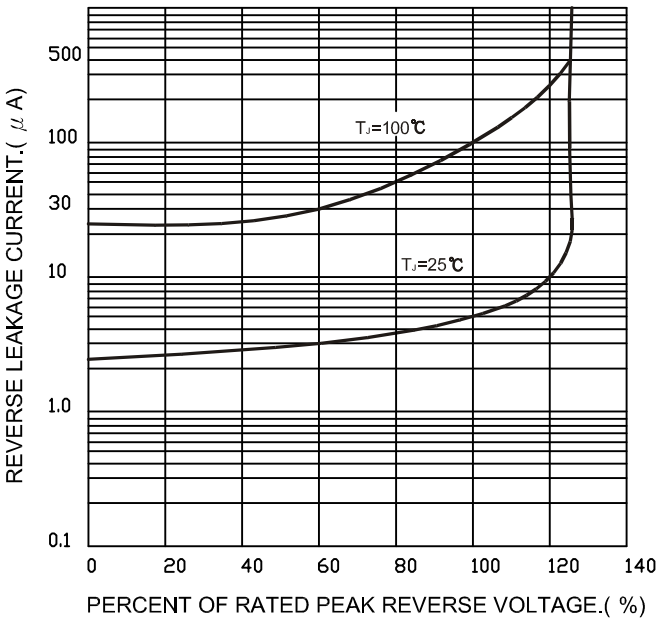


FIG.5-MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

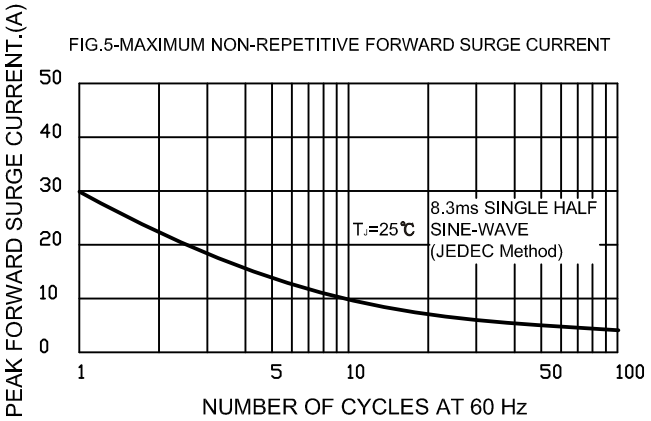
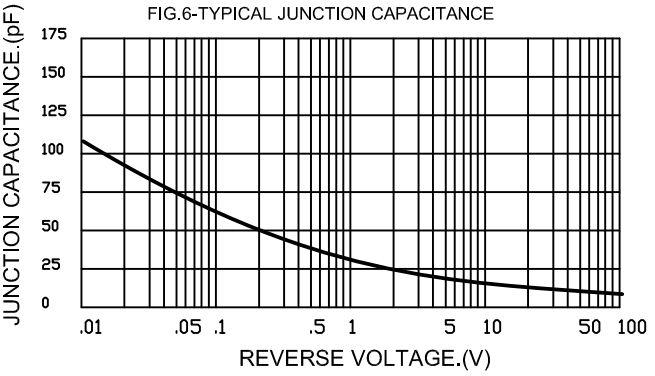



FIG.6-TYPICAL JUNCTION CAPACITANCE