Diode Semiconductor Korea

SF81 --- SF86

ULTRA FAST RECTIFIERS

VOLTAGE RANGE: 50 --- 400 V
CURRENT: 8.0A

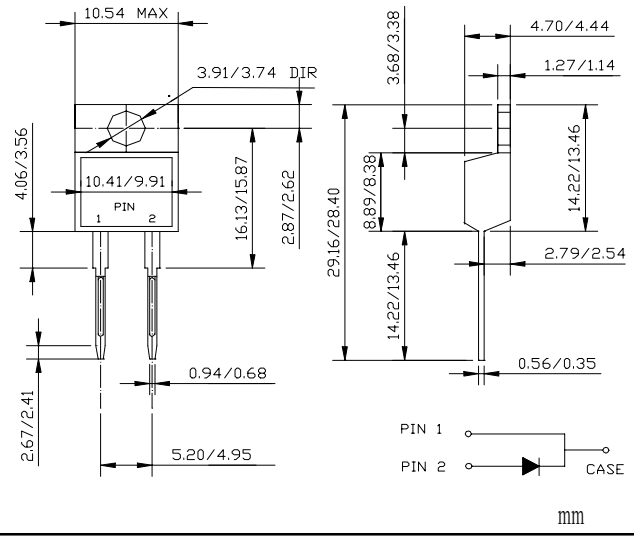
FEATURES

- ◇ Metal-Semiconductor junction with guard ring
- ◇ Epitaxial construction
- ◇ Low forward voltage drop,low switching losses
- ◇ High surge capability
- ◇ For use in low voltage,high frequency inverters free wheeling,and polarity protection applications
- ◇ The plastic material carries U/L recognition 94V-O

MECHANICAL DATA

- ◇ Case:JEDEC TO--220AC,molded plastic
- ◇ Terminals: Leads solderable per MIL- STD-750,Method 2026
- ◇ Polarity: As marked
- ◇ Weight:0.064 ounces,1.81 gram
- ◇ Mounting position: Any

TO - 220AC



MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25℃ ambient temperature unless otherwise specified.

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

		SF81	SF82	SF83	SF84	SF85	SF86	UNITS
Maximum recurrent peak reverse voltage	V_{RRM}	50	100	150	200	300	400	V
Maximum RMS voltage	V_{RMS}	35	70	105	140	210	280	V
Maximum DC blocking voltage	V_{DC}	50	100	150	200	300	400	V
Maximum average forward rectified current @T_C=100℃	$I_{F(AV)}$	8.0						A
Peak forward surge current 8.3ms single half-sine-wave superimposed on rated load	I_{FSM}	125						A
Maximum instantaneous forward voltage @ 8.0A	V_F	1.0				1.35		V
Maximum reverse current @T_C=25℃ at rated DC blocking voltage @T_C=100℃	I_R	10 500						μA
Typical thermal resistance (Note 2)	$R_{\theta JC}$	3.0						℃/W
Maximum reverse recovery time (Note 3)	t_{rr}	35				50		ns
Typical junction capacitance (Note 1)	C_J	50				30		pF
Operating junction temperature range	T_J	- 55 ---- +150						℃
Storage temperature range	T_{STG}	-55 ---- + 150						℃

NOTE: 1. Measured at 1MHz and applied reverse voltage of 4.0 volts.
2.Thermal resistance junction to case.
3.Reverse recovery test conditions:I_F=0.5A,I_R=1A,I_{rr}=0.25A

FIG.1 -- FORWARD CURRENT DERATING CURVE

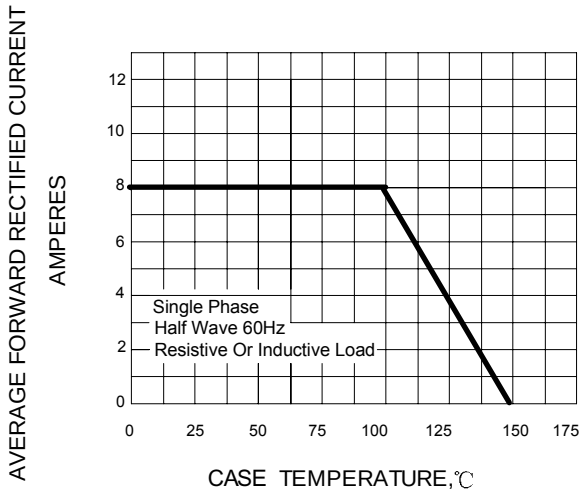


FIG.2 -- PEAK FORWARD SURGE CURRENT

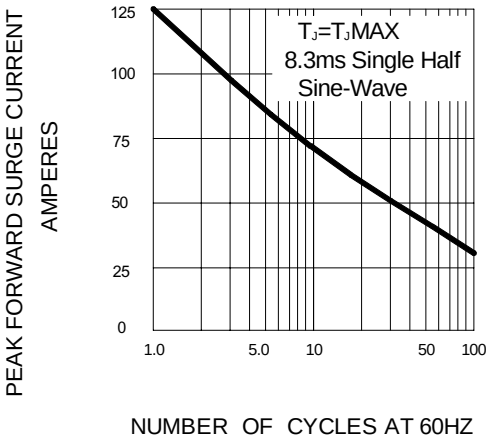


FIG.3 -- TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

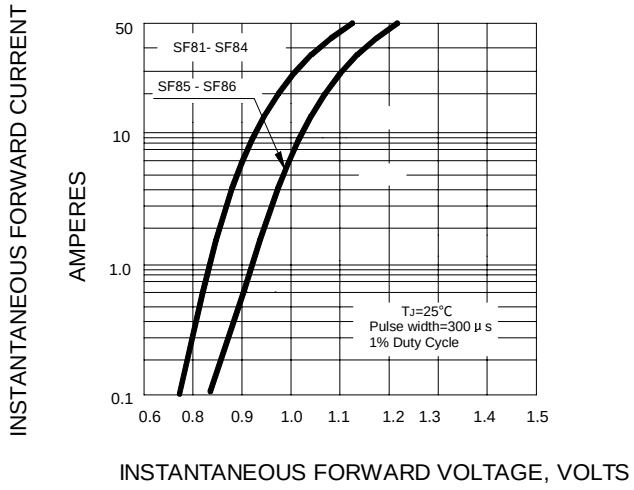


FIG. 4 - TYPICAL JUNCTION CAPACITANCE