DSK Diode Semiconductor Korea ***FR1010BC---FR1060BC***

FAST RECOVERY RECTIFIERS

VOLTAGE RANGE: 100 --- 600 V
CURRENT: 10 A

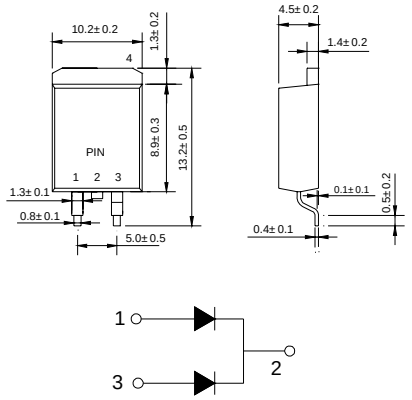
FEATURES

- ◇ Low cost
- ◇ Diffused junction
- ◇ Low leakage
- ◇ Low forward voltage drop
- ◇ High current capability
- ◇ Easily cleaned with Freon,Alcohol,Isopropanol and similar solvents
- ◇ The plastic material carries U/L recognition 94V-0

MECHANICAL DATA

- ◇ Case:JEDEC D^2PAK,molded plastic
- ◇ Terminals: solderable per MIL- STD-202,Method 208
- ◇ Polarity: Color band denotes cathode
- ◇ Weight: 0.087 ounces,2.2 grams
- ◇ Mounting position: Any

D^2PAK



Dimensions in millimeters

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%.

		FR 1010BC	FR 1020BC	FR 1030BC	FR 1040BC	FR 1060BC	UNITS
Maximum recurrent peak reverse voltage	V_{RRM}	100	200	300	400	600	V
Maximum RMS voltage	V_{RMS}	70	140	210	280	420	V
Maximum DC blocking voltage	V_{DC}	100	200	300	400	600	V
Maximum average forward rectified current @T_A=75℃	$I_{F(AV)}$	10					A
Peak forward surge current 8.3ms single half-sine-wave superimposed on rated load @T_J=125℃	I_{FSM}	100					A
Maximum instantaneous forward voltage @ 5.0 A	V_F	1.3					V
Maximum reverse current @T_A=25℃	I_R	10					μA
at rated DC blocking voltage @T_A=100℃		150					
Maximum reverse recovery time (Note1)	t_{rr}	150				250	ns
Typical junction capacitance (Note2)	C_J	28					pF
Typical thermal resistance (Note3)	$R_{\theta JA}$	3.0					℃/W
Operating junction temperature range	T_J	- 55---- +150					℃
Storage temperature range	T_{STG}	- 55---- + 150					℃

NOTE:1. Measured with I_F=0.5A, I_R=1A, I_{rr}=0.25A.

2. Measured at 1.0MHz and applied reverse voltage of 4.0V DC.

3. Thermal resistance from junction to ambient.

FIG.1 – FORWARD DERATING CURVE

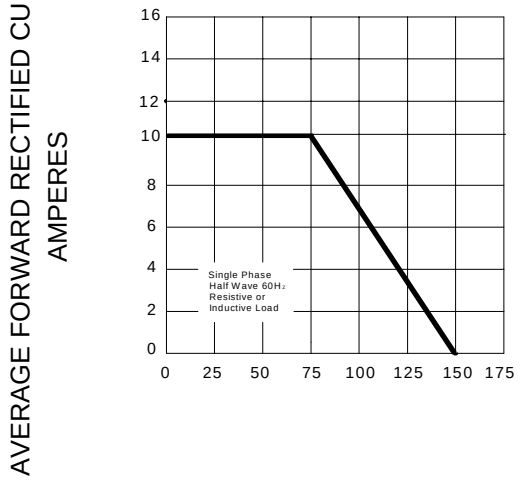


FIG.2–PEAK FORWARD SURGE CURRENT

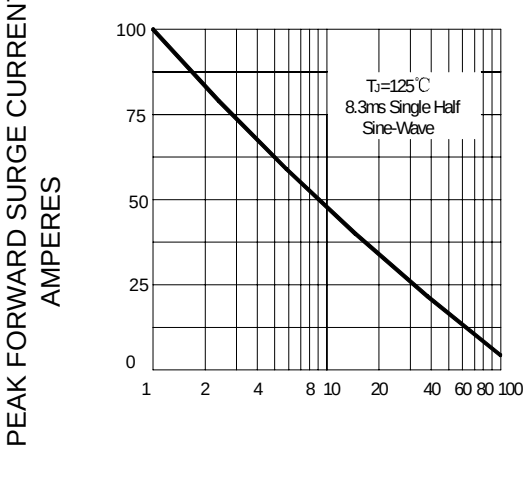


FIG.3–TYPICAL JUNCTION CAPACITANCE

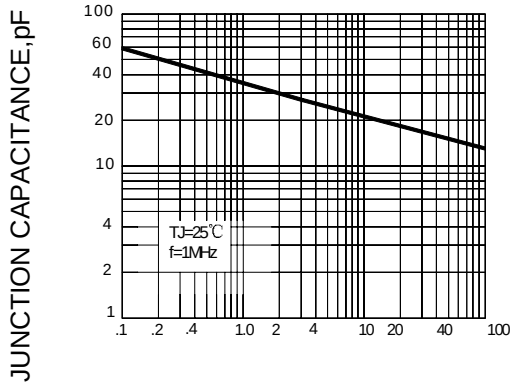


FIG.4 –TYPICAL FORWARD CHARACTERISTIC

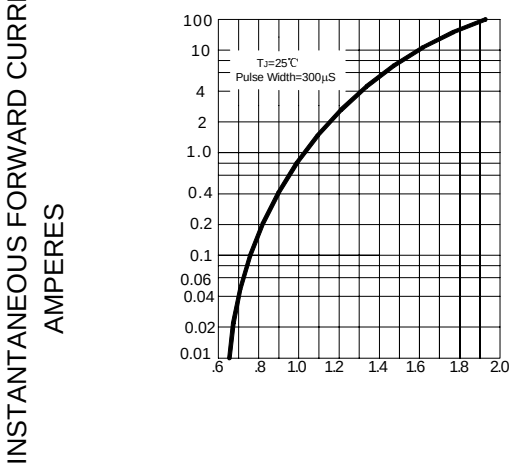
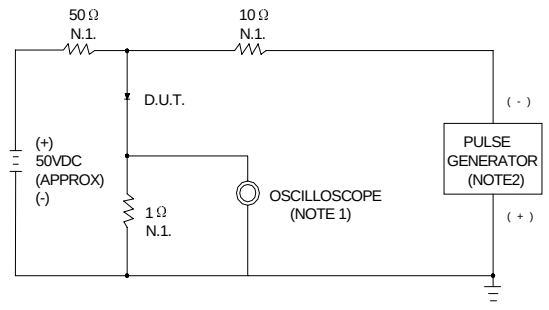
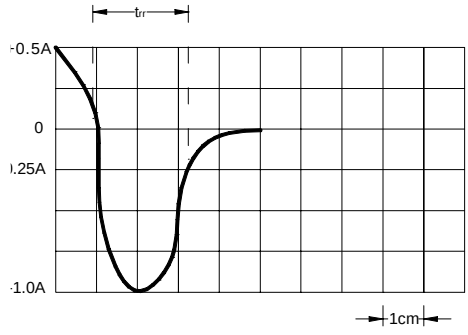


FIG.5 – REVERSE RECOVERY TIME CHARACTERISTIC AND TEST CIRCUIT DIAGRAM





NOTES:1.RISE TIME =7ns MAX. INPUT IMPEDANCE=1MΩ.22pF

2.RISE TIME=10ns MAX. SOURCE IMPEDANCE=50Ω

SET TIME BASE FOR 50/100 ns /cm