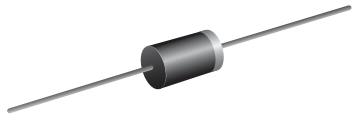
ES1Z - ES1F

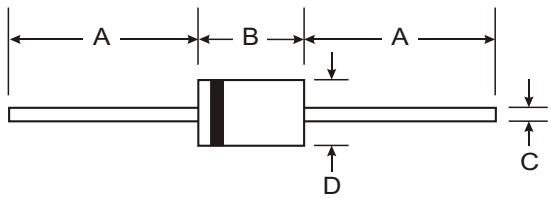
FAST RECOVERY RECTIFIER DIODES

VOLTAGE RANGE: 200- 1500V
CURRENT: 0.7A



Features

- Low cost
- Diffused junction
- Low leakage
- Low forward voltage drop
- High current capability
- Easily cleaned with Freon,Alcohol,Isopropanol and similar solvents



DO-41		
Dim	**Min**	**Max**
A	25.40	—
B	4.06	5.21
C	0.71	0.864
D	2.00	2.72
All Dimensions in mm		

Mechanical Data

- Case: D O - 4 1 Molded Plastic
- Terminals: Plated Leads Solderable per MIL-STD-202, Method 208
- Polarity: Cathode Band
- Weight: 0.34 grams (approx.)
- Mounting Position: Any
- Marking: Type Number

RoHS COMPLIANT

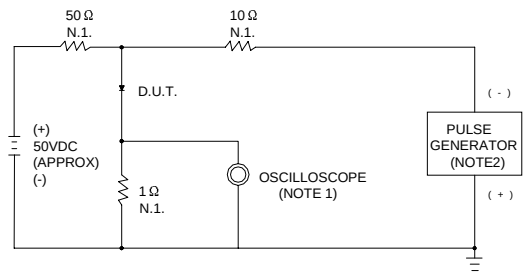
Maximum Ratings and Electrical Characteristics T_A = 25°C unless otherwise specified

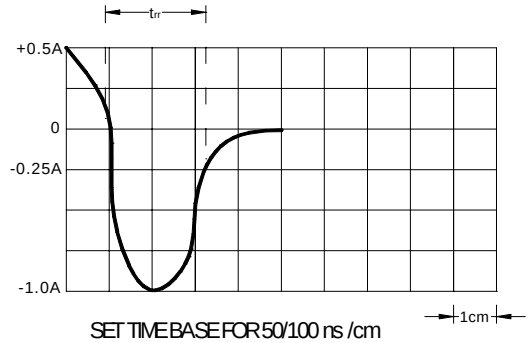
Single phase, half wave, 60Hz, resistive or inductive load. For capacitive load, derate current by 20%.

Characteristic	Symbol	ES1F	ES1Z	ES1	ES1A	Unit
Maximum recurrent peak reverse voltage	V_{RRM}	1500	200	400	600	V
Maximum RMS voltage	V_{RMS}	1050	140	280	420	V
Maximum DC blocking voltage	V_{DC}	1500	200	400	600	V
Maximum average forw ard rectified current 9.5mm lead length, @T_A=75℃	$I_{F(AV)}$	0.7				A
Peak forw ard surge current 8.3ms single half-sine-w ave superimposed on rated load @T_J=125℃	I_{FSM}	30.0				A
Maximum instantaneous forw ard voltage @ 0.5/0.7A	V_F	2.5				V
Maximum reverse current @T_A=25℃	I_R	5.0				μA
at rated DC blocking voltage @T_A=100℃		100.0				
Maximum reverse recovery time (Note1)	t_{rr}	350				ns
Typical junction capacitance (Note2)	C_J	15				pF
Typical thermal resistance (Note3)	$R_{\theta JA}$	50				℃/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 – 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 = 50 Ω

SET TIME BASE FOR 50/100 ns /cm

FIG.2 – FORWARD DERATING CURVE

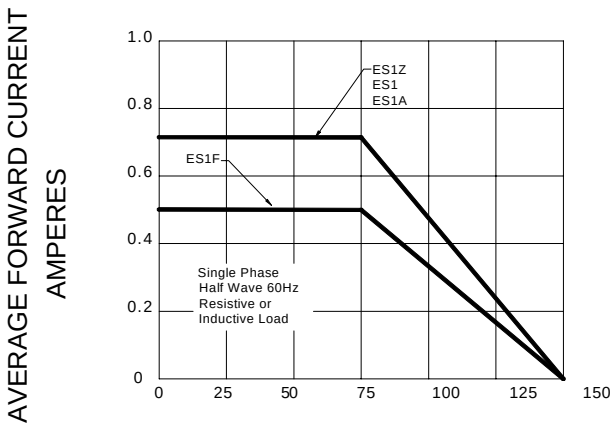


FIG.3 – TYPICAL FORWARD CHARACTERISTIC

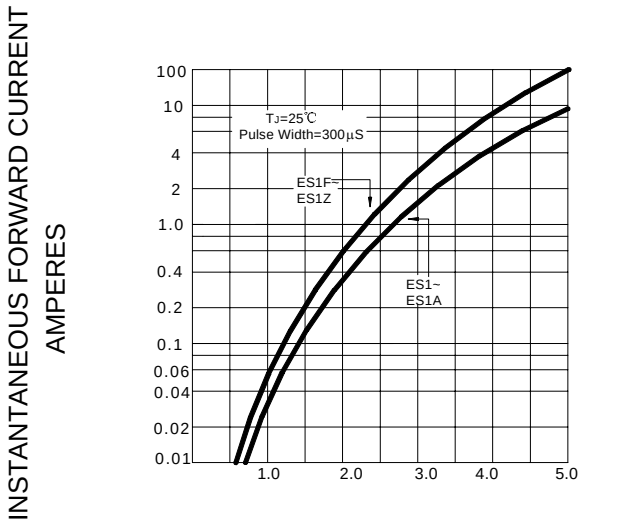


FIG.4– PEAK FORWARD SURGE CURRENT

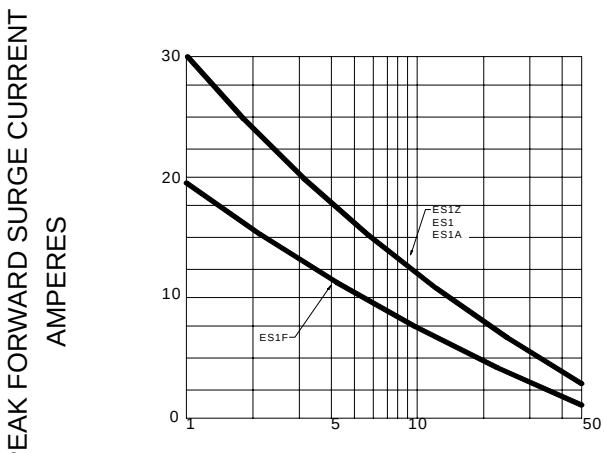


FIG.5– TYPICAL JUNCTION CAPACITANCE