

150mA, 80V Switching Diode

FEATURES

- Fast switching device ($t_{rr} < 4\text{ns}$)
- High surge current capability
- Hermetically sealed glass
- RoHS Compliant

APPLICATIONS

- Switching mode power supply (SMPS)
- Adapters
- Lighting application
- On-board DC/DC converter

MECHANICAL DATA

- Case: DO-34
- Terminal: Pure tin plated leads, solderable per J-STD-002
- Polarity: Indicated by cathode band
- Weight: 92.00mg (approximately)

KEY PARAMETERS		
PARAMETER	VALUE	UNIT
I_F	150	mA
V_{RRM}	80	V
I_{FSM}	2	A
V_F at $I_F = 100\text{mA}$	1.2	V
$T_{J\text{MAX}}$	175	°C
Package	DO-34	
Configuration	Single die	



DO-34



ABSOLUTE MAXIMUM RATINGS ($T_A = 25^\circ\text{C}$ unless otherwise noted)			
PARAMETER	SYMBOL	1SS133M	UNIT
Marking code on the device		133	
Power dissipation	P_D	300	W
Repetitive peak reverse voltage	V_{RRM}	80	V
Forward current	I_F	150	mA
Non-repetitive peak forward surge current	I_{FSM}	2	A
	$t = 1\mu\text{s}$		
Repetitive peak forward current	I_{FRM}	450	mA
Junction temperature range	T_J	-65 to +175	°C
Storage temperature range	T_{STG}	-65 to +200	°C

ELECTRICAL SPECIFICATIONS ($T_A = 25^\circ\text{C}$ unless otherwise noted)					
PARAMETER	CONDITIONS	SYMBOL	MIN	MAX	UNIT
Reverse breakdown voltage	$I_R = 500\text{nA}$	V_{BR}	80	-	V
Forward voltage ⁽¹⁾	$I_F = 100\text{mA}$, $T_J = 25^\circ\text{C}$	V_F	-	1.2	V
Reverse current @ rated V_R ⁽²⁾	$V_R = 80\text{V}$, $T_J = 25^\circ\text{C}$	I_R	-	500	nA
Junction capacitance	1MHz, $V_R = 0\text{V}$	C_J	-	4	pF
Reverse recovery time	$I_F = I_R = 10\text{mA}$, $R_L = 100\Omega$, $I_{RR} = 1\text{mA}$	t_{rr}	-	4	ns

Notes:

1. Pulse test with $PW = 0.3\text{ms}$
2. Pulse test with $PW = 30\text{ms}$

ORDERING INFORMATION		
ORDERING CODE⁽¹⁾	PACKAGE	PACKING
1SS133M R0	DO-34	10,000 / 14" Reel
1SS133M A0	DO-34	5,000 / Ammo Box
1SS133M R0G	DO-34	10,000 / 14" Reel
1SS133M A0G	DO-34	5,000 / Ammo Box

Notes:

1. Above ordering codes A0/A0G/R0/R0G refer to physically identical parts without any differences.

CHARACTERISTICS CURVES

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

Fig.1 Typical Forward Characteristics

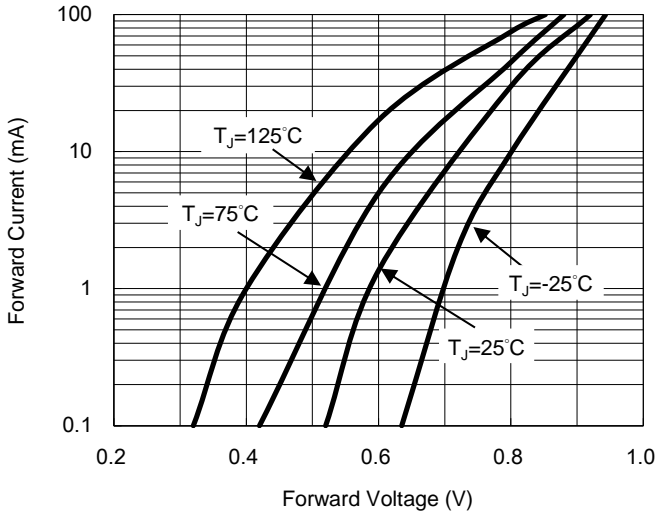


Fig.2 Reverse Current VS. Reverse Voltage

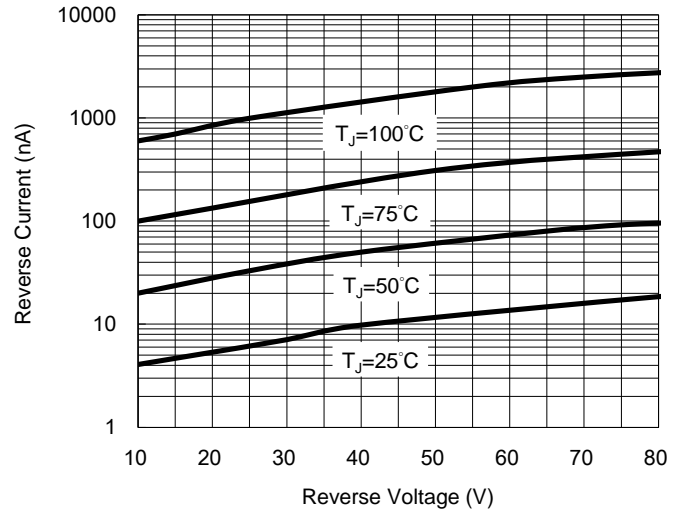


Fig.3 Typical Junction Capacitance

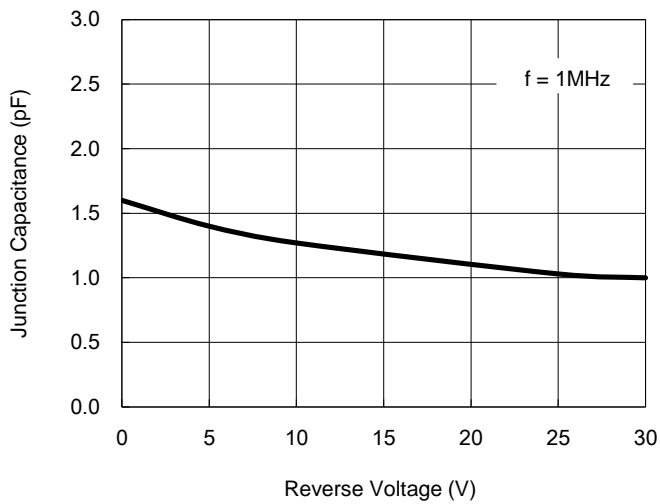
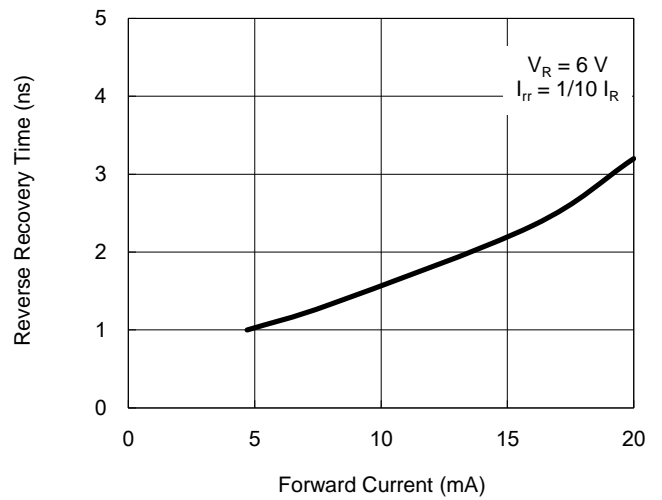


Fig.4 Reverse Recovery Time Characteristics



CHARACTERISTICS CURVES

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

Fig.5 Surge Current Characteristics

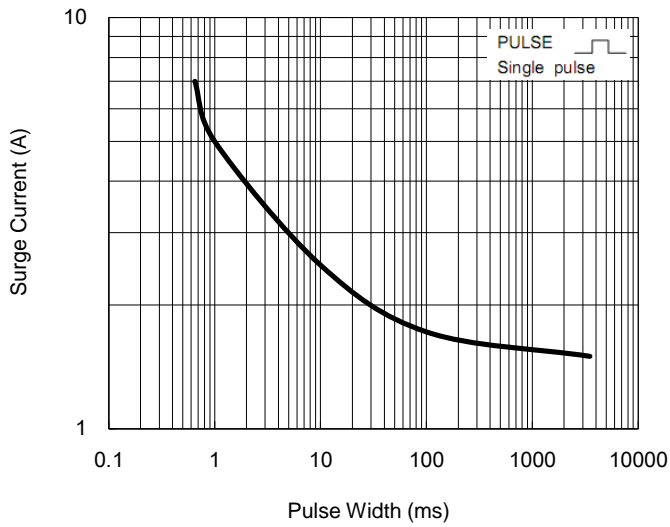
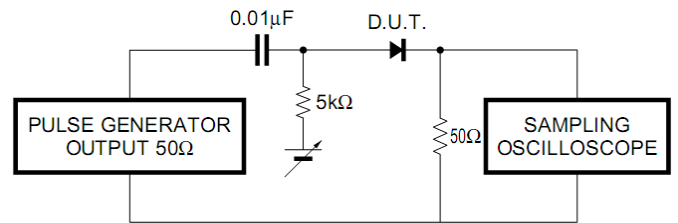
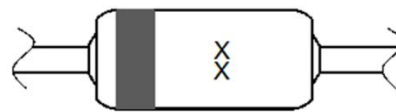
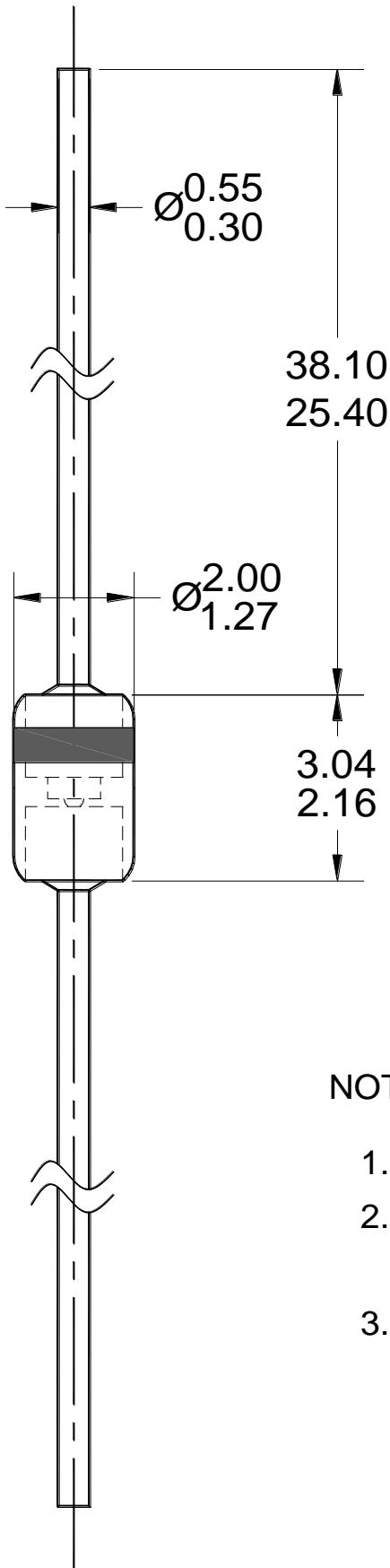


Fig.6 Reverse Recovery Time Measurement Circuit



PACKAGE OUTLINE DIMENSIONS

DO-34



XX = MARKING CODE

MARKING DIAGRAM

NOTES: UNLESS OTHERWISE SPECIFIED

1. ALL DIMENSIONS ARE IN MILLIMETERS.
2. DIMENSIONING AND TOLERANCING PER ASME Y14.5M-1994.
3. DWG NO. REF: HQ2SD07-DO34-057 REV A.

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