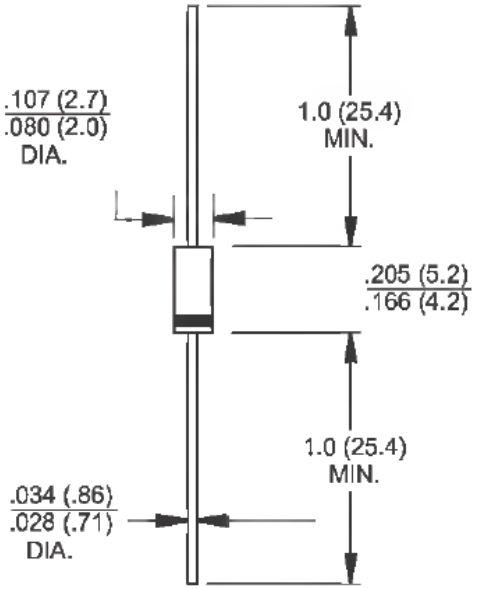
TAIWAN SEMICONDUCTOR

RoHS COMPLIANCE

1N5391S - 1N5399S

1.5 AMPS Silicon Rectifiers

DO-41



Dimensions in inches and (millimeters)

Features

- ✧ High current capability, Low VF
- ✧ High reliability & Current capability
- ✧ High surge current capability
- ✧ Low power loss, high efficiency
- ✧ Green compound with suffix "G" on packing code & prefix "G" on datecode

Mechanical Data

- ✧ Case: Molded plastic DO-41
- ✧ Epoxy: UL 94V-0 rate flame retardant
- ✧ Lead: Pure tin plated, lead free, solderable per MIL-STD-202, Method 208 fuaranteed
- ✧ Polarity: Color band denotes cathode
- ✧ High temperature soldering guaranteed: 260℃/10s
- ✧ Weight: 0.4 gram

Marking Diagram

1N539XS	= Specific Device Code
G	= Green Compound
Y	= Year
M	= Work Month

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%

Type Number	Symbol	1N 5391S	1N 5392S	1N 5393S	1N 5395S	1N 5397S	1N 5398S	1N 5399S	Unit
Maximum Repetitive Peak Reverse Voltage	V_{RRM}	50	100	200	400	600	800	1000	V
Maximum RMS Voltage	V_{RMS}	35	70	140	280	420	560	700	V
Maximum DC Blocking Voltage	V_{DC}	50	100	200	400	600	800	1000	V
Maximum Average Forward Rectified Current .375"(9.5mm) Lead Length @T_A=60℃	$I_{F(AV)}$	1.5							A
Peak Forward Surge Current, 8.3 ms Single Half Sine-wave Superimposed on Rated Load (JEDEC method)	I_{FSM}	50							A
Maximum Instantaneous Forward Voltage (Note 1) @ 1.5A	V_F	1.1	1.0						V
Maximum Reverse Current @ Rated VR T_A=25 ℃ T_A=125℃	I_R	5 50							uA
Typical Junction Capacitance (Note 2)	Cj	30							pF
Typical Thermal Resistance (Note 3)	$R_{\theta jA}$ $R_{\theta jL}$ $R_{\theta jC}$	65 25 22							°C/W
Operating Temperature Range	T_J	- 65 to + 125							°C
Storage Temperature Range	T_{STG}	- 65 to + 150							°C

Note1: Pulse Test with PW=300usec, 1% Duty Cycle

Note1: Measured at 1 MHz and Applied Reverse Voltage of 4.0V D.C.

Note2: Mount on Cu-Pad Size 16mm × 16mm on P.C.B.

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RATINGS AND CHARACTERISTIC CURVES (1N5391S - 1N5399S)

FIG.1 MAXMUM FORWARD CURRENT DERATING CURVE

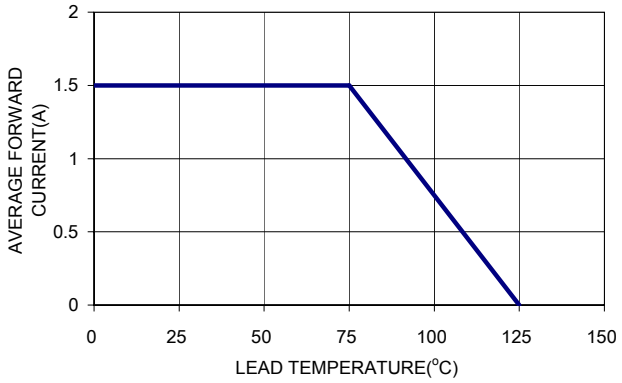

FIG. 2 MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

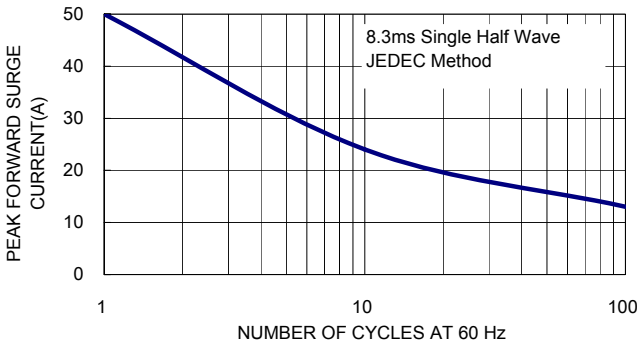

FIG. 3 TYPICAL FORWARD CHARACTERISTICS

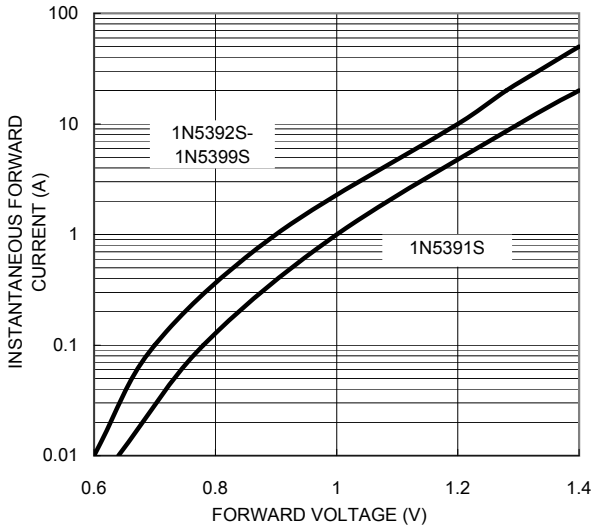

FIG. 4 TYPICAL REVERSE CHARACTERISTICS

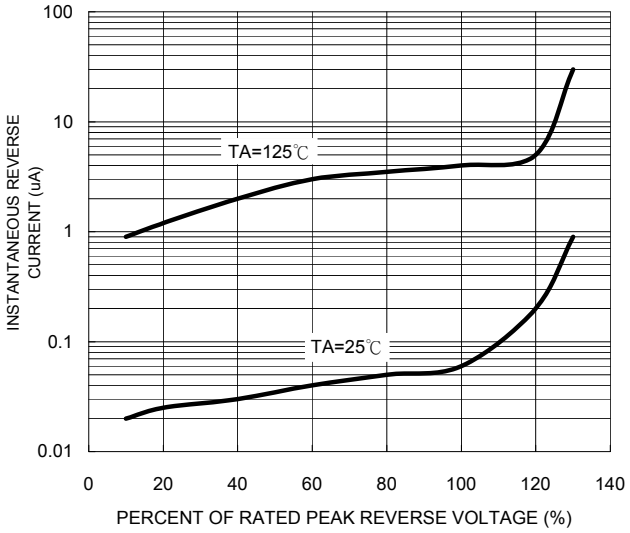

FIG. 5 TYPICAL JUNCTION CAPACITANCE