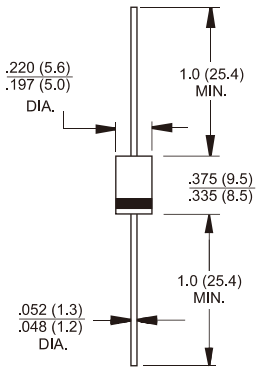
TAIWAN SEMICONDUCTOR

RoHS COMPLIANCE

BY251 - BY254

3.0 AMPS. Silicon Rectifiers

DO-201AD



Dimensions in inches and (millimeters)

Features

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

Mechanical Data

- ✧ Cases: Molded plastic
- ✧ Epoxy: UL 94V-0 rate flame retardant
- ✧ Lead: Pure tin plated, lead free., solderable per MIL-STD-202, Method 208 guaranteed
- ✧ Polarity: Color band denotes cathode
- ✧ High temperature soldering guaranteed: 260°C/10 seconds/.375”,(9.5mm) lead lengths at 5 lbs., (2.3kg) tension
- ✧ Weight: 1.2 grams

arking Diagram

BY25X = Specific Device Code
G = Green Compound
Y = Year
WW = Work Week

Maximum Ratings and Electrical Characteristics

Rating at 25 °C 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	BY251	BY252	BY253	BY254	Units
Maximum Recurrent Peak Reverse Voltage	V_{RRM}	200	400	600	800	V
Maximum RMS Voltage	V_{RMS}	140	280	420	560	V
Maximum DC Blocking Voltage	V_{DC}	200	400	600	800	V
Maximum Average Forward Rectified Current . 375 (9.5mm) Lead Length @T_A = 75 °C	$I_{F(AV)}$	3.0				A
Peak Forward Surge Current, 8.3 ms Single Half Sine-wave Superimposed on Rated Load (JEDEC method)	I_{FSM}	150				A
Maximum Instantaneous Forward Voltage @ 3.0A	V_F	1.0				V
Maximum DC Reverse Current at @ T_A=25 °C Rated DC Blocking Voltage (Note 1) @ T_A=125 °C	I_R	5.0 100				uA uA
Maximum Full Load Reverse Current, Full Cycle Average .375”(9.5mm) Lead Length @T_L=75	$I_{R(AV)}$	30				uA
Typical Junction Capacitance (Note 3)	Cj	40				pF
Typical Thermal Resistance (Note 2)	$R_{\theta JA}$	40				°C/W
Operating Temperature Range	T_J	-65 to +150				°C
Storage Temperature Range	T_{STG}	-65 to +150				°C

Notes: 1. Pulse Test with PW=300 usec,1% Duty Cycle
2. Mount on Cu-Pad Size 16mm x 16mm on P.C.B.
3. Measured at 1 MHz and Applied Reverse Voltage of 4.0 V D.C.

RATINGS AND CHARACTERISTIC CURVES (BY251 THRU BY254)

FIG.1- MAXIMUM FORWARD CURRENT DERATING CURVE

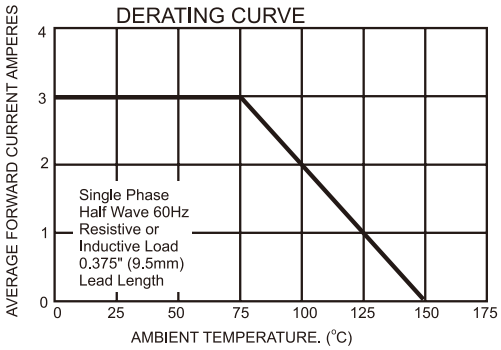


FIG.2- TYPICAL REVERSE CHARACTERISTICS

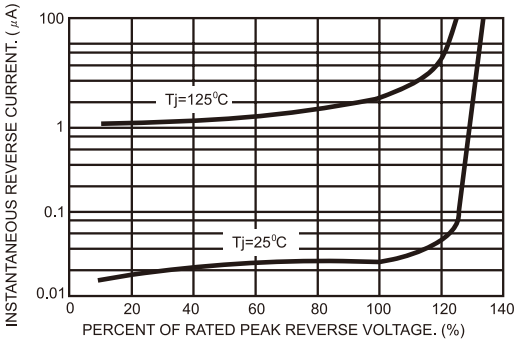


FIG.3- MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT PER LEG

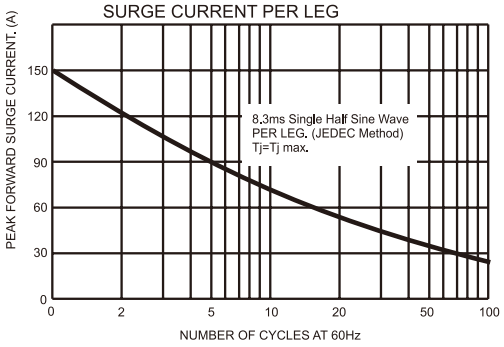


FIG.4- TYPICAL JUNCTION CAPACITANCE

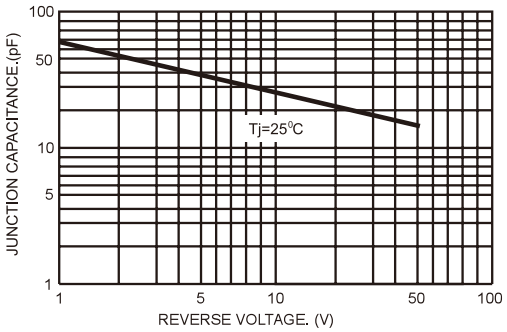


FIG.5- TYPICAL FORWARD CHARACTERISTICS