

Silicon Diode

1N5059

200V / 1A

DATASHEET

OEM – General Semiconductor

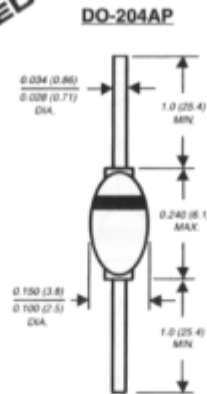
Source: General Semiconductor Databook 1998

1N5059 THRU 1N5062

GLASS PASSIVATED JUNCTION RECTIFIER

Reverse Voltage - 200 to 800 Volts Forward Current - 1.0 Ampere

PATENTED *



Dimensions in inches and (millimeters)

* Braze-lead assembly is covered by Patent No. 3,930,306

FEATURES

- ♦ High temperature metallurgically bonded construction
- ♦ 1.0 Ampere operation at $T_A=75^\circ\text{C}$ with no thermal runaway
- ♦ Typical I_R less than $0.1\mu\text{A}$
- ♦ Hermetically sealed package
- ♦ Glass passivated cavity-free junction
- ♦ Capable of meeting environmental standards of MIL-S-19500
- ♦ High temperature soldering guaranteed: $350^\circ\text{C}/10$ seconds $0.375"$ (9.5mm) lead length, 5 lbs. (2.3kg) tension

MECHANICAL DATA

Case: JEDEC DO-204AP solid glass body
Terminals: Solder plated axial leads, solderable per MIL-STD-750, Method 2026
Polarity: Color band denotes cathode end
Weight: 0.02 ounce, 0.56 gram

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25°C ambient temperature unless otherwise specified.

	SYMBOLS	1N5059	1N5060	1N5061	1N5062	UNITS
* Maximum repetitive peak reverse voltage	V_{RRM}	200	400	600	800	Volts
Maximum RMS voltage	V_{RMS}	140	280	420	560	Volts
* Maximum DC blocking voltage	V_{DC}	200	400	600	800	Volts
* Maximum average forward rectified current 0.375" (9.5mm) lead length at $T_A=75^\circ\text{C}$	$I_{(AV)}$	1.0				Amp
* Peak forward surge current 8.3ms single half sine-wave superimposed on rated load (JEDEC Method)	I_{FSM}	50.0				Amps
* Maximum instantaneous forward voltage at 1.0A	V_F	1.2				Volts
* Maximum full Load reverse current, full cycle average 0.375" (9.5mm) lead length at $T_A=25^\circ\text{C}$ $T_A=75^\circ\text{C}$	$I_{R(AV)}$	150		100		μA
* Maximum DC reverse current at rated DC blocking voltage $T_A=25^\circ\text{C}$ $T_A=175^\circ\text{C}$	I_R	300		200		μA
Typical reverse recovery time (NOTE 1)	t_{rr}	1.5				μs
Typical junction capacitance (NOTE 2)	C_J *	15.0				pF
Typical thermal resistance (NOTE 3)	$R_{\theta JA}$	55.0				$^\circ\text{C}/\text{W}$
* Operating junction and storage temperature range	T_J, T_{STG}	-65 to +175				$^\circ\text{C}$

NOTES:

- (1) Reverse recovery test conditions: $I_R=0.5\text{A}$, $I_{FM}=1.0\text{A}$, $I_{RM}=0.25\text{A}$
- (2) Measured at 1.0 MHz and applied reverse voltage of 4.0 Volts
- (3) Thermal resistance from junction to ambient at 0.375" (9.5mm) lead length P.C.B. mounted
*JEDEC registered values

RATINGS AND CHARACTERISTIC CURVES 1N5059 THRU 1N5062

FIG. 1 - FORWARD CURRENT DERATING CURVE

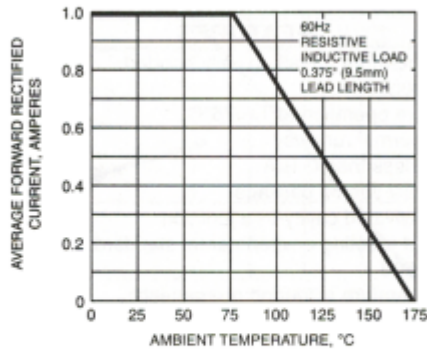


FIG. 2 - MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

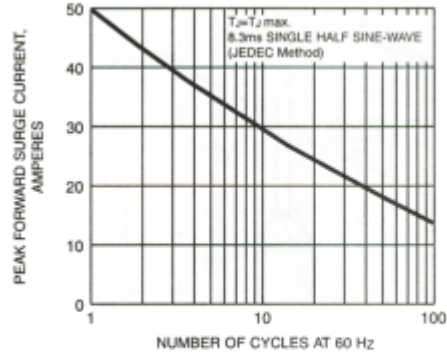


FIG. 3 - TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

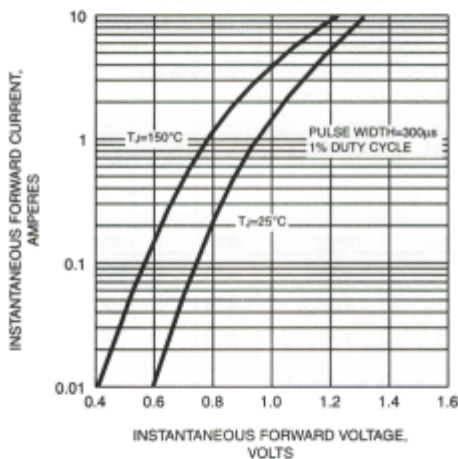


FIG. 4 - TYPICAL REVERSE CHARACTERISTICS

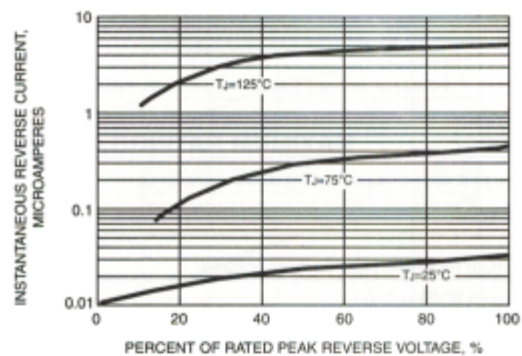


FIG. 5 - TYPICAL JUNCTION CAPACITANCE

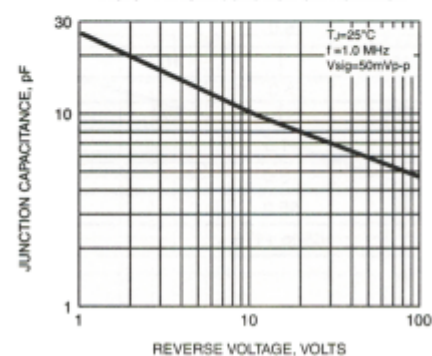


FIG. 6 - MAXIMUM NON-REPETITIVE PEAK PULSE REVERSE AVALANCHE POWER DISSIPATION

