



BAS316

High Speed Switching Diode 400mW

Features

- Lead Free Finish/RoHS Compliant ("P" Suffix designates RoHS Compliant. See ordering information)
- Epoxy meets UL 94 V-0 flammability rating
- Moisture Sensitivity Level 1
- Surface Mount Package Ideally Suited for Automatic Insertion
- High switching speed: max. 4ns
- Continuous reverse voltage: max. 100V
- Repetitive peak reverse voltage: max. 100V
- Repetitive peak forward current: max. 500mA
- Halogen free available upon request by adding suffix "-HF"

Mechanical Data

- Marking: A6
- Polarity: Indicated by Cathode Band

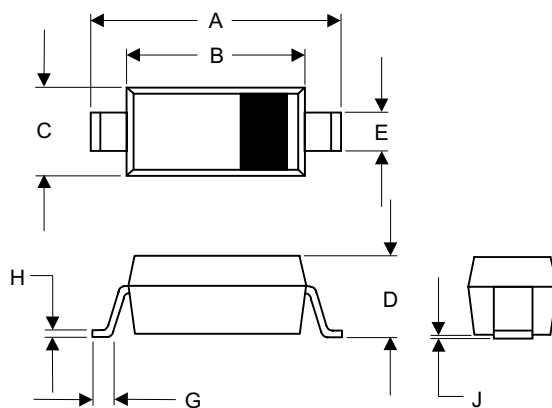
Maximum Ratings @ 25°C Unless Otherwise Specified

| Parameter | Symbol | Limits | Unit |
|-------------------------------------|----------------|----------|------|
| DC Reverse Voltage | V_R | 100 | V |
| Forward Current | I_F | 250 | mA |
| Total Device Dissipation | P_D | 400 | mW |
| Junction and Storage temperature | T_j, P_{stg} | -65~+150 | °C |
| Non-repetitive peak forward current | I_{FSM} | 4 | A |
| $t=1\mu s$ | | 1 | |
| $t=1ms$ | | 0.5 | |

Electrical Characteristics @ 25°C Unless Otherwise Specified

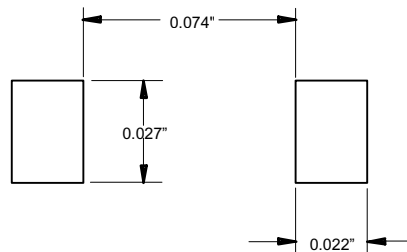
| Parameter | Symbol | Test Condions | MIN | MAX | UNIT |
|---------------------------|----------|--------------------------------------|-----|------|---------|
| Reverse breakdown voltage | V_{BR} | $I_R=100\mu A$ | 100 | ... | V |
| Forward voltage | V_F | $I_F=1mA$ | ... | 715 | mV |
| | | $I_F=10mA$ | ... | 855 | |
| | | $I_F=50mA$ | ... | 1000 | |
| | | $I_F=150mA$ | ... | 1250 | |
| Reverse leakage current | I_R | $V_R=25V$ | ... | 0.03 | μA |
| | | $V_R=75V$ | ... | 1 | |
| Reverse recovery time | T_{rr} | $I_F=I_R=10mAdc,$ $R_L=100\Omega$ | ... | 4 | ns |
| Diode capacitance | C_D | $V_R=0V, f=1MHz$ | ... | 1.5 | pF |

SOD-323



| DIM | INCHES | | MM | | NOTE |
|-----|--------|------|-------|------|------|
| | MIN | MAX | MIN | MAX | |
| A | .090 | .107 | 2.30 | 2.70 | |
| B | .063 | .071 | 1.60 | 1.80 | |
| C | .045 | .053 | 1.15 | 1.35 | |
| D | .031 | .045 | 0.80 | 1.15 | |
| E | .010 | .016 | 0.25 | 0.40 | |
| G | .004 | .018 | 0.10 | 0.45 | |
| H | .004 | .010 | 0.10 | 0.25 | |
| J | ----- | .006 | ----- | 0.15 | |

SUGGESTED SOLDER PAD LAYOUT



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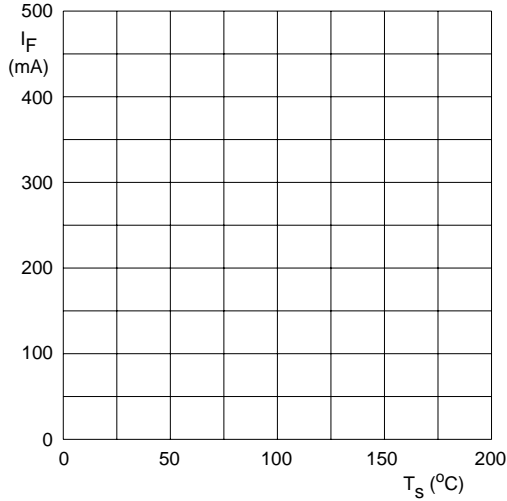


Fig.1 Maximum permissible continuous forward current as a function of soldering point temperature.

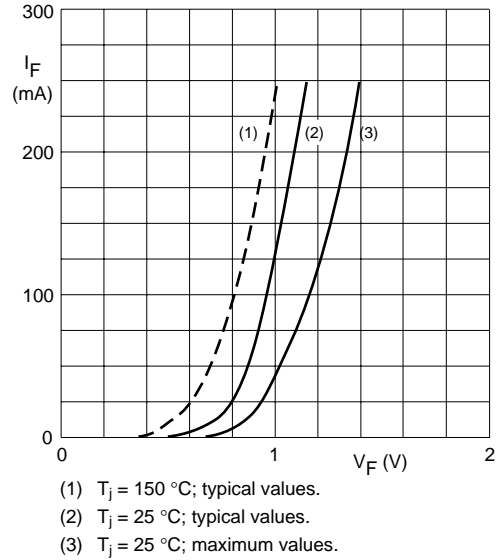
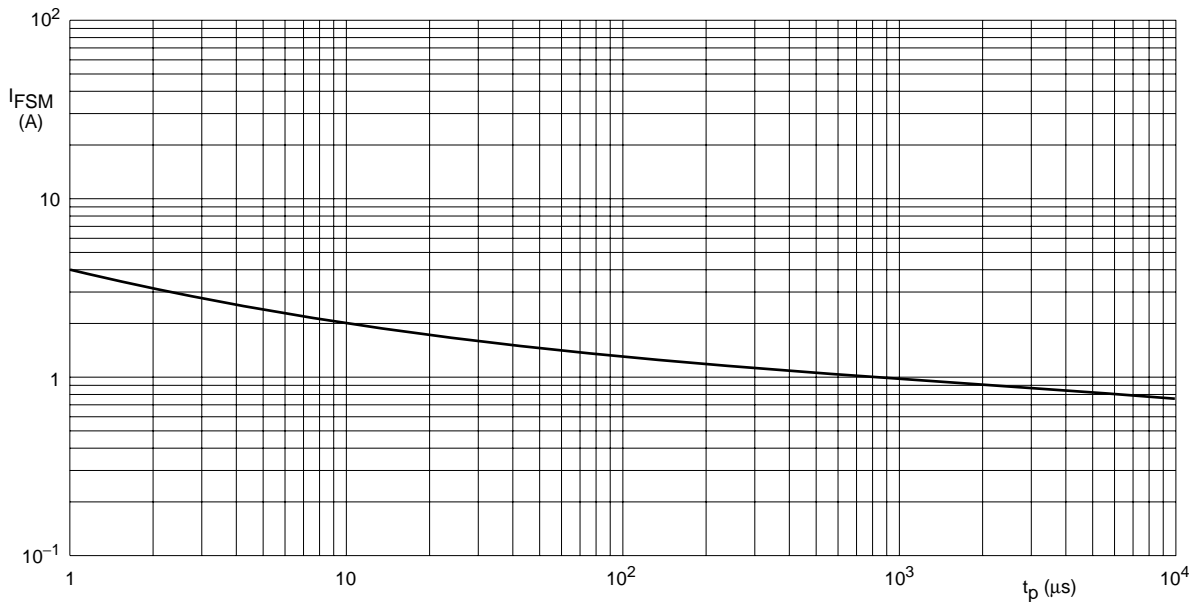


Fig.2 Forward current as a function of forward voltage.



Based on square wave currents.
 $T_j = 25\text{ °C}$ prior to surge.

Fig.3 Maximum permissible non-repetitive peak forward current as a function of pulse duration.

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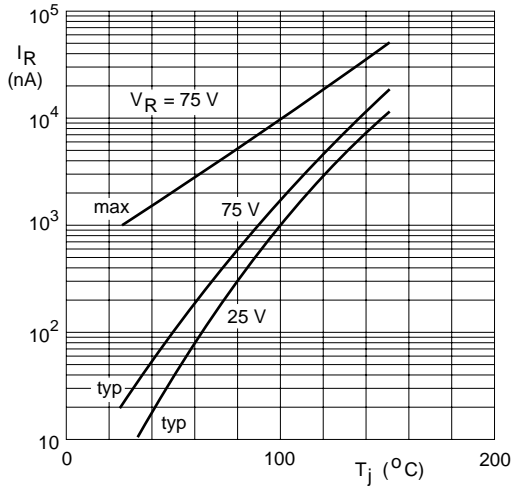
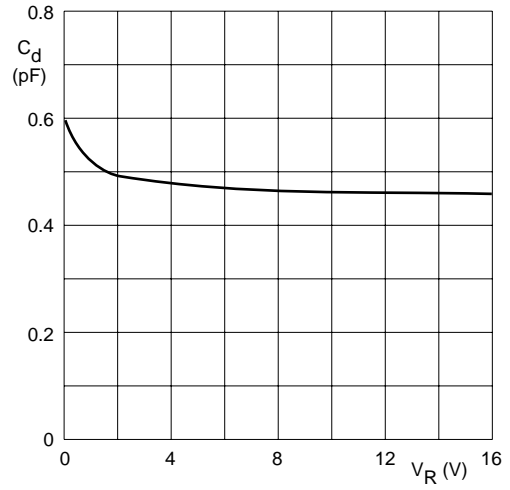


Fig.4 Reverse current as a function of junction temperature.



$f = 1 \text{ MHz}; T_j = 25 \text{ }^\circ\text{C}.$

Fig.5 Diode capacitance as a function of reverse voltage; typical values.



TM

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Ordering Information :

| Device | Packing |
|----------------|-----------------------|
| Part Number-TP | Tape&Reel: 3Kpcs/Reel |

Note : Adding "-HF" suffix for halogen free, eg. Part Number-TP-HF

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