



Solid State Devices, Inc.

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**1N8255 – 1N8257
 Series**

**4 - 6 AMP
 SUBMINIATURE
 HYPERFAST RECOVERY
 RECTIFIER
 100 - 200 VOLTS
 30 nsec**

Designer's Data Sheet

Part Number/Ordering Information ^{1/}

1N82 — — —

└ Screening ^{2/}
 — = Not Screened
 TX = TX Level
 TXV = TXV
 S = S Level

└ Package Type
 — = Axial Leaded
 SMS = Surface Mount Square Tab
 ASMS = Surface Mount Square Tab
 (Short Tab Version)

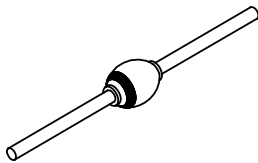
└ Voltage/Family
 55 = 100 V
 56 = 150 V
 57 = 200 V

- FEATURES:**
- Hyper Fast Reverse Recovery: 30 nsec Max
 - PIV to 200 Volts
 - Hermetically Sealed
 - Low Reverse Leakage
 - Void Free Ceramic Frit Glass Construction
 - For High Efficiency Applications
 - Available in Axial, Square Tab, and Square Tab (Short Tab) Versions
 - TX, TXV, and S-Level Screening Available^{2/}
 - Alternative to 1N5807, US thru 1N5811, US
 - JAN, JANTX, JANTXV, and JANS Qualifications Available per MIL-PRF-19500/774

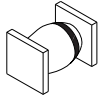
| MAXIMUM RATINGS ^{3/} | | SYMBOL | VALUE | UNIT |
|---|---------------------------------------|-------------------|--------------|---------------------------|
| Peak Repetitive Reverse Voltage and DC Blocking Voltage | 1N8255 | V_{RRM} | 100 | Volts |
| | 1N8256 | V_{RWM} | 150 | |
| | 1N8257 | V_R | 200 | |
| Average Rectified Forward Current (Resistive Load, 60Hz, Sine Wave) | Axial Lead, $T_L < +55^\circ\text{C}$ | I_o | 4 | Amps |
| | SMS, $T_{EC} < +125^\circ\text{C}$ | | 6 | |
| | ASMS, $T_{EC} < +135^\circ\text{C}$ | | 6 | |
| Peak Surge Current (8.3 ms pulse, half sine wave superimposed on I_o , allow junction to reach equilibrium between pulses, $T_A = 25^\circ\text{C}$) | 1N8255 - 1N8256 | I_{FSM} | 180 | Amps |
| | 1N8257 | | 160 | |
| Operating & Storage Temperature | | T_J & T_{STG} | -65 to +175 | $^\circ\text{C}$ |
| Thermal Resistance | Junction to Lead for Axial, L = .375" | $R_{\theta JL}$ | 32 | $^\circ\text{C}/\text{W}$ |
| | Junction to End Tab for SMS | $R_{\theta JE}$ | 8.5 | |
| | Junction to End Tab for ASMS | $R_{\theta JE}$ | 6.5 | |

NOTES:
 1/ For ordering information, price, operating curves, and availability - contact factory.
 2/ Screening based on MIL-PRF-19500. Screening flows available on request.
 3/ Unless otherwise specified, all electrical characteristics @25°C.

Axial Leaded (—)



Surface Mount Square Tab (SMS / ASMS)





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1N8255 – 1N8257 Series

| ELECTRICAL CHARACTERISTICS ^{3/} | | SYMBOL | MAX | UNIT |
|--|----------------------------|-----------|-------|---------------|
| Instantaneous Forward Voltage Drop 1N8255 -1N8256 | $I_F = 0.5 \text{ A}$ | V_{F1} | 0.700 | V |
| | $I_F = 1.0 \text{ A}$ | V_{F2} | 0.810 | |
| | $I_F = 3.0 \text{ A}$ | V_{F3} | 0.865 | |
| | $I_F = 4.0 \text{ A}$ | V_{F4} | 0.875 | |
| | $I_F = 6.0 \text{ A}$ | V_{F5} | 0.925 | |
| Instantaneous Forward Voltage Drop 1N8257 | $I_F = 0.5 \text{ A}$ | V_{F6} | 0.710 | V |
| | $I_F = 1.0 \text{ A}$ | V_{F7} | 0.820 | |
| | $I_F = 3.0 \text{ A}$ | V_{F8} | 0.890 | |
| | $I_F = 4.0 \text{ A}$ | V_{F9} | 0.940 | |
| | $I_F = 6.0 \text{ A}$ | V_{F10} | 1.000 | |
| Breakdown Voltage $I_R = 100 \mu\text{A}$, pulse $\leq 20 \text{ ms}$ | 1N8255 | B_{VR1} | 110 | V |
| | 1N8256 | | 160 | |
| | 1N8257 | | 210 | |
| Breakdown Voltage $I_R = 100 \mu\text{A}$, $T_A = -65^\circ\text{C}$ | 1N8255 | B_{VR2} | 100 | V |
| | 1N8256 | | 150 | |
| | 1N8257 | | 200 | |
| Reverse Leakage Current $V_R = V_{RWM}$, pulsed $V_R \leq 20\text{ms}$ | $T_A = +25^\circ\text{C}$ | I_{R1} | 2 | μA |
| | $T_A = +150^\circ\text{C}$ | I_{R2} | 100 | |
| Junction Capacitance $V_R = 10 \text{ Vdc}$, $f = 1\text{MHz}$ | 1N8255 -1N8256 | C_J | 50 | μF |
| | 1N8257 | | 45 | |
| Maximum Reverse Recovery Time $I_F = 1.0\text{A}$, $I_{RM} = 1.0\text{A}$, $I_{(REC)} = 0.1\text{A}$ | | t_{RR} | 30 | nsec |
| Maximum Forward Recovery Time $I_F = 50\text{mA}$ | | t_{FR} | 15 | nsec |

Package Outlines:

| Axial Leaded DIMENSIONS (inches) | | | Surface Mount Square Tab (SMS) DIMENSIONS (inches) | | | | |
|-------------------------------------|------|------|---|--------------|------|-----------------------|------|
| DIM. | MIN | MAX | DIM. | — (Standard) | | A (Short Tab Version) | |
| | | | | MIN | MAX | MIN | MAX |
| A | --- | .092 | A | .093 | .100 | .093 | .100 |
| B | .140 | .160 | B | .190 | .210 | .150 | .165 |
| C | .027 | .031 | C | .022 | .028 | .022 | .028 |
| D | 1.00 | --- | D | .003 | --- | .003 | --- |

NOTE: All specifications are subject to change without notification.
 SCD's for these devices should be reviewed by SSDI prior to release.

DATA SHEET #: RC0169C

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