



LANKERSEMI

TVS Protection Diode

LKS05N4AX40-B



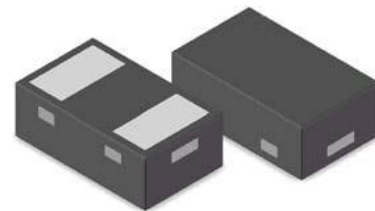
Halogen Free

Rev. 02 — 3 June 2022

Product Profile

1. Features

- 480Watts peak pulse power (tp = 8/20µs)
- Reverse Working Voltage: 5V
- capacitance: Cj = 140pF typ
- IEC 61000-4-2 : ±30kV contact, ±30kV air
- IEC 61000-4-4 (EFT) : 40A (5/50ns)
- IEC 61000-4-5 (Lightning): 40A (8/20µs)



DFN1006-2L

2. Applications

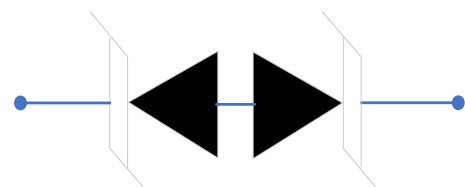
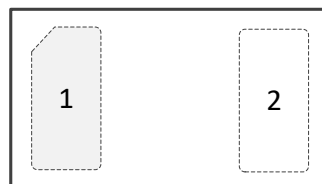
- Cell Phone Handsets and Accessories
- Microprocessor based equipment
- Personal Digital Assistants
- Notebooks, Desktops, and Servers
- Portable Instrumentation

3. Mechanical Data

- DFN1006 package
- Molding compound flammability rating: UL94V-0
- Packaging: Tape and Reel
- RoHS/WEEE Compliant

4. Pinning information

| Pin | Description |
|-----|-------------|
| 1 | Cathode 1 |
| 2 | Cathode 2 |





5. Absolute Maximum Rating

| Rating | Symbol | Value | Units |
|--------------------------------------------------|-----------|----------------|-------------|
| Peak Pulse Power ($t_p = 8/20\mu s$) | P_{PP} | 480 | Watts |
| Peak Pulse Current ($t_p = 8/20\mu s$) (note1) | I_{pp} | 40 | A |
| Lead Soldering Temperature | T_L | 260(10seconds) | $^{\circ}C$ |
| Junction Temperature | T_J | -55 to + 125 | $^{\circ}C$ |
| Storage Temperature | T_{stg} | -55 to + 125 | $^{\circ}C$ |

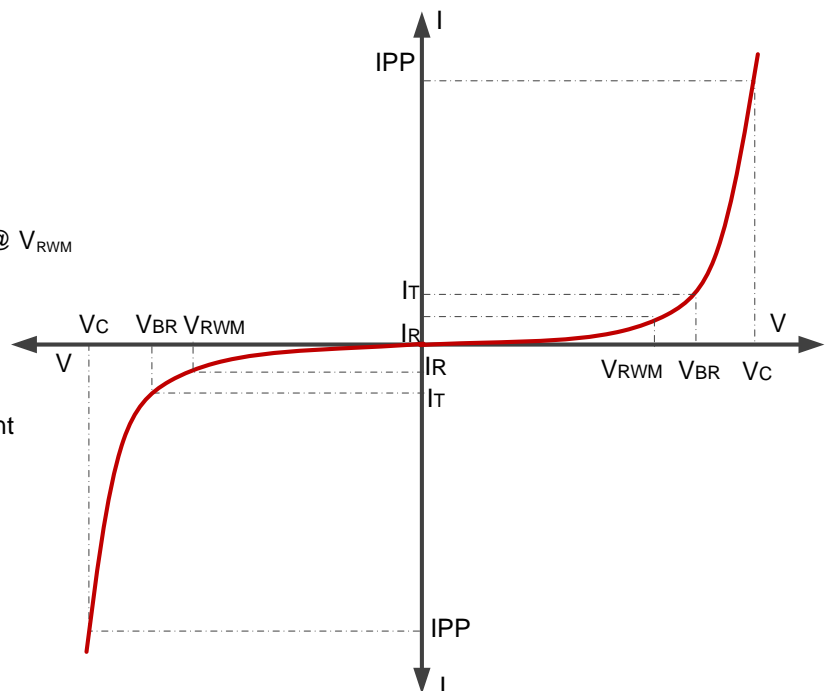
Note.: 8/20 μs pulse waveform.

6. Electrical Characteristics

| Parameter | Symbol | Conditions | Min | Typical | Max | Units |
|---------------------------|-----------|-------------------------------|-----|---------|-----|-------|
| Reverse Stand-Off Voltage | V_{RWM} | | | | 5.0 | V |
| Reverse Breakdown Voltage | V_{BR} | $I_T=1mA$ | 6.5 | 7.5 | | V |
| Reverse Leakage Current | I_R | $V_{RWM}=5.0V, T=25^{\circ}C$ | | 100 | 500 | nA |
| Peak Pulse Current | V_C | $t_p=8/20\mu s$ | | | 40 | A |
| Clamping Voltage | V_C | $I_{PP}=40A, t_p=8/20\mu s$ | | 12 | | V |
| Junction Capacitance | C_j | $V_R = 0V, f = 1MHz$ | | 140 | | pF |

7. Electrical Parameters (TA = 25°C unless otherwise noted)

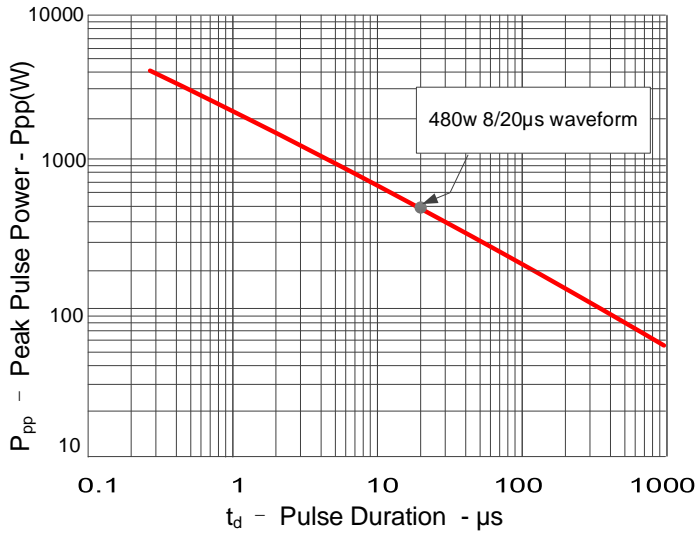
- V_{RWM} Reverse Working Voltage Max
- I_R Maximum Reverse Leakage Current @ V_{RWM}
- V_{BR} Reverse Breakdown Voltage
- V_C Clamping Voltage @ I_{PP}
- I_{PP} Maximum Reverse Peak Pulse Current



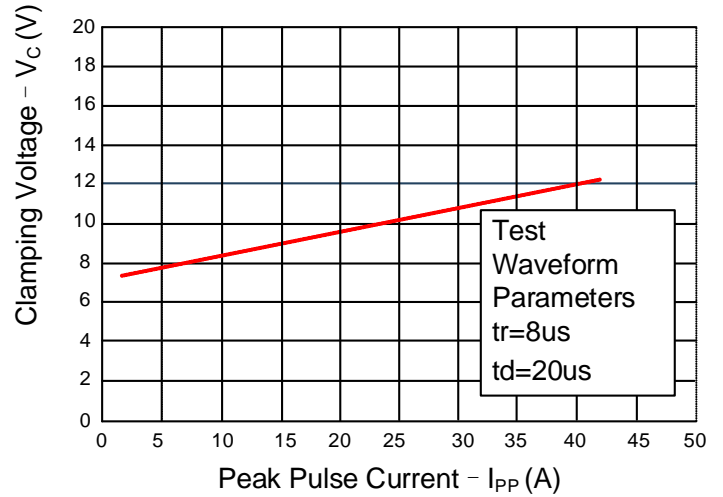


8. Typical Characteristics

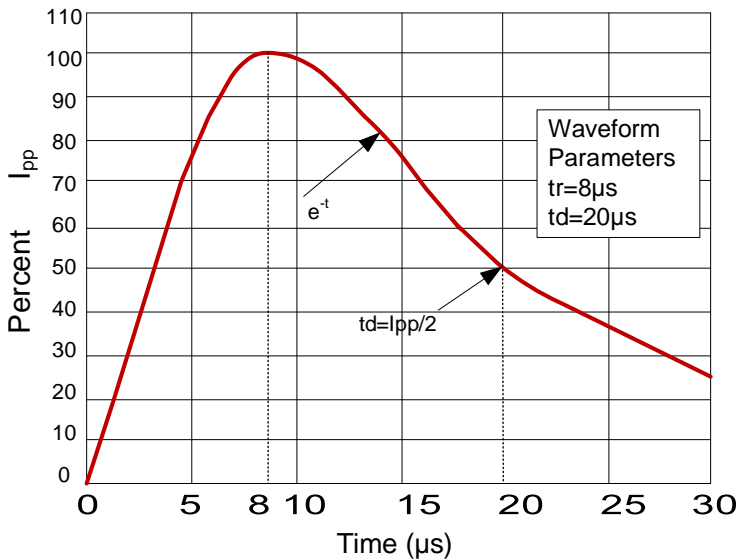
Non-repetitive Peak Pulse Power vs. Pulse Time



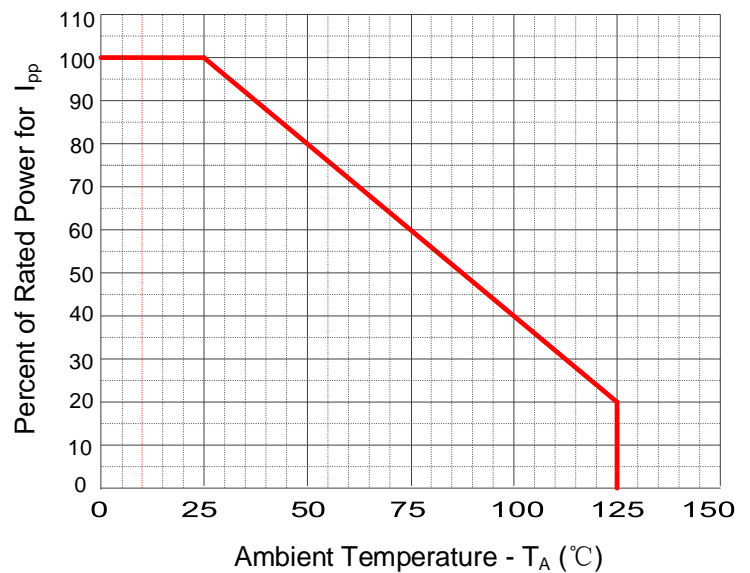
Reverse Clamping Voltage vs. Peak Pulse Current



8/20μs Pulse Waveform



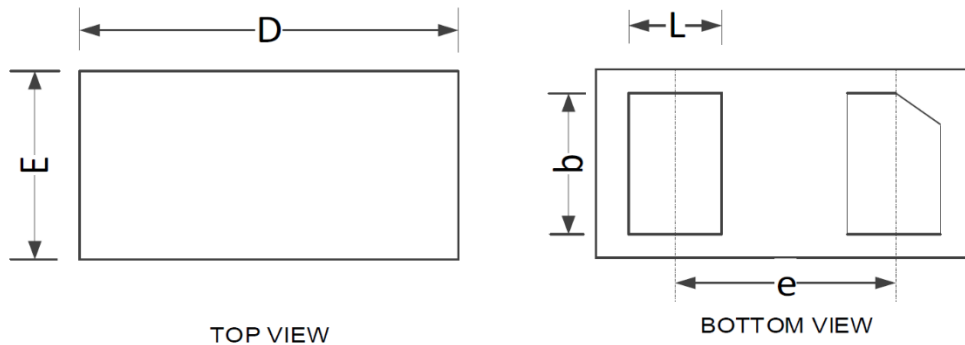
Power derating vs. Ambient temperature





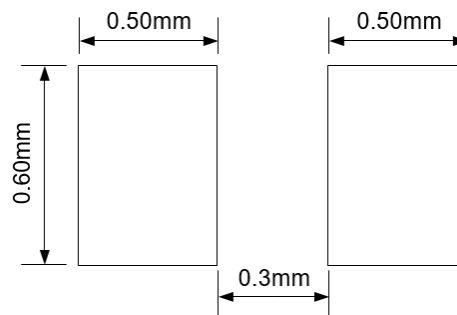
Outline Drawing – DFN1006

9. Package information



| COMMON DIMENSION (MM) | | | |
|-----------------------|---------|------|------|
| PKG | DFN1006 | | |
| REF. | MIN. | NOM. | MAX. |
| A | 0.40 | | 0.55 |
| b | 0.45 | 0.50 | 0.55 |
| D | 0.95 | 1.00 | 1.05 |
| e | 0.65BSC | | |
| E | 0.55 | 0.60 | 0.65 |
| L | 0.20 | 0.25 | 0.30 |

10. Recommend PCB Layout



11. Marking Code

| Part Number | Marking Code |
|---------------|--------------|
| LKS05N4AX40-B | 5M |

12. Ordering information

| Order code | Package | Base qty | Delivery mode |
|---------------|---------|----------|---------------|
| LKS05N4AX40-B | DFN1006 | 10k | Tape and reel |



13. Contact Information

Online product information is available at www.lanker-semi.com

Buy our products or get free samples, for further information and requests,

e-mail us at: [sales @lanker-semi.com](mailto:sales@lanker-semi.com)

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15. Reversion History

| Document ID | Release Date | Sheet Status | Change Notice | Supersedes |
|-------------|--------------|--------------------|---------------|------------|
| 02 | 03-Jun-2022 | Product data sheet | - | - |
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