

ENVIRONMENTAL CONDITIONS

| ITEM | OPERATING | | NON-OPERATING | | REMARKS |
|-----------------------------|------------------|------|---------------|------|--|
| | MIN | MAX | MIN | MAX | |
| Ambient temperature (Ta) | 0°C | 50°C | -20°C | 70°C | Normal temperature type |
| | -20°C | 70°C | -30°C | 80°C | Extended temperature type |
| Vibration | - | 0.5G | - | 2G | G=9.8 m/s ² XYZ directions |
| Shock | - | 3G | - | 50G | |
| Corrosion gas | No corrosion gas | | | | |

*SOME GRAPHIC MODULES ARE ONLY AVAILABLE WITH -10°C ~60°C.

OPTICAL CHARACTERISTICS

The following data are only for reference , please check the details in our product specification .

●TN Type

| ITEM | SYMBOL | CONDITION | MIN | TYP | MAX | UNIT | NOTE |
|----------------------|-----------------------|---------------|-----|-----|-----|------------------|------|
| Viewing angle | $\theta_2 - \theta_1$ | Cr=1.4 | 20 | - | - | D _{eg.} | 3&4 |
| Contrast ratio | C _r | §=25° θ=0° | - | 3 | - | - | 2 |
| Response time (Rise) | t _r | §=25° θ=0° | - | 200 | 250 | ms | 1 |
| Response time (Fall) | t _f | §=25° θ=0° | - | 200 | 300 | ms | 1 |

●STN Type

| ITEM | SYMBOL | CONDITION | MIN | TYP | MAX | UNIT | NOTE |
|----------------------|-----------------------|---------------|-----|-----|-----|------------------|------|
| Viewing angle | $\theta_2 - \theta_1$ | Cr=1.4 | 40 | - | - | D _{eg.} | 3&4 |
| Contrast ratio | C _r | §=10° θ=0° | 3 | - | - | - | 2 |
| Response time (Rise) | t _r | §=10° θ=0° | - | 200 | 300 | ms | 1 |
| Response time (Fall) | t _f | §=10° θ=0° | - | 250 | 350 | ms | 1 |

●FSTN Type

| ITEM | SYMBOL | CONDITION | MIN | TYP | MAX | UNIT | NOTE |
|----------------------|-----------------------|---------------|-----|-----|-----|------------------|------|
| Viewing angle | $\theta_2 - \theta_1$ | Cr=1.4 | 50 | - | - | D _{eg.} | 3&4 |
| Contrast ratio | C _r | §=10° θ=0° | 5 | - | - | - | 2 |
| Response time (Rise) | t _r | §=10° θ=0° | - | 200 | 300 | ms | 1 |
| Response time (Fall) | t _f | §=10° θ=0° | - | 250 | 350 | ms | 1 |