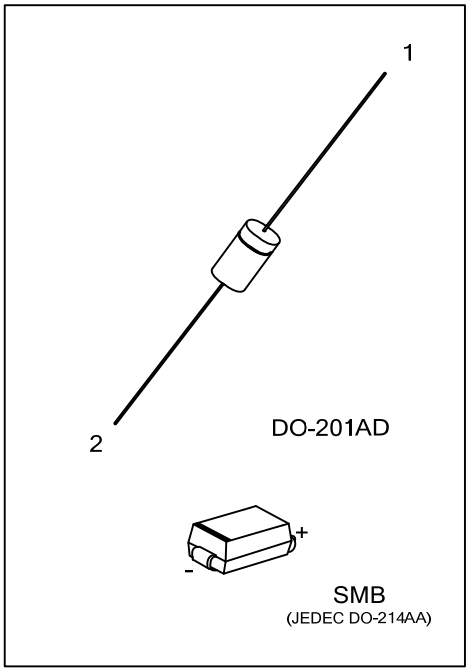
# MGBR5S40

**Preliminary** ***DIODE***

## MOS GATED BARRIER RECTIFIER



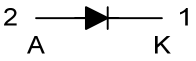

### ■ DESCRIPTION

The UTC **MGBR5S40** is a surface mount mos gated barrier rectifier, it uses UTC's advanced technology to provide customers with low forward voltage drop and high switching speed, etc.

### ■ FEATURES

* Super low forward voltage drop
* High switching speed

### ■ SYMBOL



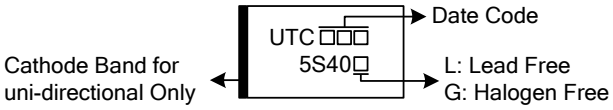
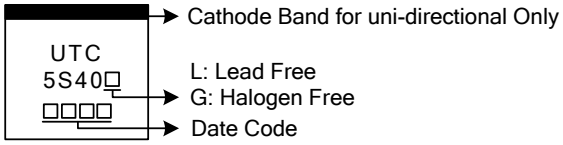

### ■ ORDERING INFORMATION

| Ordering Number | | Package | Pin Assignment | | Packing |
|---|---|---|---|---|---|
| Lead Free | Halogen Free | | 1 | 2 | |
| MGBR5S40L-SMB-R | MGBR5S40G-SMB-R | SMB | K | A | Tape Reel |
| MGBR5S40L-Z21D-R | MGBR5S40G-Z21D-R | DO-201AD | K | A | Tape Reel |

Note: Pin Assignment: A: Anode K: Common Cathode

| | |
|---|---|
| MGBR5S40L-SMB-R<br>(1)Packing Type<br>(2)Package Type<br>(3)Green Package | (1) R: Tape Reel<br>(2) SMB: SMB, Z21D: DO-201AD<br>(3) L: Lead Free, G: Halogen Free and Lead Free |

### ■ MARKING

| PACKAGE | MARKING |
|---|---|
| SMB |  |
| DO-201AD |  |

## ■ ABSOLUTE MAXIMUM RATINGS ($T_A$=25°C, unless otherwise specified)

Single phase, half wave, 60Hz, resistive or inductive load.
For capacitance load, derate current by 20%.

| PARAMETER | | SYMBOL | RATINGS | UNIT |
|---|---|---|---|---|
| DC Blocking Voltage | | $V_{RM}$ | 40 | V |
| Working Peak Reverse Voltage | | $V_{RWM}$ | 40 | V |
| Peak Repetitive Reverse Voltage | | $V_{RRM}$ | 40 | V |
| Average Rectified Output Current | $T_C$=140°C | $I_O$ | 5 | A |
| Non-Repetitive Peak Forward Surge Current 8.3ms Single Half Sine-Wave Superimposed on Rated Load | | $I_{FSM}$ | 150 | A |
| Operating Junction Temperature | | $T_J$ | -65~+150 | °C |
| Storage Temperature | | $T_{STG}$ | -65~+150 | °C |

Note: Absolute maximum ratings are those values beyond which the device could be permanently damaged. Absolute maximum ratings are stress ratings only and functional device operation is not implied.

## ■ THERMAL DATA

| PARAMETER | | SYMBOL | RATINGS | UNIT |
|---|---|---|---|---|
| Junction to Ambient | SMB | $\theta_{JA}$ | 70 | °C/W |
| | DO-201AD | | 38 | °C/W |
| Junction to Case | SMB | $\theta_{JC}$ | 35 | °C/W |
| | DO-201AD | | 15 | °C/W |

## ■ ELECTRICAL CHARACTERISTICS ($T_A$ =25°C, unless otherwise specified.)

| PARAMETER | SYMBOL | TEST CONDITIONS | MIN | TYP | MAX | UNIT |
|---|---|---|---|---|---|---|
| Reverse Breakdown Voltage | $V_{(BR)R}$ | $I_R$=0.5mA | 40 | | | V |
| Instantaneous Forward Voltage | $V_{FM}$ | $I_F$=5A, $T_J$=25°C | | 0.46 | 0.52 | V |
| | | $I_F$=5A, $T_J$=125°C | | 0.42 | 0.48 | V |
| Leakage Current | $I_{RM}$ | $V_R$=40V, $T_J$=25°C | | | 500 | μA |
| | | $V_R$=40V, $T_J$=125°C | | | 50 | mA |

Note: Pulse Test: Pulse width ≤ 300μs, Duty cycle ≤ 2%.