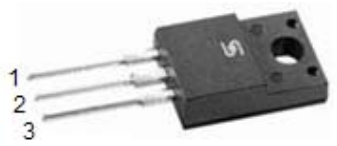
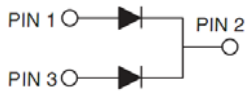
# Dual Common Cathode Schottky Rectifier

## FEATURES

- Low power loss, high efficiency
- Guardring for overvoltage protection
- High surge current capability
- UL Recognized File # E-326243
- Compliant to RoHS Directive 2011/65/EU and in accordance to WEEE 2002/96/EC
- Halogen-free according to IEC 61249-2-21 definition




**ITO-220AB**




Pb-Free

RoHS COMPLIANT

## MECHANICAL DATA

**Case:** ITO-220AB

Molding compound, UL flammability classification rating 94V-0

Base P/N with suffix "G" on packing code - halogen-free

Base P/N with prefix "H" on packing code - AEC-Q101 qualified

**Terminal:** Matte tin plated leads, solderable per JESD22-B102

Meet JESD 201 class 1A whisker test

with prefix "H" on packing code meet JESD 201 class 2 whisker test

**Polarity:** As marked

**Mounting torque:** 5 in-lbs maximum

**Weight:** 1.7 g (approximately)

| MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS ($T_A$=25℃ unless otherwise noted) | | | | |
|---|---|---|---|---|
| PARAMETER | SYMBOL | MBRF30L120CT | | UNIT |
| Maximum repetitive peak reverse voltage | $V_{RRM}$ | 120 | | V |
| Maximum RMS voltage | $V_{RMS}$ | 84 | | V |
| Maximum DC blocking voltage | $V_{DC}$ | 120 | | V |
| Maximum average forward rectified current | $I_{F(AV)}$ | 30 | | A |
| Peak repetitive forward current (Rated VR, Square wave, 20KHz) | $I_{FRM}$ | 30 | | A |
| Peak forward surge current, 8.3 ms single half sine-wave superimposed on rated load | $I_{FSM}$ | 200 | | A |
| Peak repetitive reverse surge current (Note 1) | $I_{RRM}$ | 1 | | A |
| Maximum instantaneous forward voltage (Note 2) | $V_F$ | TYP | MAX | V |
| $I_F$ = 15A, $T_J$=25℃ | | 0.81 | 0.88 | |
| $I_F$ = 15A, $T_J$=125℃ | | 0.66 | 0.75 | |
| $I_F$ = 30A, $T_J$=25℃ | | 0.89 | 0.95 | |
| $I_F$ = 30A, $T_J$=125℃ | | 0.76 | 0.82 | |
| Maximum reverse current @ rated VR | $I_R$ | TYP | MAX | mA |
| $T_J$=25 ℃ | | 1.1 | 20 | |
| $T_J$=125 ℃ | | 1.7 | 25 | |
| Voltage rate of change (Rated $V_R$) | dV/dt | 10000 | | V/μs |
| Typical thermal resistance | $R_{\theta JC}$ | 5 | | $^{O}$C/W |
| Operating junction temperature range | $T_J$ | - 55 to +150 | | $^{O}$C |
| Storage temperature range | $T_{STG}$ | - 55 to +150 | | $^{O}$C |

Note 1: tp = 2.0 μs, 1.0KHz

Note 2: Pulse test with PW=300μs, 1% duty cycle

| ORDERING INFORMATION | | | | | |
|---|---|---|---|---|---|
| PART NO. | AEC-Q101 QUALIFIED | PACKING CODE | GREEN COMPOUND CODE | PACKAGE | PACKING |
| MBRF30L120CT | Prefix "H" | C0 | Suffix "G" | ITO-220AB | 50 / Tube |

| EXAMPLE | | | | | |
|---|---|---|---|---|---|
| PREFERRED P/N | PART NO. | AEC-Q101 QUALIFIED | PACKING CODE | GREEN COMPOUND CODE | DESCRIPTION |
| MBRF30L120CT C0 | MBRF30L120CT | | C0 | | |
| MBRF30L120CT C0G | MBRF30L120CT | | C0 | G | Green compound |
| MBRF30L120CTHC0 | MBRF30L120CT | H | C0 | | AEC-Q101 qualified |

## RATINGS AND CHARACTERISTICS CURVES

(TA=25℃ unless otherwise noted)

FIG.1 MAXIMUM FORWARD CURRENT DERATING CURVE

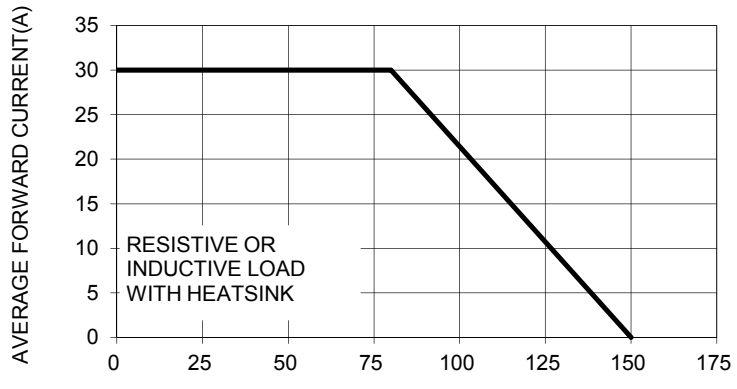



FIG. 2 MAXIMUM FORWARD SURGE CURRENT

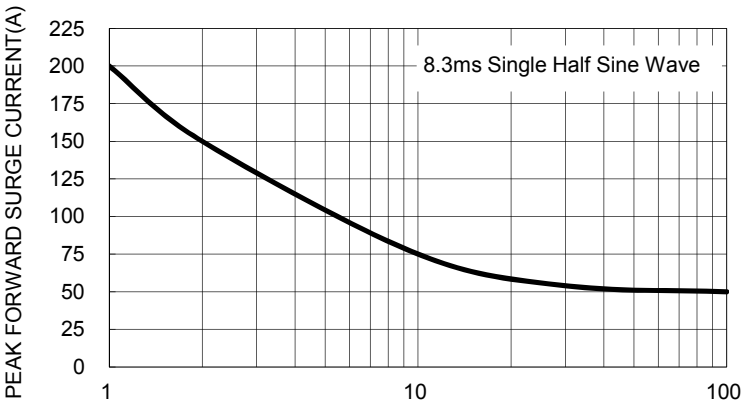



FIG. 3 TYPICAL FORWARD CHARACTERISTICS

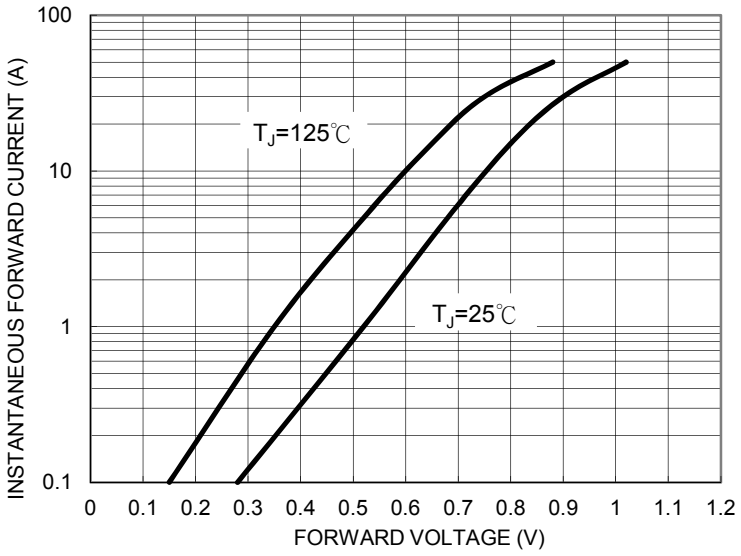



FIG. 4 TYPICAL REVERSE CHARACTERISTICS

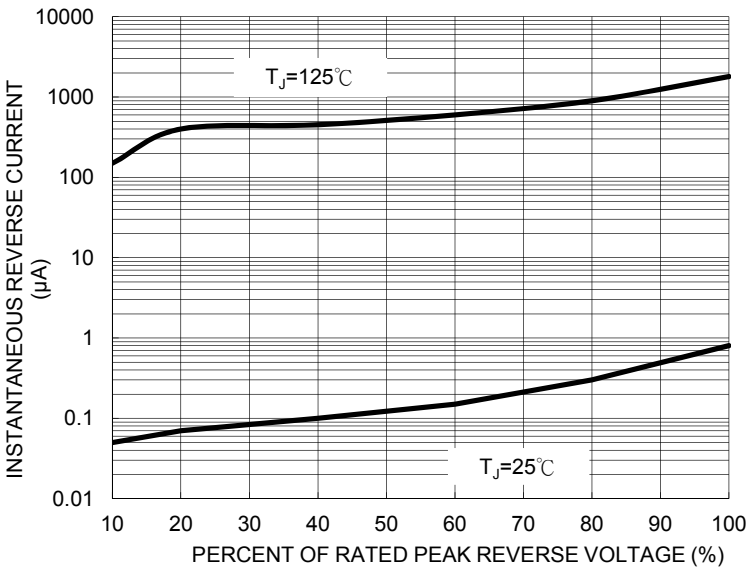


FIG. 5 TYPICAL JUNCTION CAPACITANCE

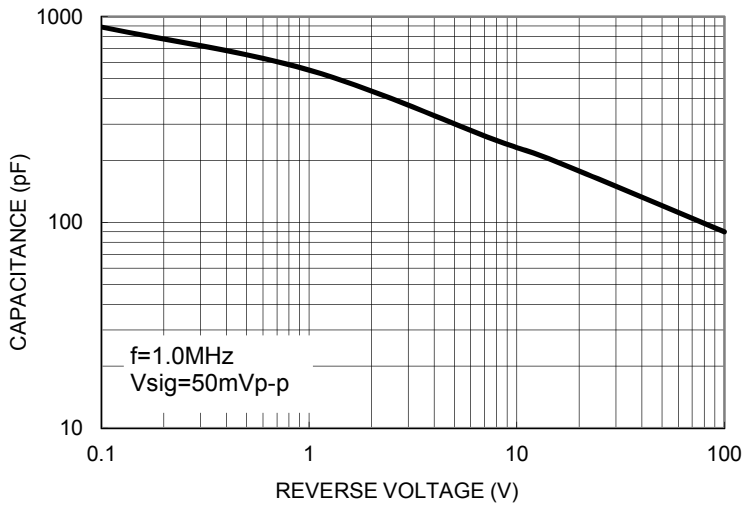
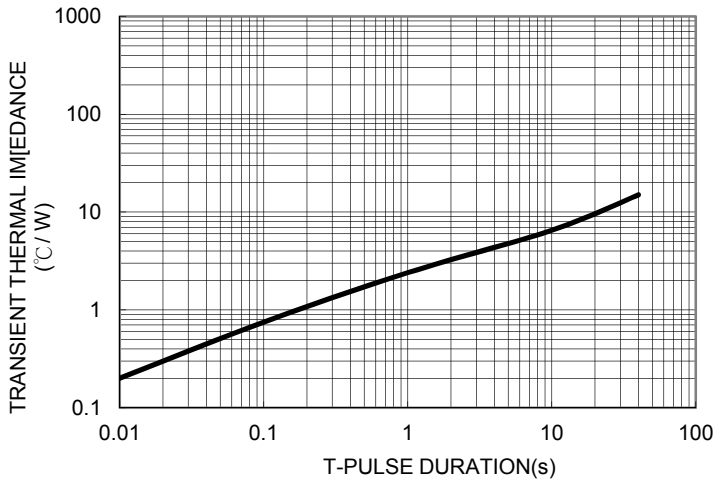
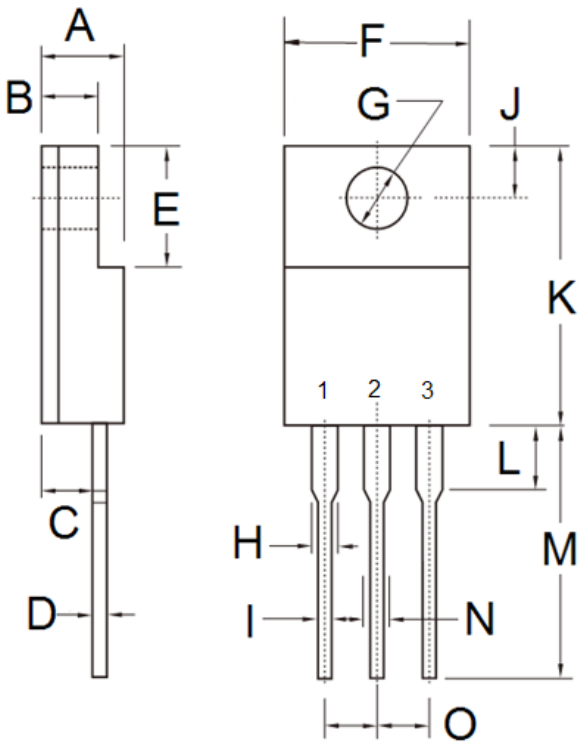



FIG. 6 TYPICAL TRANSIENT THERMAL IMPEDANCE




## PACKAGE OUTLINE DIMENSIONS




| DIM. | Unit (mm) | | Unit (inch) | |
|---|---|---|---|---|
| | Min | Max | Min | Max |
| A | 4.30 | 4.70 | 0.169 | 0.185 |
| B | 2.50 | 3.16 | 0.098 | 0.124 |
| C | 2.30 | 2.96 | 0.091 | 0.117 |
| D | 0.46 | 0.76 | 0.018 | 0.030 |
| E | 6.30 | 6.90 | 0.248 | 0.272 |
| F | 9.60 | 10.30 | 0.378 | 0.406 |
| G | 3.00 | 3.40 | 0.118 | 0.134 |
| H | 0.95 | 1.45 | 0.037 | 0.057 |
| I | 0.50 | 0.90 | 0.020 | 0.035 |
| J | 2.40 | 3.20 | 0.094 | 0.126 |
| K | 14.80 | 15.50 | 0.583 | 0.610 |
| L | - | 4.10 | - | 0.161 |
| M | 12.60 | 13.80 | 0.496 | 0.543 |
| N | - | 1.80 | - | 0.071 |
| O | 2.41 | 2.67 | 0.095 | 0.105 |

## MARKING DIAGRAM


P/N = Specific Device Code
G = Green Compound
YWW = Date Code
F = Factory Code

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