

Ultra-fast Recovery Rectifier

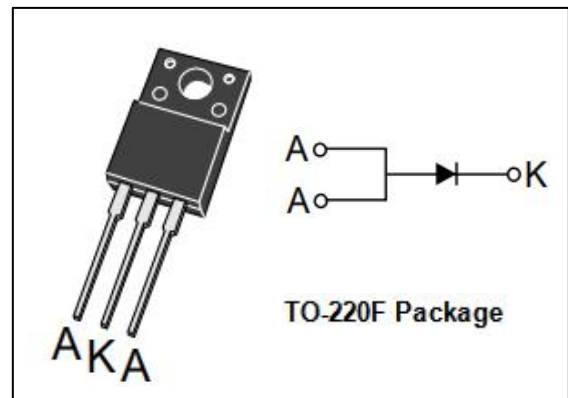
MBRF40250TG

FEATURES

- With TO-220F Package
- Ultra-fast switching
- High surge current capability
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

APPLICATIONS

- Anti-parallel diode for high frequency switching devices
- Uninterruptible Power Supplies (UPS)
- Free wheeling diode in converters and motor control circuits

ABSOLUTE MAXIMUM RATINGS($T_a=25^{\circ}\text{C}$)

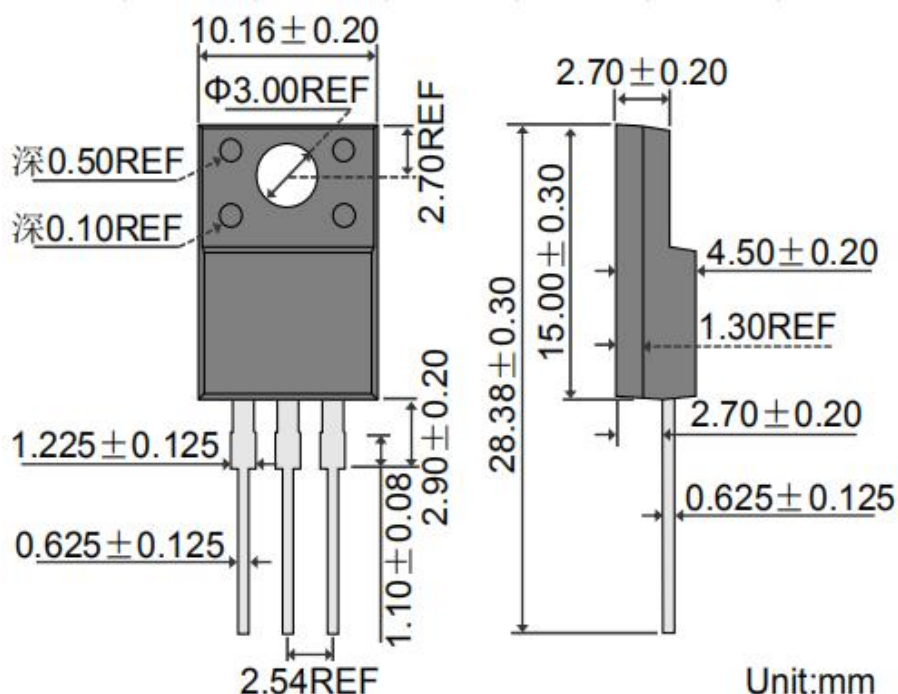
SYMBOL	PARAMETER	VALUE	UNIT
V_{RRM} V_{RWM} V_R	Peak Repetitive Reverse Voltage Working Peak Reverse Voltage DC Blocking Voltage	250	V
$I_{F(AV)}$	Average Rectified Forward Current	40	A
I_{FSM}	Nonrepetitive Peak Surge Current@45°C (Surge applied at rated load conditions half-wave, single phase, 60Hz)	80	A
T_J	Junction Temperature	-65~150	°C
T_{stg}	Storage Temperature Range	-65~175	°C

THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	MAX	UNIT
$R_{th\ j-c}$	Thermal Resistance, Junction to Case	2.0	°C/W

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ELECTRICAL CHARACTERISTICS($T_a=25^{\circ}\text{C}$) (Pulse Test: Pulse Width=300 μs , Duty Cycle $\leq 2\%$)

SYMBOL	PARAMETER	CONDITIONS	MAX	UNIT
V_F^*	Maximum Instantaneous Forward Voltage	$I_F=40\text{A}; T_j=25^{\circ}\text{C}$ $I_F=40\text{A}; T_j=125^{\circ}\text{C}$	0.97 0.86	V
I_R^*	Maximum Instantaneous Reverse Current	$V_R=V_{RWM}; T_j=25^{\circ}\text{C}$ $V_R=V_{RWM}; T_j=125^{\circ}\text{C}$	0.03 30	mA
t_{rr}	Maximum Reverse Recovery Time	$I_F=1.0\text{A}; di/dt=50\text{A}/\mu\text{s}$	35	ns


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