

## 10A, 35V - 200V Dual Common Cathode Schottky Rectifiers

### FEATURES

- Low power loss, high efficiency
- Guard ring for over-voltage protection
- High surge current capability
- Compliant to RoHS Directive 2011/65/EU and in accordance to WEEE 2002/96/EC
- Halogen-free according to IEC 61249-2-21



### MECHANICAL DATA

**Case:** TO-220AB

Molding compound, UL flammability classification rating 94V-0

Part No. with suffix "H" means AEC-Q101 qualified

Packing code with suffix "G" means green compound (halogen-free)

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

Meet JESD 201 class 2 whisker test

**Polarity:** As marked

**Mounting torque:** 0.56 Nm max.

**Weight:** 1.88 g (approximately)

### TO-220AB



### MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS (T<sub>A</sub>=25°C unless otherwise noted)

PARAMETER	SYMBOL	MBR 1035 CT	MBR 1045 CT	MBR 1050 CT	MBR 1060 CT	MBR 1090 CT	MBR 10100 CT	MBR 10150 CT	MBR 10200 CT	UNIT
Maximum repetitive peak reverse voltage	V <sub>RRM</sub>	35	45	50	60	90	100	150	200	V
Maximum RMS voltage	V <sub>RMS</sub>	24	31	35	42	63	70	105	140	V
Maximum DC blocking voltage	V <sub>DC</sub>	35	45	50	60	90	100	150	200	V
Maximum average forward rectified current	I <sub>F(AV)</sub>	10								A
Peak repetitive forward current (Rated V <sub>R</sub> , Square Wave, 20KHz)	I <sub>FRM</sub>	10								A
Peak forward surge current, 8.3 ms single half sine-wave superimposed on rated load	I <sub>FSM</sub>	120								A
Peak repetitive reverse surge current (Note 1)	I <sub>RRM</sub>	1	0.5							A
Maximum instantaneous forward voltage (Note 2) I <sub>F</sub> = 5 A, T <sub>J</sub> =25°C I <sub>F</sub> = 5 A, T <sub>J</sub> =125°C I <sub>F</sub> = 10 A, T <sub>J</sub> =25°C I <sub>F</sub> = 10 A, T <sub>J</sub> =125°C	V <sub>F</sub>	0.70 0.57 0.80 0.67		0.80 0.65 0.90 0.75		0.85 0.75 0.95 0.85		0.88 0.78 0.98 0.88		V
Maximum reverse current @ rated V <sub>R</sub> T <sub>J</sub> =25°C T <sub>J</sub> =125°C	I <sub>R</sub>	0.1								mA
		15		10		2		5		
Voltage rate of change (Rated V <sub>R</sub> )	dV/dt	10000								V/μs
Typical thermal resistance	R <sub>θJC</sub>	1.5								°C/W
Operating junction temperature range	T <sub>J</sub>	- 55 to +150								°C
Storage temperature range	T <sub>STG</sub>	- 55 to +150								°C

Note 1: tp = 2.0 μs, 1.0KHz

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

**ORDERING INFORMATION**

PART NO.	PART NO. SUFFIX	PACKING CODE	PACKING CODE SUFFIX (*)	PACKAGE	PACKING
MBR10xxCT (Note 1)	H	C0	G	TO-220AB	50 / Tube

Note 1: "xx" defines voltage from 35V (MBR1035CT) to 200V (MBR10200CT)

\*: Optional available

**EXAMPLE**

EXAMPLE PART NO.	PART NO.	PART NO. SUFFIX	PACKING CODE	PACKING CODE SUFFIX	DESCRIPTION
MBR1060CTHC0G	MBR1060CT	H	C0	G	AEC-Q101 qualified Green compound

**RATINGS AND CHARACTERISTICS CURVES**

( $T_A=25^\circ\text{C}$  unless otherwise noted)

FIG. 1 FORWARD CURRENT DERATING CURVE

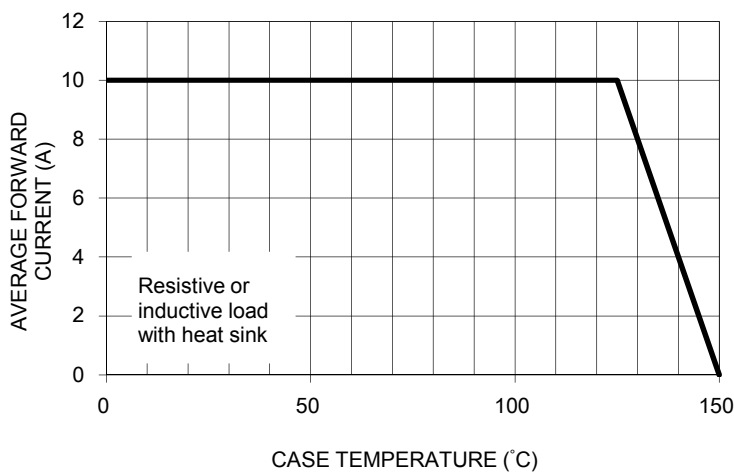


FIG. 2 MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

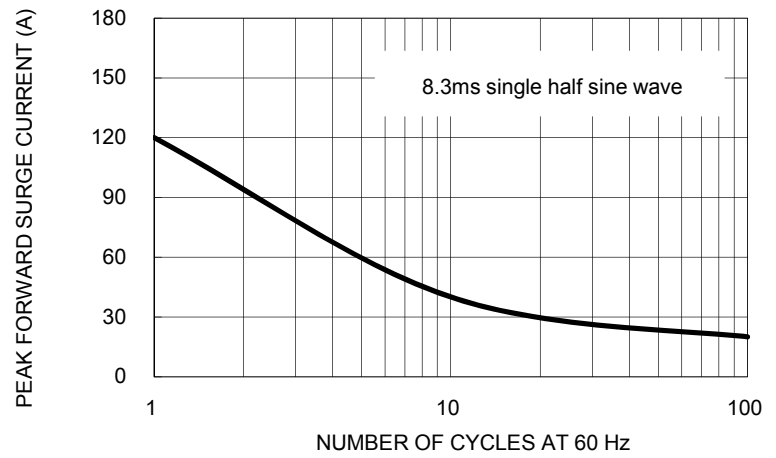


FIG. 3 TYPICAL FORWARD CHARACTERISTICS

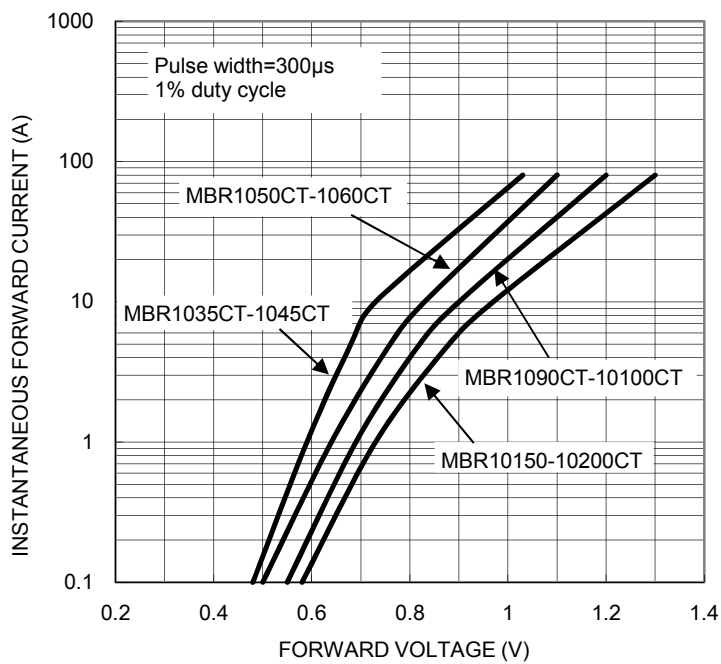


FIG. 4 TYPICAL REVERSE CHARACTERISTICS

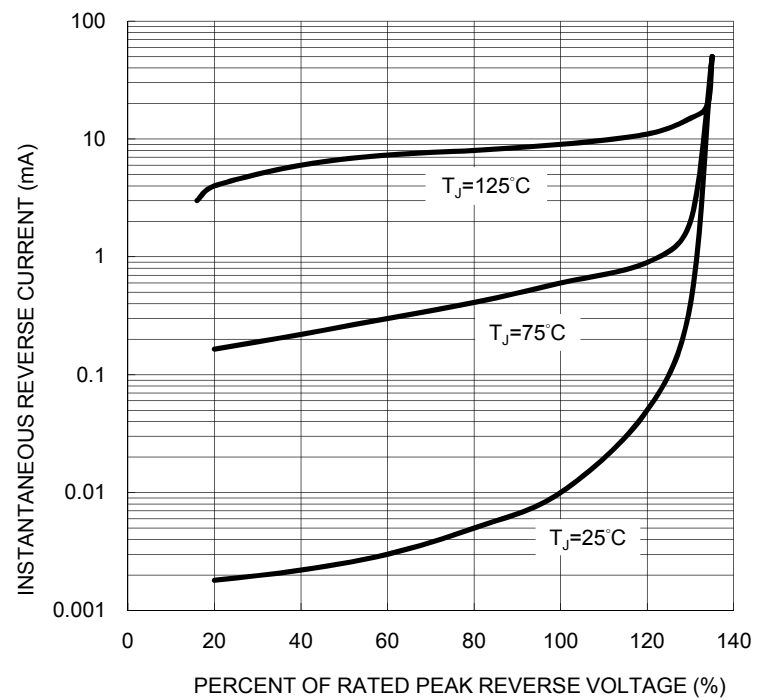


FIG. 5 TYPICAL JUNCTION CAPACITANCE

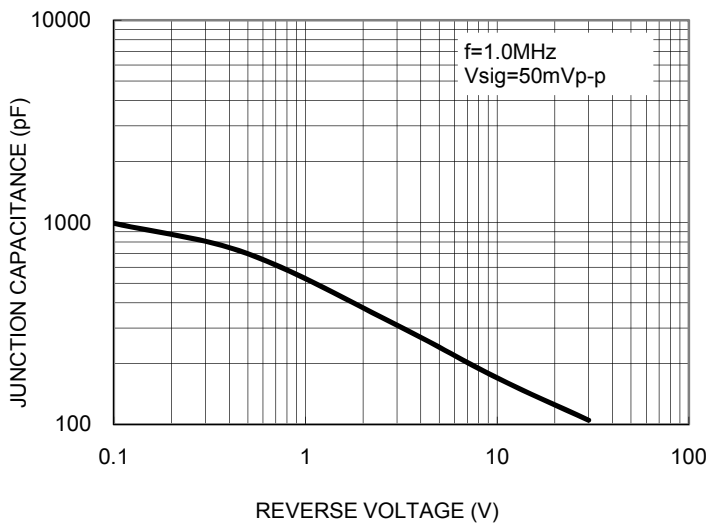
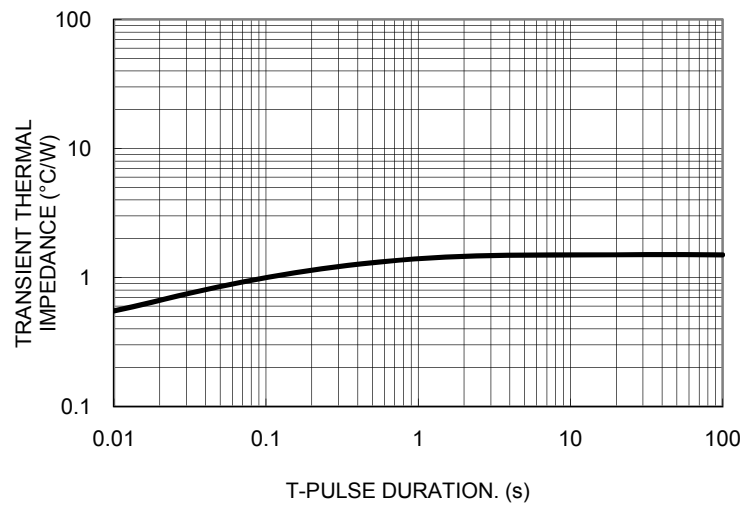
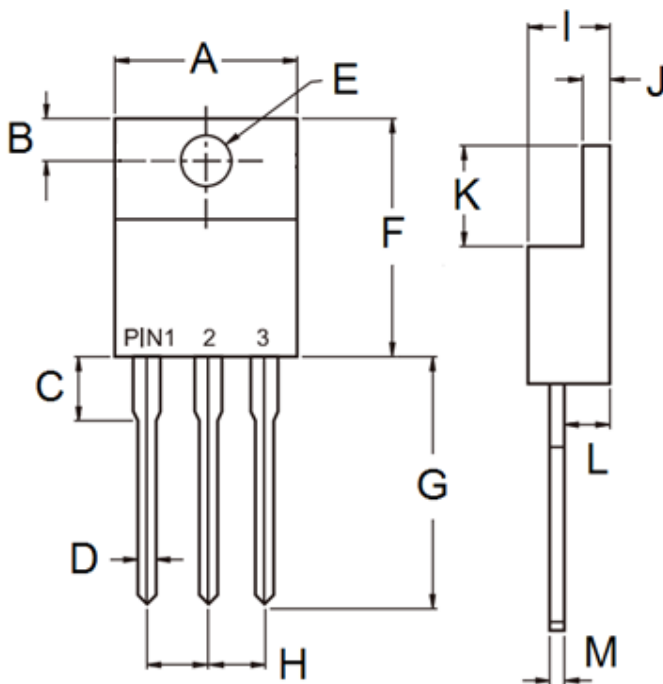


FIG. 6 TYPICAL TRANSIENT THERMAL CHARACTERISTICS PER LEG



PACKAGE OUTLINE DIMENSIONS  
**TO-220AB**



DIM.	Unit (mm)		Unit (inch)	
	Min	Max	Min	Max
A	-	10.50	-	0.413
B	2.62	3.44	0.103	0.135
C	2.80	4.20	0.110	0.165
D	0.68	0.94	0.027	0.037
E	3.54	4.00	0.139	0.157
F	14.60	16.00	0.575	0.630
G	13.19	14.79	0.519	0.582
H	2.41	2.67	0.095	0.105
I	4.42	4.76	0.174	0.187
J	1.14	1.40	0.045	0.055
K	5.84	6.86	0.230	0.270
L	2.20	2.80	0.087	0.110
M	0.35	0.64	0.014	0.025

MARKING DIAGRAM



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

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