

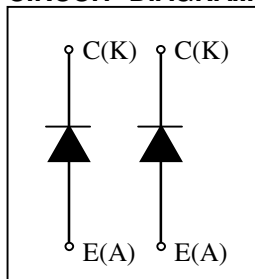
# MDM900E45A

## PRELIMINARY SPEC.

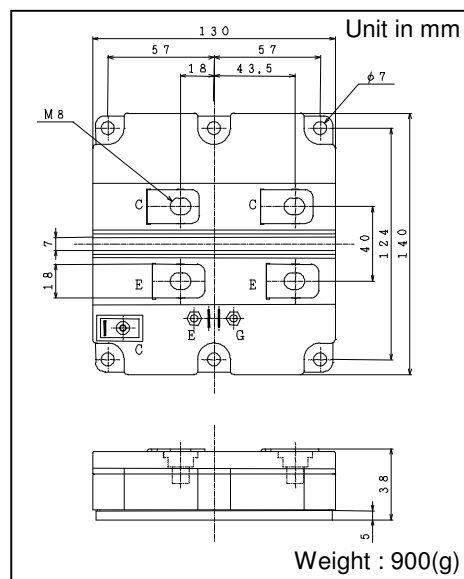
### FEATURES

- \* Low noise due to soft and fast recovery diodes.
- \* High reliability, high durability diodes.
- \* Isolated heat sink(terminal to base).

### CIRCUIT DIAGRAM



### OUTLINE DRAWING



### ABSOLUTE MAXIMUM RATINGS (TC=25°C)

Item	Symbol	Unit	MDM900E45A
Repetitive Peak Reverse Voltage	$V_{RRM}$	V	4,500
Forward Current	DC	A	900
	1ms		1,800
Junction Temperature	$T_j$	°C	-40 ~ +125
Storage Temperature	$T_{stg}$	°C	-40 ~ +125 (1)
Isolation Test Voltage	Terminals-base	$V_{RMS}$	6,000 (AC 1 minute)
	Terminal 1-Terminal 2		6,000 (AC 1 minute)
Screw Torque	Terminals (M8)	N·m	15 (2)
	Mounting (M6)		6 (3)

Notes: (1) Terminal temperature shall not exceed the specified temperature in any operation.  
 (2) Recommended Value  $15^{+0}_{-3}$ N·m (3) Recommended Value  $5.5 \pm 0.5$ N·m

### ELECTRICAL CHARACTERISTICS

Item	Symbol	Unit	Min.	Typ.	Max.	Test Conditions
Repetitive Reverse Current	$I_{RRM}$	mA	-	20	40.0	$V_{AK}=4,500V, T_j=125^\circ C$
Forward Voltage Drop	$V_F$	V	3.3	4.5	tbd	$I_F=900A, T_j=125^\circ C$
Reverse Recovery Time	trr	μs	-	0.6	tbd	$V_{CC}=2,600V, I_c=900A, L=130nH$
Reverse Recovery Loss	$E_{rr(10\%)}$	J/P	-	1.1	tbd	$T_j=125^\circ C R_g=2.2 \Omega$ (4)

### PACKAGE CHARACTERISTICS

Item	Symbol	Unit	Min.	Typ.	Max.	Test Conditions
Terminal Resistance	RCE	mΩ	-	0.3	-	
Terminal Stray Inductance	LsCE	nH	-	35	-	
Thermal Impedance	$R_{th(j-c)}$	°C/W	-	-	0.017	Junction to case
Comparative tracking index	CTI		-	600	-	
Contact Thermal Impedance	$R_{th(c-f)}$	°C/W	-	0.008	-	Case to fin per module
Base Plate material						Al-SiC
Insulation substrate material						AlN

Notes:(4) Counter arm; MBN900D45A VGE=+/-15V  
 $R_G$  value is the test condition's value for evaluation of the switching times, not recommended value.  
 Please, determine the suitable  $R_G$  value after the measurement of switching waveforms (overshoot voltage, etc.) with appliance mounted.

- \* Please contact our representatives at order.
- \* For improvement, specifications are subject to change without notice.
- \* For actual application, please confirm this spec sheet is the newest revision.

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