DIODE MODULE

Spec.No.SR2-SP-06003 R1

MDM300E45A

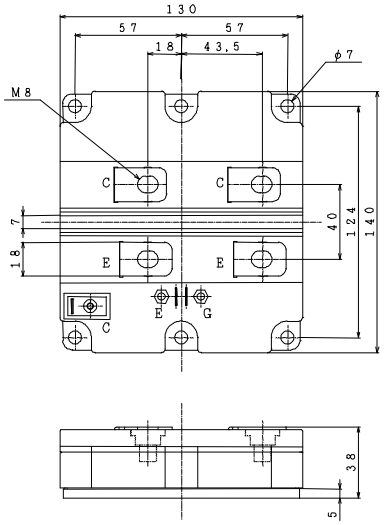
TARGET SPEC.

FEATURES

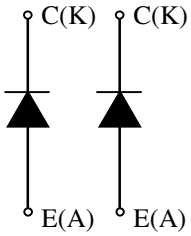
* Low noise due to soft and fast recovery diodes.
* High reliability, high durability diodes.
* Isolated heat sink(terminal to base).

OUTLINE DRAWING

Unit in mm



CIRCUIT DIAGRAM



ABSOLUTE MAXIMUM RATINGS (TC=25℃)

Item		Symbol	Unit	MDM300E45A	
Repetitive Peak Reverse Voltage		V_{RRM}	V	4,500	
Forward Current	DC	I_F	A	300	
	1ms	I_{FM}		600	
Junction Temperature		Tj	℃	-40 ～ +125	
Storage Temperature		Tstg	℃	-40 ～ +125	
Isolation Test Voltage	Terminals-base	V_{ISO}	V_{RMS}	6,000 (AC 1 minute)	
	Terminal 1-Terminal 2	$V_{ISO\ T\text{-}T}$		6,000 (AC 1 minute)	
Screw Torque	Terminals (M8)	-	N·m	10	(1)
	Mounting (M6)	-		6	(2)

Notes: (1) Recommended Value 9±1N·m (2) Recommended Value 5.5±0.5N·m

ELECTRICAL CHARECTERISTICS

Item	Symbol	Unit	Min.	Typ.	Max.	Test Conditions
Repetitive Reverse Current	I_{RRM}	mA	-	7	14	VAK=4,500V, Tj=125℃
Forward Voltage Drop	V_F	V	3.3	4.5	5.3	IF=300A, Tj=125℃
Reverse Recovery Time	trr	μs	-	0.6	1.0	V_{CC}=2,600V, Ic=300A, L=130nH
Reverse Recovery Loss	$E_{rr(10\%)}$	J/P	-	0.35	0.5	Tj=125°C Rg=6.8Ω (3)

PACKAGE CHARECTERISTICS

Item	Symbol	Unit	Min.	Typ.	Max.	Test Conditions
Terminal Resistance	RCE	mΩ	-	0.3	-	
Terminal Stray Inductance	LsCE	nH	-	35	-	
Thermal Impedance	Rth(j-c)	K/W	-	-	0.052	Junction to case
Comparative tracking index	CTI		-	600	-	
Contact Thermal Impedance	Rth(c-f)	K/W	-	0.008	-	Case to fin per module

Notes:(3) Counter arm; MBN300E45A 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.

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HITACHI POWER SEMICONDUCTORS

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