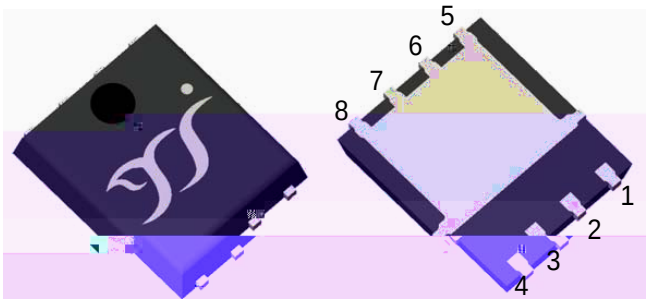
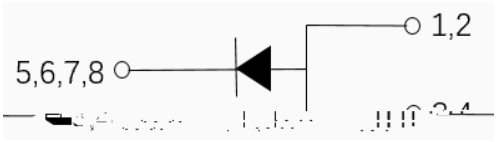
Schottky Diodes





Features

- ð High frequency operation
- ð High purity, high temperature epoxy encapsulation for enhanced mechanical strength and moisture resistance
- ð Guard ring for enhanced ruggedness and long term reliability
- ð Part no. with suffix ñQò means AEC-Q101 qualified

Typical Applications

Typical applications are in switching power supplies, converters, automotive, freewheeling diodes, and reverse battery protection.

Mechanical Data = l' ' 2 d l A mw Ď }

- ðTerminals: Tin plated leads, solderable per J-STD-002 and JESD22-B102
- ð Polarity: As marked

yMaximum Ratings (Ta=25 Unless otherwise specified Å

¶ R = METER	´ YMBOL	¶ NIT	MBR10100 ¶ Q
Device marking code			MBR10100P5
Repetitive peak reverse voltage	V_{RRM}	V	100
Average Rectified Output Current @60Hz -sine wave, T_C=145	I_O	A	10
Forward Surge Current (Non-repetitive) @60Hz half-sine wave,1 cycle, T_a=25 -	I_{FSM}	A	150
Current Squared Time @1ms0t08.3ms T_J=25 -	I^2t	A^2s	93
Storage Temperature	T_{stg}	-	-55 ~ +175
Junction Temperature	T_J	-	-55 ~ +175

yElectrical Characteristics ÄTa=25 Unless otherwise specified Å

PARAMETER	SYMBOL	UNIT	TEST CONDITIONS		Typ	Max
Instantaneous forward voltage	V_F	V	I_F=10A	T_J=25 -	0.8	0.85
			I_F=10A	T_J=125 -	0.67	0.74
Typical junction capacitance	C_J	pF	V_R=4V, f=1 MH¥		270	- uA
			=100V	T_J=25 -	-	10
				T_J=125 -	-	3000

y**Characteristics** (Typical)

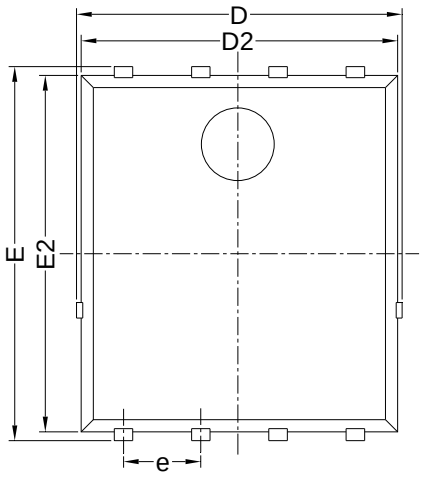
■**Thermal Characteristics** (T_a=25 Unless otherwise specified)

PARAMETER	SYMBOL	UNIT	MBR10100P5Q
Typical thermal resistance	R_{dJ-A}	- /W	55(1)
	R_{dJ-C}	- /W	3.5(2)

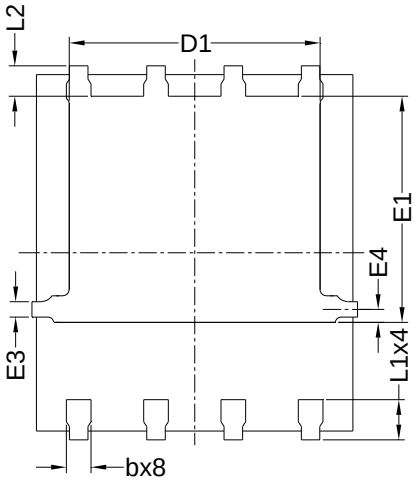
Note:

(1)Thermal resistance between junction and ambient mounted on P.C.B with 25.4mm*25.4mm copper pad areau M ()Thermal resistance ή we

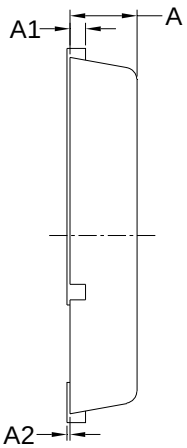
yOutline Dimensions & Suggested Pad Layout



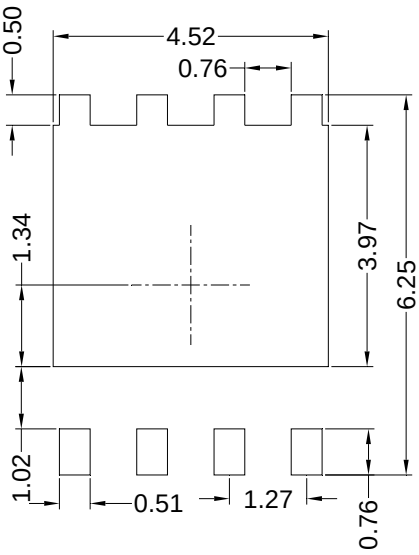
Top View



Bottom View



Side View



Suggested Solder Pad Layout
Top View

SYMBOL	MILLIMETER		
	MIN	NOM	MAX
D	5.15	5.35	5.55
E	5.95	6.15	6.35
A	1.00	1.10	1.20
A1		0.254 BSC	
A2			0.10
D1	3.92	4.12	4.32
E1	3.52	3.72	3.92
D2	5.00	5.20	5.40
E2	5.66	5.86	6.06
E3		0.254 REF	
E4		0.21 REF	
L1	0.56	0.66	0.76
L2		0.50 BSC	
b	0.31	0.41	0.51
e		1.27 BSC	

Note:
1.Controlling dimension:in millimeters.
2.General tolerance:Ñ0.10mm.
3.The pad layout is for reference purposes only.

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