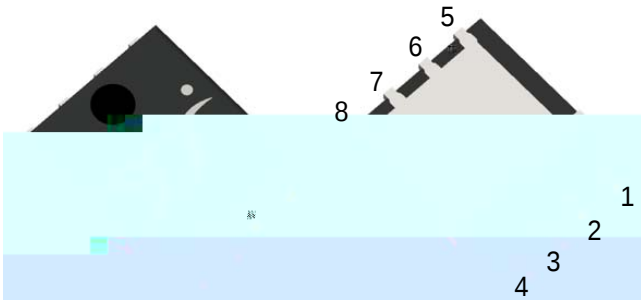


Schottky Diodes



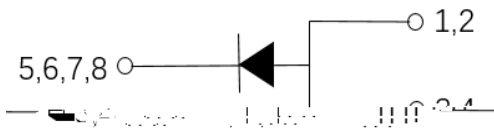
Features

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

Typical Applications

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

Mechanical Data



✗ **Terminals:** Tin plated leads, solderable per J-STD-002 and JESD22-B102

✗ **Polarity:** As marked

Maximum Ratings (T_a=25 °C Unless otherwise specified)

PARAMETER	SYMBOL	UNIT	MBR10100P5Q
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 °C	I _{FSM}	A	150
Current Squared Time @1ms to 0.3ms T _j =25 °C	I ² t	A ² s	93
Storage Temperature	T _{stg}	-	-55 ~ +175
Junction Temperature	T _j	-	-55 ~ +175

Electrical Characteristics (T_a=25 °C Unless otherwise specified)

PARAMETER	SYMBOL	UNIT	TEST CONDITIONS	Typ	Max
Instantaneous forward voltage	V _F	V	I _F =10A, T _j =25 °C	0.8	0.85
			I _F =10A, T _j =125 °C	0.67	0.74
Typical junction capacitance	C _j	pF	V _R =4V, f=1 MHz	270	-
			R _s =100V	T _j =25 °C	10
				T _j =125 °C	3000



ΩCharacteristics (Typical)



MBR10100P5Q

■Thermal Characteristics (T_a=25 Unless otherwise specified)

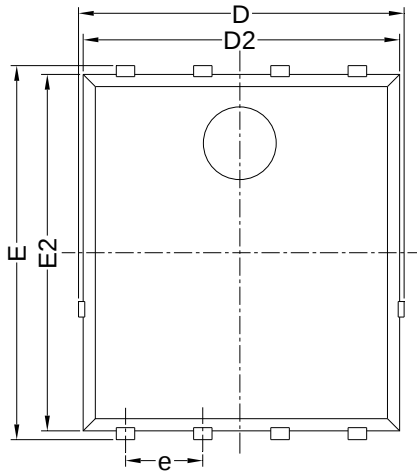
PARAMETER	SYMBOL	UNIT	MBR10100P5Q
Typical thermal resistance	R _{JA}	- /W	55 ⁽¹⁾
	R _{JC}	- /W	3.5 ⁽²⁾

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

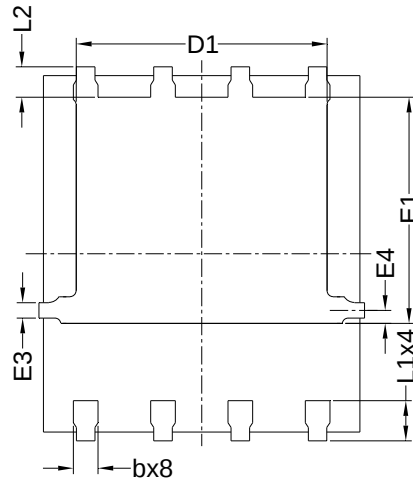


MBR10100P5Q

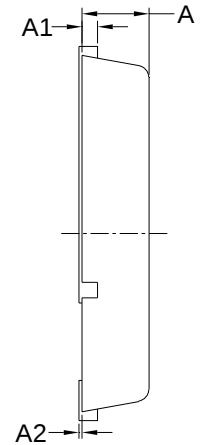
Ω Outline Dimensions & Suggested Pad Layout



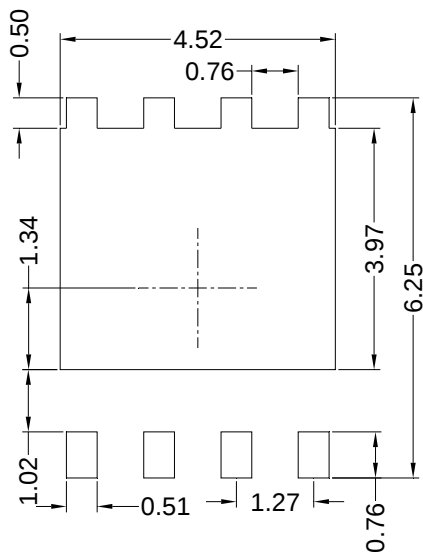
Top View



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: ± 0.10 mm.
3. The pad layout is for reference purposes only.



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