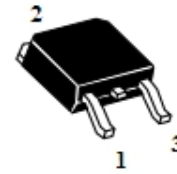


MBRA10100GCT

10.0AMPS. SCHOTTKY BARRIER RECTIFIERS

FEATURE

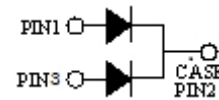
- . High current capability
- . Low forward voltage drop
- . Low power loss, high efficiency
- . High surge capability
- . High temperature soldering guaranteed
260°C /10seconds, 0.25"(6.35mm)from case.



TO-252-2L
MBRA10100GCT

MECHANICAL DATA

- . Case: Molded with UL-94 Class V-0 recognized
Flame Retardant Epoxy
- . Mounting position: any



Single phase, half wave, 60Hz, resistive or inductive load.

For capacitive load, derate current by 20%

MAXIMUM RATINGS (T_C=25°C unless otherwise noted)

Parameter	Symbol	MBRA10100GCT	Units
Maximum Recurrent Peak Reverse Voltage	V_{RRM}	100	V
Maximum RMS Voltage	V_{RMS}	70	V
Maximum DC blocking Voltage	V_{DC}	100	V
Maximum Average Forward Rectified Current <i>Per Leg</i> at T _C =100°C <i>Total device</i>	$I_{F(AV)}$	5.0 10.0	A
Peak Forward Surge Current 8.3ms single half sine-wave superimposed on rated load (JEDEC method) <i>Per Leg</i>	I_{FSM}	120.0	A
Typical Junction Capacitance (Note 1)	C_J	140	pF
Operation Junction Temperature and Storage Temperature	T_J, T_{STG}	-55 to +150	°C

ELECTRICAL CHARACTERISTICS - (Per Leg) (T_C=25°C unless otherwise noted)

Parameter	Symbol	Test conditions	Typ	Max	Units	
Forward voltage drop	V_F	T _J =25°C	I _F =2A	0.70	----	V
			I _F =5A	0.78	0.85	
		T _J =125°C	I _F =2A	0.56	----	
			I _F =5A	0.64	0.75	
Reverse leakage current	I_R	T _J =25°C	V _R =100V	----	0.1	mA
		T _J =125°C	V _R =100V	----	10	

THERMAL CHARACTERISTICS (T_C=25°C unless otherwise noted)

Parameter	Symbol	MBRA10100GCT	Units
Typical Thermal Resistance (Note 2)	$R_{(JC)}$	6.5	°C/W

Notes:

1. Measured at 1.0 MHz and applied reverse voltage of 4.0Vdc
2. Thermal Resistance from Junction to Case

RATING AND CHARACTERISTIC CURVES

FIG.1-TYPICAL FORWARD CURRENT DERATING CURVE

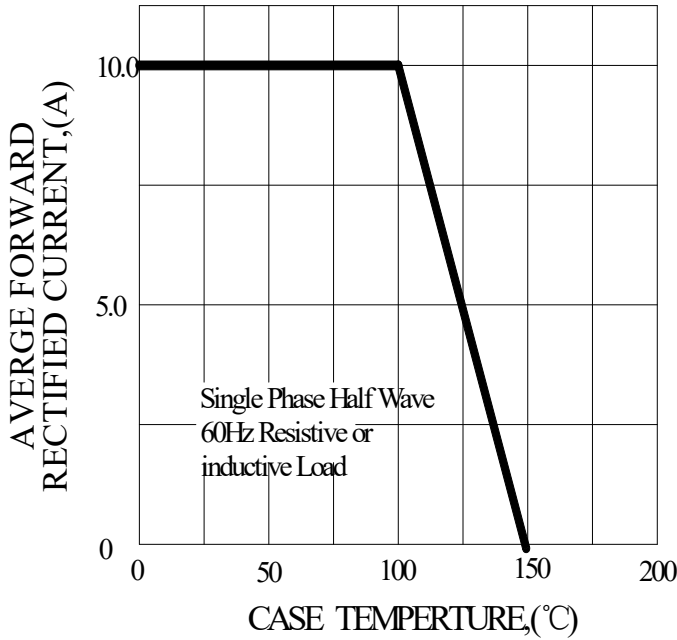


FIG.2-TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

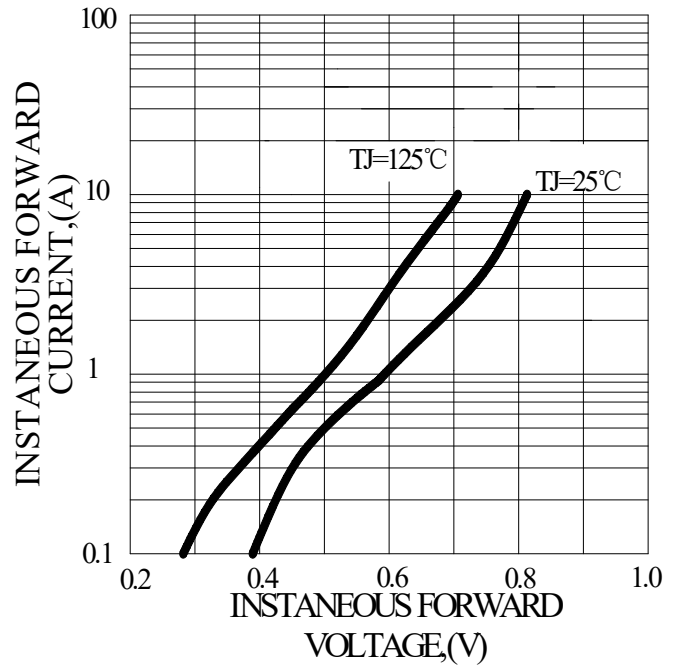


FIG.3-MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

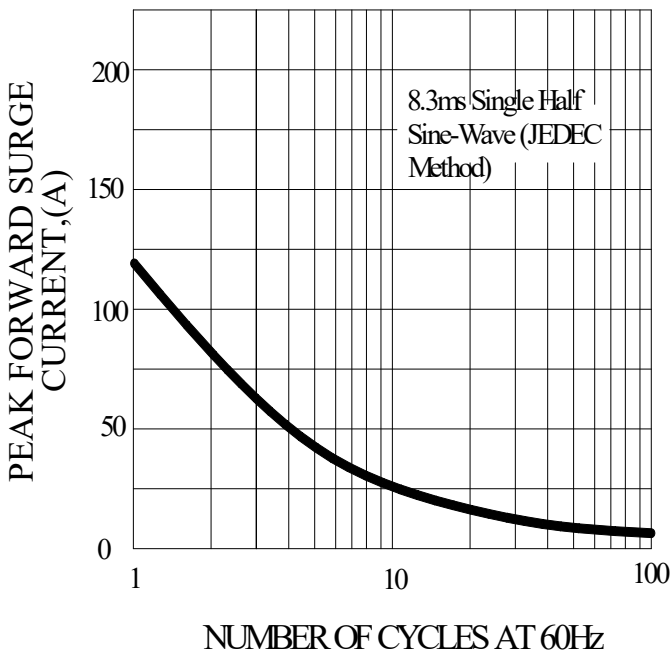
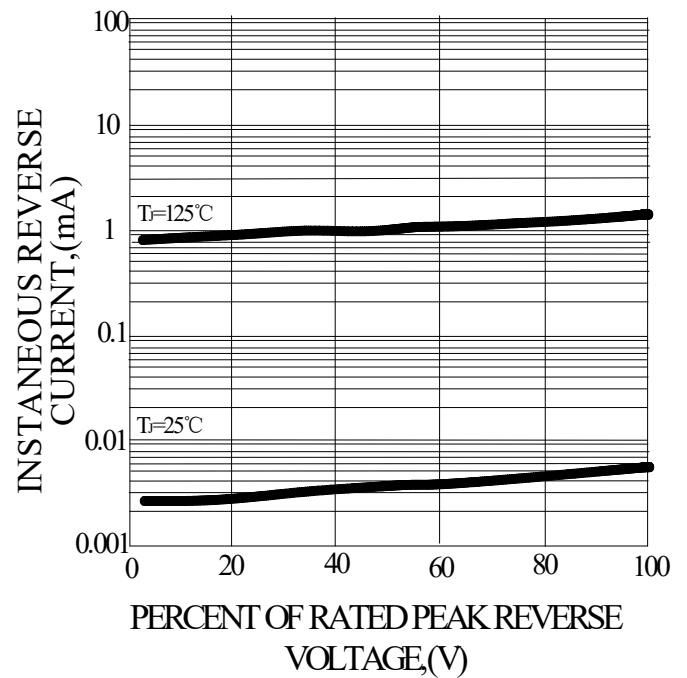
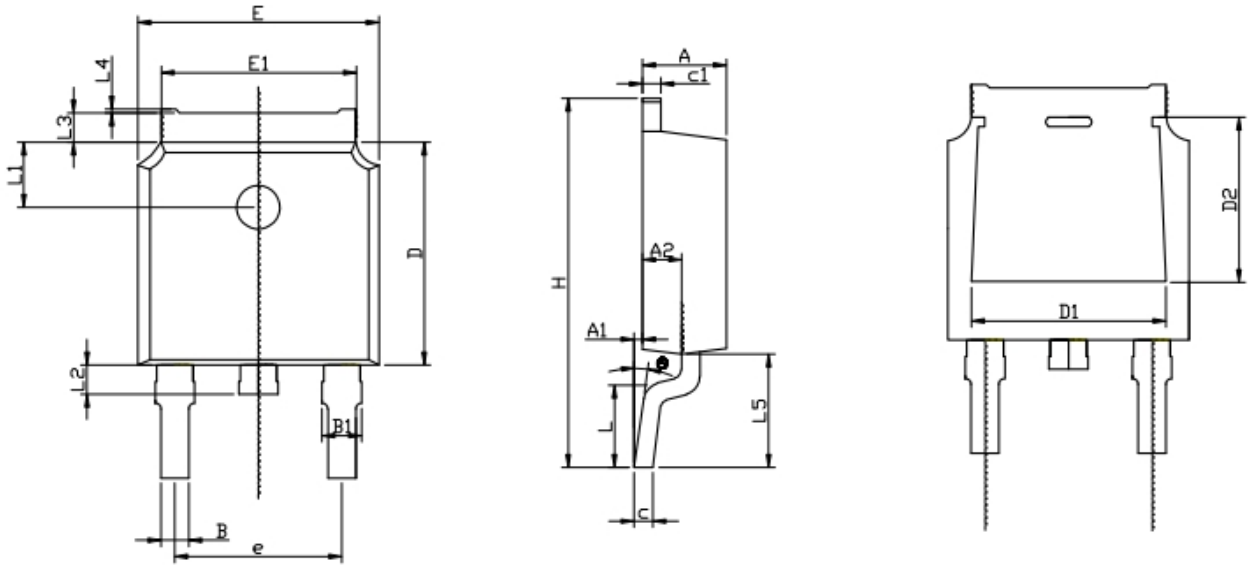


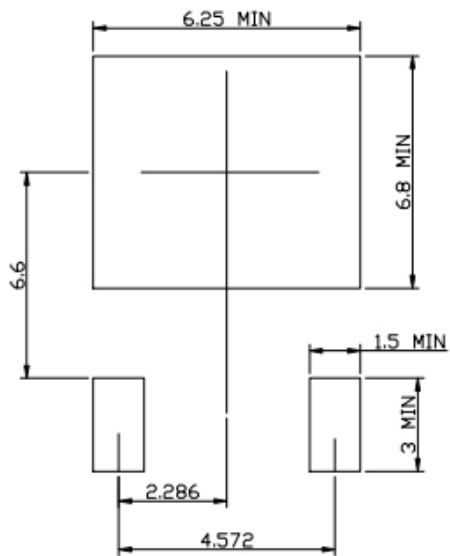
FIG.4-TYPICAL REVERSE CHARACTERISTICS



TO-252-2L PACKAGE OUTLINE



RECOMMENDED LAND PATTERN

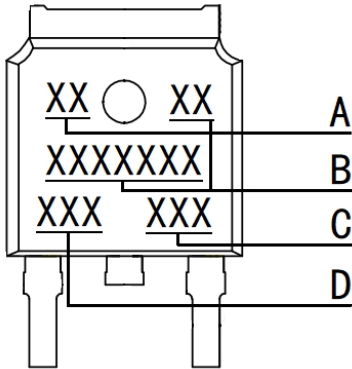


	MIN	NOM	MAX
A	2.15	2.30	2.45
A1	0.05	0.10	0.20
A2	0.91	1.07	1.22
B	0.66	0.76	0.86
B1	0.93	1.08	1.23
C	0.40	0.50	0.60
C1	0.40	0.50	0.60
D	5.95	6.10	6.25
D1	-	4.8REF	-
D2	-	3.8REF	-
E	6.45	6.60	6.75
E1	5.12	5.32	5.52
L		1.65	
L1	1.58	1.78	1.98
L2	0.60	0.80	1.00
L3	0.70	0.85	1.00
L4	0.00	0.05	0.20
L5	2.80	3.10	3.40
H	9.80	10.10	10.40
Θ	0°		8°
e		4.572REF	

UNIT: mm

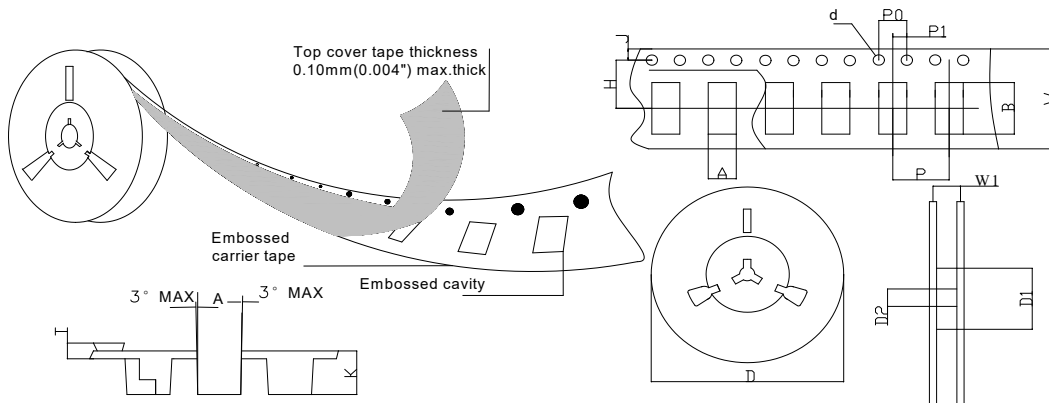
Marking and packaging illustration

1、Marking



SYMBOL	Explanation
A	Trademark
B	Product Name
C	Date Code
D	Product Information

2、Packaging



SPECIFICATIONS mm(inch)		PACKAGE	SPECIFICATIONS mm(inch)		PACKAGE
ITEM	SYM BOL	TO-252	ITEM	SYM BOL	TO-252
Carrier width	A	7.10(0.280)Typ	Carrier depth	K	2.79(0.110)Typ
Carrier length	B	10.7(0.421)Typ	Punch hole pitch	P	8.00(0.315)Typ
Sprocket hole	d	ø1.50(0.059)Typ	Sprocket hole pitch	P0	4.00(0.157)Typ
Reel outer diameter	D	330.0(13.0)Typ	Embossment center	P1	2.00(0.079)Typ
Reel inner diameter	D1	100.0(3.937)Typ	Overall tape thickness	T	0.25(0.010)Typ
Feed hole diameter	D2	13.0(0.512)Typ	Tape width	W	16.0(0.630)Typ
Sprocket hole position	J	1.75(0.069)Typ	Reel width	W1	16.5(0.650)Typ
Punch hole position	H	7.50(0.295)Typ			

测试报告

		日期	2021/4/5
		客户	创维
		批号	
产品名称	MBRA10100GCT	记录	王航
产品商标	PY	审核	王强

电参数测试				直方图分布											
测试条件	IF=5A	VR=100V	IR=0.1mA	V_F			判定	合格							
合格标准	$V_F(V)$ ≤ 0.850	$I_R(\mu A)$ ≤ 100	$V_R(V)$ ≥ 100	MAX	MIN	R	AVG	σ	CPK						
				0.768	0.764	0.004	0.765	0.001	20.44						
1	0.765	0.72	121.4												
	0.764	0.72	121.3												
2	0.765	0.72	121.3												
	0.764	0.72	121.2												
3	0.764	0.73	121.1												
	0.764	0.74	121.0												
4	0.764	0.74	120.8												
	0.764	0.75	120.8												
5	0.765	0.73	121.8												
	0.765	0.72	121.8												
6	0.767	0.75	123.3												
	0.767	0.74	123.3												
7	0.768	0.75	123.2												
	0.767	0.75	123.2												
8	0.768	0.74	123.4							0.750	0.710	0.040	0.735	0.012	2850.45
	0.767	0.73	123.4												
9	0.768	0.75	121.3												
	0.767	0.75	121.3												
10	0.767	0.73	120.9												
	0.768	0.73	120.8												
11	0.767	0.73	121.3												
	0.767	0.73	121.1												
12	0.764	0.75	122.1												
	0.764	0.75	122.0												
13	0.765	0.73	122.1												
	0.765	0.73	122.1												
14	0.764	0.71	122.1	0.750	0.710	0.040	0.735	0.012	2850.45						
	0.765	0.71	122.1												
15	0.764	0.74	122.1												
	0.764	0.74	122.2												
16	0.764	0.75	122.0												
	0.764	0.75	122.0												
17	0.766	0.74	121.9												
	0.766	0.73	121.9												
18	0.766	0.74	121.7												
	0.766	0.73	121.7												
19	0.765	0.73	121.8												
	0.765	0.73	121.8												
20	0.765	0.73	121.9												
	0.765	0.72	121.9												

可靠性认证要求

序号	试验项目	参考标准	试验条件/方法	每批次样本	Duration/试验判据
1	高压蒸煮	JESD22-102	121±2°C/15PSI/100%RH/96 (-0, +5) h	22	满足参数规格, 0收1退
2	温度冲击	JESD22-A106	TA= -55°C, TB = 150°C/高温或低温端暴露时间t1=30min/50次	22	满足参数规格, 0收1退
3	耐焊接热	JESD22-B106	贴片260 (-0, +5°C) /10±1s	22	满足参数规格, 0收1退
4	高温贮存	JESD22-A103	TA=150°C/168h	22	满足参数规格, 0收1退
5	低温贮存	JESD22-A103	TA=-55°C/168h	22	满足参数规格, 0收1退
6	高温反偏	JESD22-A108	80%VB/100±2°C/168±16h	22	满足参数规格, 0收1退
7	高温高湿	JESD22-A101	85±2°C/85±5%RH/168h	22	满足参数规格, 0收1退
8	正向浪涌	MIL-STD-750	8.3ms single half sine-wave@IFSM=120A	22	满足参数规格, 0收1退
9	可焊锡	JESD22-B102	→可焊性测试245±5°C, 5±0.5s	22	50倍显微镜观察 上锡面积≥95%
10	高温正向	JESD22-A106	TA= -55°C/Tjmax (调整Io最大为IF且使Tj趋近于Tjmax但不超) /168h	22	满足参数规格, 0收1退
11	温度循环	JESD22-A104	TA=-65°C to +150°C 10min 变化速率10°C/min 10times	22	满足参数规格, 0收1退

CHONGQING PINGWEI ENTERPRISE CO.,LTD

Chemical Composition Of Diode(创维-T0-252,MBRA10100GCT)

Weight: 316.670 mg/pcs 2021/4/5

Make up of material	Chemical Composition	CAS NO.	Averager (weight%)	weight of part	Substance weight	Name of supplier
Lead Frame	P	7723-14-0	0.040	0.02186	0.069236000	1.Ningbo hualong electronics Co., Ltd 2.Tai zhou You run Electronic Co., Ltd
	Fe	7439-89-6	0.150	0.08199	0.259635000	
	Cu	7440-50-8	99.810	54.55557	172.761129000	
Chip	Si	7440-21-3	97.000	3.58079	11.339300000	1.JIANGYIN XINSHUN MICROELECTRONIC CO., LTD 2.HANGZHOU LION MICROELECTRONICS CO.,LTD .
	Al	7429-90-5	1.000	0.03692	0.116900000	
	Ni	7440-02-0	0.500	0.01846	0.058450000	
	Ag	7440-22-4	0.100	0.00369	0.011690000	
	As	7440-38-2	0.320	0.01181	0.037408000	
	Sb	7440-36-0	0.080	0.00295	0.009352000	
	others	NA	1.000	0.03692	0.116900000	
Solder flake	Lead(Pb)	7439-92-1	95.500	2.51816	7.974250000	1.WUXI LIHONG ELECTRONIC MATERIALS CO.,LTD 2.SHANGHAI CHENXIN ELECTRONIC MATERIAL CO.,LTD
	Tin(Sn)	7440-31-5	2.000	0.05274	0.167000000	
	Silver(Ag)	7440-22-4	2.500	0.06592	0.208750000	
Aluminum wire	Al	7429-90-5	99.984	2.21331	7.008878400	1.TANAKA ELECTRONICS SINGAPORE PTE LTD
	other	NA	0.016	0.00035	0.001121600	2.HERAEUS (ZHAOYUAN) PRECIOUS METAL MATERIALS CO.,LTD
Solder plating	Tin(Sn)	7440-31-5	99.990	5.06155	16.028397000	YUNNAN TIN CO.,LTD
	Lead(Pb)	7439-92-1	0.004	0.00018	0.000561050	
	Iron(Fe)	7439-89-6	0.005	0.00023	0.000721350	
	Copper(Cu)	7440-50-8	0.002	0.00010	0.000320600	
Encapsulation	Formaldehyde, polymer with (chloromethyl)oxirane and 2-methylphenol	29690-82-2	15.000	4.76048	15.075000000	1.CHANG CHUN SB (CHANG SHU)CO.,LTD 2.JIANGSU HHCK ADVANCED MATERIALS CO., LTD
	Phenolic Resin	9003-35-4	4.000	1.26946	4.020000000	
	Silica	60676-86-0	75.000	23.80238	75.375000000	
	Carbon black	1333-86-4	0.500	0.15868	0.502500000	
	Metal hydroxide	NA	5.500	1.74551	5.527500000	

Note : Pb used in high melting temperature type solders is exempted from RoHS.

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