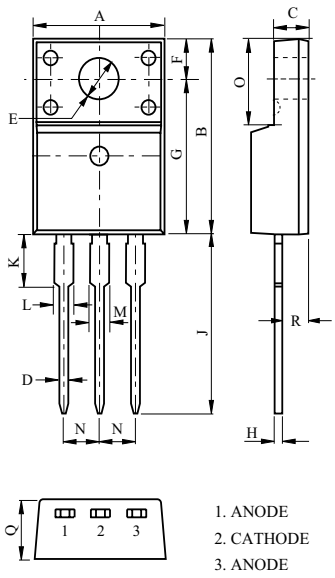
MBRF10U100CTA

SCHOTTKY BARRIER TYPE DIODE

SWITCHING MODE POWER SUPPLY APPLICATION.
CONVERTER & CHOPPER APPLICATION.

FEATURES

- Average Output Rectified Current
  : I_O=10A.
- Repetitive Peak Reverse Voltage
  : V_{RRM}=100V.
- Low Forward Voltage.
- Low Reverse Current.



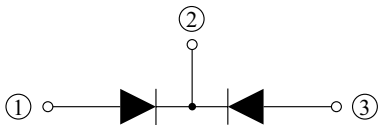
DIM	MILLIMETERS
A	10.16 ± 0.2
B	15.87 ± 0.2
C	2.54 ± 0.2
D	0.8 ± 0.1
E	ø3.18 ± 0.1
F	3.3 ± 0.1
G	12.57 ± 0.2
H	0.5 ± 0.1
J	13.0 ± 0.5
K	3.23 ± 0.1
L	1.47 MAX
M	1.47 MAX
N	2.54 ± 0.2
O	6.68 ± 0.2
Q	4.7 ± 0.2
R	2.76 ± 0.2

TO-220IS (1)

MAXIMUM RATING (Ta=25℃)

CHARACTERISTIC	SYMBOL	RATING	UNIT
Repetitive Peak Reverse Voltage	V_{RRM}	100	V
Average Output Rectified Current (Tc=110℃) (Note)	I_O	10	A
Peak One Cycle Surge Forward Current (Non-Repetitive 60Hz)	I_{FSM}	100	A
Junction Temperature	T_j	-40 150	℃
Storage Temperature Range	T_{stg}	-55 150	℃

Note : average forward current of centertap full wave connection.

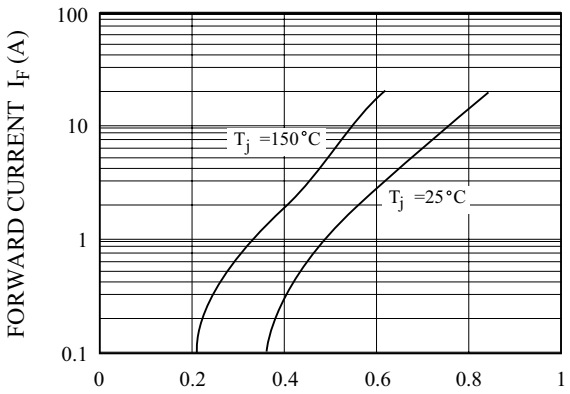


ELECTRICAL CHARACTERISTICS (Ta=25℃)

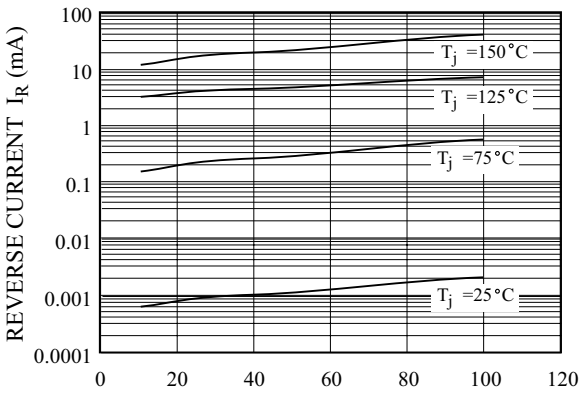
CHARACTERISTIC		SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Peak Forward Voltage	(Note)	V_{FM}	I_{FM}=5A	-	-	0.85	V
Repetitive Peak Reverse Current	(Note)	I_{RRM}	V_{RRM}=Rated	-	2	50	μA
Reverse Recovery Time	(Note)	t_{rr}	I_F=1.0A, di/dt=-30A/μs	-	-	35	ns
Thermal Resistance	(Note)	$R_{th(j-c)}$	Juction to Case	-	-	4.5	℃/W

Note : A value of one cell

I_F - V_F



I_R - V_R



PT . HARTONO ISTANA TEKNOLOGI **MATERIAL QUALITY ASSURANCE (RD DEPT.)**

PREPARED BY	CHECKED BY	APPROVED BY	EVALUATION RESULT INFORMATION	NUMBER : 3504/MSC/MAR/05/12
SURATRIYONO	FAJAR NAJAKHI	FAJAR NAJAKHI		DATE : May 22, 2012
				REV. : R00
				NO IHP : S 2 SR 068
DESCRIPTION : LF DIODE SCHOTTKY 10A/100V			HIT CODE : AG-391010-MBA	CHASIS : -
MANUFACTURER : KEC			PART NO : MBRF10U100CTA-U/P	TYPE : -
SUPPLIER : IC_RES			CATEGORY : SECOND SUPPLIER	STAGE : SAMPLE
DISTRIBUTED TO :			NOTE : ALL INSPECTION & MEASUREMENT PASS BY DESIGNER	TOTAL STATUS OK / PASSED BY ASHARI

I. SPECIFICATION COMPARISON

	HIT	SAMPLE	RESULT
FEATURES	* Guarding for overvoltage protection * Lower power losses, and high efeciency * Low forward voltage drop * Low leakage current * High forward surge capability * High frequency operation * Meets MSL level1, per J-std-020, LF maximum peak of 245°C * Solder dip 260°C, 40sec * Componen in accordance to ROHS	· Average Output Rectified Current : I_O=10A. · Repetitive Peak Reverse Voltage : V_{RRM}=100V. · Low Forward Voltage. · Low Reverse Current.	PASS
	For use in high frequency rectifier of switching mode power supplies, freewheeling diodes, dc-to-dc converters or polarity protection application.	SWITCHING MODE POWER SUPPLY APPLICATION. CONVERTER & CHOPPER APPLICATION.	PASS

II. Maximum Ratings and Electrical Characteristics (TA = 25°C)

PARAMETER	SYMBOL	VALUE		UNITS	RESULT
		HIT	SAMPLE		
Maximum repetitive peak Reverse Voltage	V_{RRM}	100	100	V	OK
Working peak reverse voltage	V_{RWM}	100	-	V	PASS
Maximum DC blocking voltage	V_{DC}	100	-	V	PASS
Peak repetitive reverse current per diode tp:2us, 1KHz	IRRM	0.5	-	A	PASS
Maximum average forward rectified current at Tamb =155°C	I_{FRM}	Ttl device : 10 Per diode : 5	10	A	OK
Peak forward surge current 8.3ms half sine wave	I_{FSM}	-	100	A	PASS
Maximum instantaeous forward voltage at IF : 5A Tj= 25°C	Vf	0.76	0.85	Volt	PASS
IF : 5A TJ= 125°C		0.61	-		
IF : 10 A Tj= 25°C		0.85	-	Volt	PASS
IF : 10 A TJ= 125°C		0.71	-		
Maximum DC Reverse Leakage Current Tj= 25°C	I_R	3.5 (Tj: 25°C)	50	µA	PASS
TJ= 125°C		4.5 (Tj: 100°C)	-	mA	
Total thermal resisitance junction to ambient	$R_{\theta JA}$	5.2	4.5	°C/W	PASS
Reverse recovery time	trr		35	ns	PASS
Operating junction temperture	T_J	-65°C to +175°C	-40°C to +150°C	°C	PASS
Storage Temperature	T_{STG}	-65°C to +175°C	-55°C to +150°C	°C	PASS
Isolated voltage from terminal to heatsink for 1 minut	V_{AC}	1500	-	V	PASS

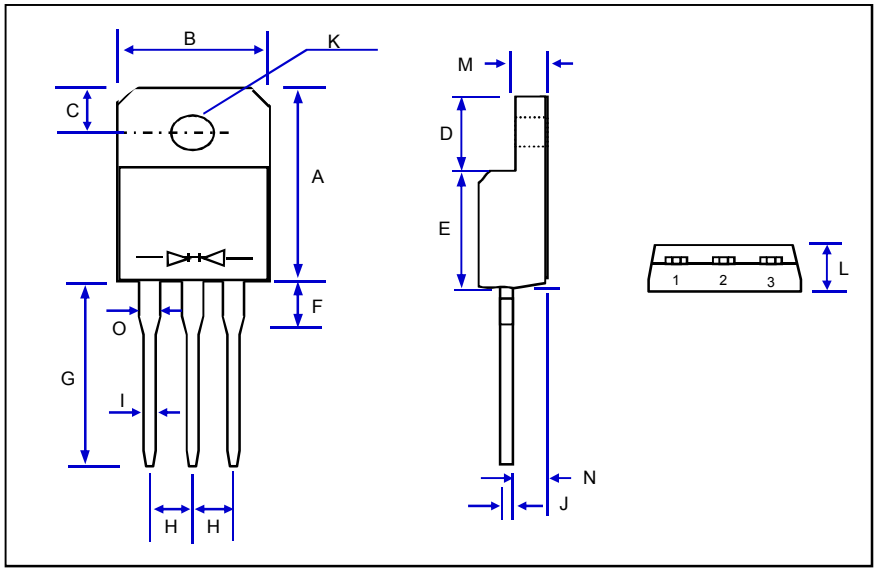
Note :

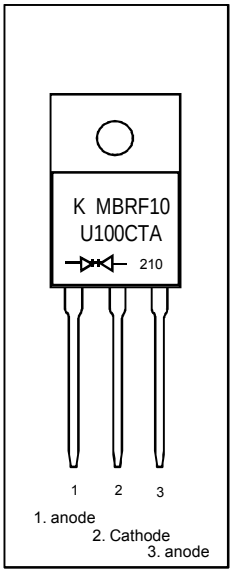
Not complette specification ---> PASS

NUMBER : 3504/MSC/MAR/05/12
REVISION : R00

DIMENSION MEASUREMENT

Instrument : Caliper.





Item	Specification		Specification		Result	Measurement		Result
	MIN	MAX	MIN	MAX		reference	sample	
A	14.73	15.24	15.67	16.07	PASS	14.97	15.9	PASS
B	9.75	10.26	9.96	10.36	PASS	9.99	10.18	PASS
C	-	-	3.2	3.4	PASS	3.3	3.26	PASS
D	-	-	6.48	6.88	PASS	6.52	6.33	PASS
E	8.38	8.8	-	-	PASS	8.56	9..0	PASS
F	4.35	4.85	3.13	3.4	PASS	4.75	3.17	PASS
G	13.46	14.22	14.0	-	PASS	14.01	13.06	PASS
H	2.41	2.67	3.13	3.33	PASS	2.54	2.54	PASS
I	0.64	0.8	0.7	0.9	PASS	0.84	0.83	PASS
J	0.51	0.71	0.4	0.6	PASS	0.63	0.52	PASS
K	3.08	3.43	3.08	3.28	PASS	3.17	3.18	PASS
L	4.32	4.83	4.5	4.9	PASS	4.55	4.73	PASS
M	2.54	2.7	2.34	2.74	PASS	2.65	2.56	PASS
N	2.54	2.7	2.56	2.96	PASS	2.77	2.74	PASS
O	1.14	1.45	-	1.47	PASS	1.39	1.42	PASS

Note

Dimesion out from spec ---> PASS

MQA OK