

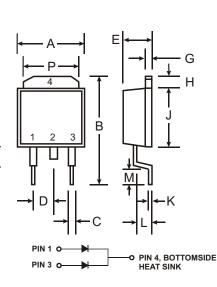
10A SURFACE MOUNT DUAL SCHOTTKY BARRIER RECTIFIER

Features

- Guard Ring Die Construction for Transient Protection
- Low Power Loss, High Efficiency
- High Surge Capability
- Very Low Forward Voltage Drop
- For Use in Low Voltage, High Frequency Inverters, OR'ing, and Polarity Protection Applications
- Plastic Material: UL Flammability Classification Rating 94V-0

Mechanical Data

- Case: DPAK Molded Plastic
- Terminals: Solderable per MIL-STD-202, Method 208
- Polarity: See Diagram
- Marking: See Sheet 2
- Weight: 0.4 grams (approx.)
- Ordering Information, See Below



DPAK					
Dim	Min Max				
Α	6.3	6.7			
В	—	10			
С	0.3	0.8			
D	2.3 Nominal				
Е	2.1	2.5			
G	0.4	0.6			
н	1.2	1.6			
J	5.3	5.7			
К	0.5 Nominal				
L	1.3	1.8			
М	1.0	—			
Р	5.1	5.5			
All Dimensions in mm					

Maximum Ratings @ T_A = 25°C unless otherwise specified

Single phase, half wave, 60Hz, resistive or inductive load. For capacitive load, derate current by 20%.

Characteristic	Symbol	Value	Unit	
Peak Repetitive Reverse Voltage Working Peak Reverse Voltage DC Blocking Voltage	V _{RRM} V _{RWM} V _R	40	v	
RMS Reverse Voltage	V _{R(RMS)}	28	V	
Average Rectified Output CurrentPer Element(See Figure 4)Per Packat		5 10	A	
Non-Repetitive Peak Forward Surge Current 8.3ms Single half sine-wave Superimposed on Rated Load Per Package (JEDEC Method)	I _{FSM}	75	A	
Typical Thermal Resistance Junction to Case Per Element (N	ote 1) R _{0JC}	2.43	°C/W	
Voltage Rate of Change @ $V_R = 35V$, $T_j = 25^{\circ}C$	dv/dt	10,000	V/µs	
Operating Temperature Range	Tj	-55 to +125	°C	
Storage Temperature Range	T _{STG}	-55 to +150	°C	

Notes: 1. Device mounted on PC board with 14mm² (.013mm thick) copper pad areas.

Ordering Information (Note 2)

Device	Packaging	Shipping
MBRD1040CT-T	DPAK	2500/Tape & Reel

Notes: 2. For Packaging Details, go to our website at http://www.diodes.com/datasheets/ap02007.pdf.



NEW PRODUCT

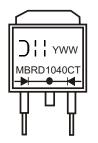
Electrical Characteristics @ $T_A = 25^{\circ}C$ unless otherwise specified

Characteristic	Symbol	Min	Тур	Мах	Unit	Test Condition
Reverse Breakdown Voltage (Note 2)	V _{(BR)R}	40			V	I _R = 500μA
Forward Voltage (Note 2)	V _{FM}		0.46 0.53 	0.48 0.41 0.57 0.55	V	$ \begin{array}{l} {\sf I}_{\sf F}=5{\sf A},{\sf T}_{\sf S}=25^\circ{\sf C} \\ {\sf I}_{\sf F}=5{\sf A},{\sf T}_{\sf S}=100^\circ{\sf C} \\ {\sf I}_{\sf F}=10{\sf A},{\sf T}_{\sf S}=25^\circ{\sf C} \\ {\sf I}_{\sf F}=10{\sf A},{\sf T}_{\sf S}=100^\circ{\sf C} \end{array} $
Peak Reverse Current (Note 2)	I _{RM}		60 15	150 10 80 3	μA mA μA mA	$\begin{array}{l} V_{R}=35V,T_{j}=25^{\circ}C\\ V_{R}=35V,T_{j}=100^{\circ}C\\ V_{R}=17.5V,T_{j}=25^{\circ}C\\ V_{R}=17.5V,T_{j}=100^{\circ}C \end{array}$
Typical Junction Capacitance	Cj		500		pF	f = 1.0MHz, V _R = 4.0V DC

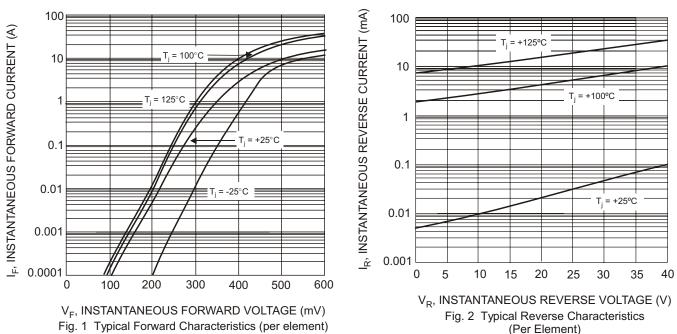
1. Device mounted on PC board with 14mm² (.013mm thick) copper pad areas. Notes:

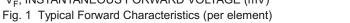
2. Short duration test pulse used to minimize self-heating effect.

Marking Information



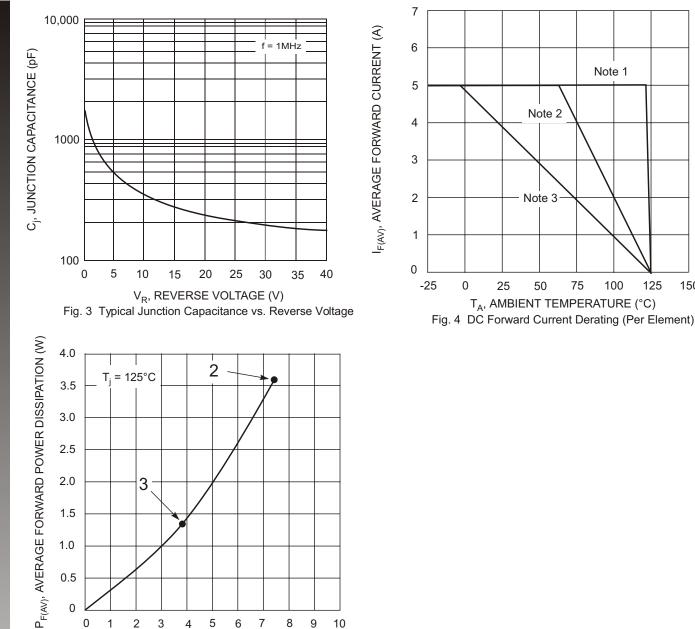
MBRD1040CT = Product type marking code DII = Manufacturers' code marking YWW = Date code marking Y = Last digit of year ex: 2 for 2002 WW = Week code 01 to 52







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Notes:

1. TA = TSOLDERING POINT, $R_{\theta JC} = 2.43^{\circ}C/W$, $R_{\theta CA} = 0^{\circ}C/W$.

I_{F(AV)}, AVERAGE FORWARD CURRENT (A) Fig. 5 Forward Power Dissipation (Per Element)

2. Device mounted on GETEK substrate, 2"x2", 2 oz. copper, double-sided, cathode pad dimensions 0.75" x 1.0", anode pad dimensions 0.25" x 1.0". $R_{\theta JA}$ in range of 15-30°C/W.

3. Device mounted on FR-4 substrate, 2"x2", 2 oz. copper, single-sided, pad layout as per Diodes Inc. suggested pad layout document AP02001 which can be found on our website at http://www.diodes.com/datasheets/ap02001.pdf. ReJA in range of 60-75°C/W.

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