

Single Phase Rectifier Bridge

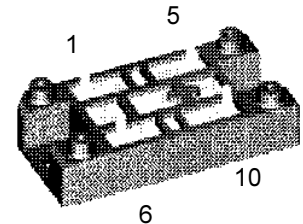
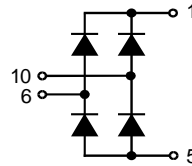
with Fast Recovery Epitaxial Diodes (FRED)

$$I_{dAV} = 20 \text{ A}$$

$$V_{RRM} = 2000 \text{ V}$$

$$t_{rr} = 70 \text{ ns}$$

V_{RSM} V	V_{RRM} V	Type
2000	2000	VBE 20-20NO1



Symbol	Conditions	Maximum Ratings	
I_{dAV}	$T_C = 65^\circ\text{C}$, module	20	A
I_{FSM}	$T_{VJ} = 45^\circ\text{C}$; $t = 10 \text{ ms}$ (50 Hz), sine $V_R = 0$	75	A
	$T_{VJ} = T_{VJM}$; $t = 10 \text{ ms}$ (50 Hz), sine $V_R = 0$	65	A
I^2dt	$T_{VJ} = 45^\circ\text{C}$; $t = 10 \text{ ms}$ (50 Hz), sine $V_R = 0$	28	A ² s
	$T_{VJ} = T_{VJM}$; $t = 10 \text{ ms}$ (50 Hz), sine $V_R = 0$	21	A ² s
T_{VJ}		-40...+150	°C
T_{VJM}		150	°C
T_{stg}		-40...+125	°C
V_{ISOL}	50/60 Hz, RMS; $t = 1 \text{ min}$	3000	V~
	$I_{ISOL} \leq 1 \text{ mA}$; $t = 1 \text{ s}$	3600	V~
M_d	Mounting torque (M5) (10-32UNF)	2 - 2.5	Nm
		18 - 22	lb.in.
Weight	typ.	35	g

Features

- Package with DCB ceramic base plate
- Isolation voltage 3600 V~
- Planar passivated chips
- Leads suitable for PC board soldering
- Creeping and creepage-distance fulfill UL 508/CSA 22.2NO14 and VDE 0160 requirements
- Epoxy meets UL94V-O
- UL listing applied for

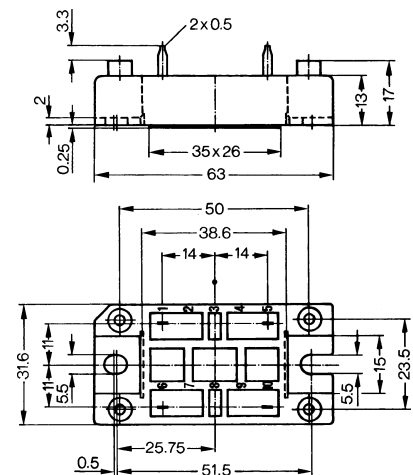
Applications

- Supplies for DC power equipment
- Input rectifiers for PWM inverter
- Output filter for PWM inverter

Advantages

- Reduced EMI/RFI
- Easy to mount with two screws
- Space and weight savings
- Improved temperature and power cycling

Dimensions in mm (1 mm = 0.0394")



Symbol	Conditions	Characteristic Values	
		typ.	max
I_R	$V_R = V_{RRM}$; $T_{VJ} = 25^\circ\text{C}$ $V_R = 0.8 V_{RRM}$; $T_{VJ} = 125^\circ\text{C}$	4	0.75 mA 7 mA
V_F	$I_F = 12 \text{ A}$; $T_{VJ} = 25^\circ\text{C}$		5.41 V
V_{T0}	For power-loss calculations only		3.3 V
r_T			93 mΩ
R_{thJC}	per diode, DC		1.7 K/W
R_{thCH}		0.3	K/W
I_{RM}	$I_F = 12 \text{ A}$, $-di/dt = 100 \text{ A/ms}$ $V_R = 540 \text{ V}$, $L \leq 0.05 \text{ mH}$, $T_{VJ} = 100^\circ\text{C}$	9	12 A
t_{rr}	$I_F = 1 \text{ A}$; $-di/dt = 100 \text{ A/ms}$; $V_R = 30 \text{ V}$, $T_{VJ} = 25^\circ\text{C}$	70	90 ns
d_S	Creeping distance on surface		12.7 mm
d_A	Creepage distance in air		9.4 mm
a	Max. allowable acceleration		50 m/s ²

Data according to IEC 60747 and refer to a single diode unless otherwise stated.