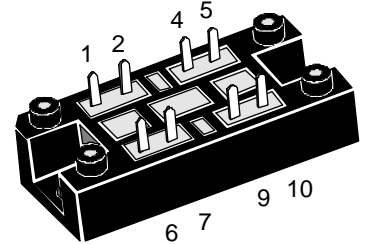
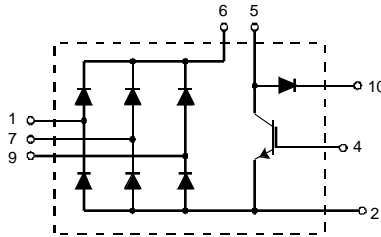


with IGBT and FRED for Braking System

Preliminary data

V_{RRM} V	Type
1200	VUB 60 -
12 NO1	
1600	VUB 60 -
16 NO1	



Symbol	Test Conditions	Maximum Ratings		
V_{RRM}		1200 / 1600	V	
$I_{F(AV)M}$	$T_H = 110^\circ\text{C}$, sinusoidal 120° limited by construction	59	A	
I_{FRMS}		70	A	
I_{FSM}	Rectifier Diodes	$T_{VJ} = 45^\circ\text{C}$, $t = 10$ ms, $V_R = 0$ V	530 A	
		$T_{VJ} = 150^\circ\text{C}$, $t = 10$ ms, $V_R = 0$ V	475 A	
I^2t	Rectifier Diodes	$T_{VJ} = 45^\circ\text{C}$, $t = 10$ ms, $V_R = 0$ V	1400 A	
		$T_{VJ} = 150^\circ\text{C}$, $t = 10$ ms, $V_R = 0$ V	1130 A	
P	Rectifier Diodes	$T_H = 80^\circ\text{C}$	49 W	
V_{CES}	IGBT	$T_{VJ} = 25^\circ\text{C}$ to 150°C Continuous	1000 V	
V_{GE}			± 20 V	
I_{C25}	IGBT	$T_H = 25^\circ\text{C}$, DC	31 A	
I_{C70}			$T_H = 70^\circ\text{C}$, DC	23 A
I_{C80}			$T_H = 80^\circ\text{C}$, DC	21 A
I_{CM}	IGBT	$t_p =$ Pulse width limited by T_{VJM}	62 A	
P_{tot}	IGBT	$T_H = 80^\circ\text{C}$	70 W	
V_{RRM}	Fast Recovery Diode	$T_H = 80^\circ\text{C}$, rectangular $\delta = 0.5$	1000 V	
$I_{F(AV)M}$			10 A	
$I_{F(RMS)}$			14 A	
I_{FRM}			$T_H = 80^\circ\text{C}$, $t_p = 10$ μs , $f = 5$ kHz	90 A
I_{FSM}	Fast Recovery Diode	$T_{VJ} = 45^\circ\text{C}$, $t = 10$ ms	75 A	
			$T_{VJ} = 150^\circ\text{C}$, $t = 10$ ms	60 A
P	Fast Recovery Diode	$T_H = 80^\circ\text{C}$	22 W	
T_{VJ}	Module	50/60 Hz	-40...+150 °C	
T_{VJM}			150 °C	
T_{stg}			-40...+125 °C	
V_{ISOL}	Module	$t = 1$ min	3000 V~	
		$I_{ISOL} \leq 1$ mA	$t = 1$ s	3600 V~
M_d	Mounting torque	(M5)	2-2.5 Nm	
		(10-32 unf)	18-22 lb.in.	
Weight	typ.		28 g	

Features

- Soldering connections for PCB mounting
- Isolation voltage 3600 V~
- Ultrafast diode
- Convenient package outline
- UL registered E 72873

Applications

- Drive Inverters with brake system

Advantages

- 2 functions in one package
- No external isolation
- Easy to mount with two screws
- Suitable for wave soldering
- High temperature and power cycling capability

Symbol	Test Conditions	Characteristic Values			
		(T _{VJ} = 25°C, unless otherwise specified)			
		min.	typ.	max.	
I_R V_F V_{T0} r_T	Rectifier Diodes V _R = V _{RRM} [*] T _{VJ} = 25°C V _R = V _{RRM} [*] T _{VJ} = 150°C I _F = 25 A, T _{VJ} = 25°C For power-loss calculations only T _{VJ} = 150°C			0.1 mA 3 mA	
				1.3 V	
				0.85 V 8.5 mΩ	
				1.42 K/W	
V_{BR(CES)} V_{GE(th)} I_{GES} I_{CES} V_{CEsat} t_{SC} (SCSOA) RBSOA C_{ies} t_{d(on)} t_{d(off)} E_{ON} E_{OFF} R_{thJH}	IGBT V _{GS} = 0 V, I _C = 3 mA I _C = 10 mA V _{GE} = ± 20 V T _{VJ} = 25°C, V _{CE} = 800 V T _{VJ} = 125°C, V _{CE} = 800 V V _{GE} = 15 V, I _C = 25 A V _{GE} = 15 V, V _{CE} = 600 V, T _{VJ} = 125°C, R _G = 4.7 Ω, non repetitive V _{GE} = 15 V, V _{CE} = 800 V, T _{VJ} = 125°C, R _G = 4.7 Ω, Clamped Inductive load, L = 100 μH V _{CE} = 25 V, f = 1 MHz, V _{GE} = 0 V V _{CE} = 600 V, I _C = 25 A V _{GE} = 15 V, R _G = 4.7 Ω Inductive load; L = 100 μH T _{VJ} = 125°C	1000		V	
		5		7.5 V	
				500 nA	
				250 μA 1 mA	
				3.5 V	
				10 μs	
				50 A	
				2.85	nF
				100	ns
				220	ns
		3.5	mJ		
		12	mJ		
			1 K/W		
I_R V_F V_{T0} r_T I_{RM} t_{tr} R_{thJH}	Fast Recovery Diode V _R = V _{RRM} [*] T _{VJ} = 25°C V _R = 800 V, T _{VJ} = 150°C I _F = 12 A, T _{VJ} = 25°C For power-loss calculations only T _{VJ} = 150°C I _F = 25 A, -di _F /dt = 100 A/μs V _R = 100 V I _F = 1 A, -di _F /dt = 100 A/μs V _R = 30 V			0.2 mA 3 mA	
				2.52 V	
				1.49 V 33 mΩ	
				6.5	7 A
				50	70 ns
			3.12 K/W		
d_S d_A a	Module Creeping distance on surface Strike distance through air Maximum allowable acceleration			12.7 mm 9.4 mm 50 m/s ²	

Data according to IEC 747

