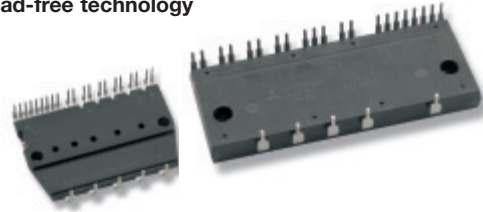


2.12 2nd Generation DIP and Mini-DIP-IPM



Features:

- Ultra Compact Transfer Mold Package
- Including Drive and Protection ICs (low and high voltage drive ICs)
- Low and High Speed Types
- All Mitsubishi DIP and Mini-DIP-IPMs have lead-free terminals
- From January 2006 onwards, all DIP and Mini-DIP-IPMs will be supplied with completely lead-free technology



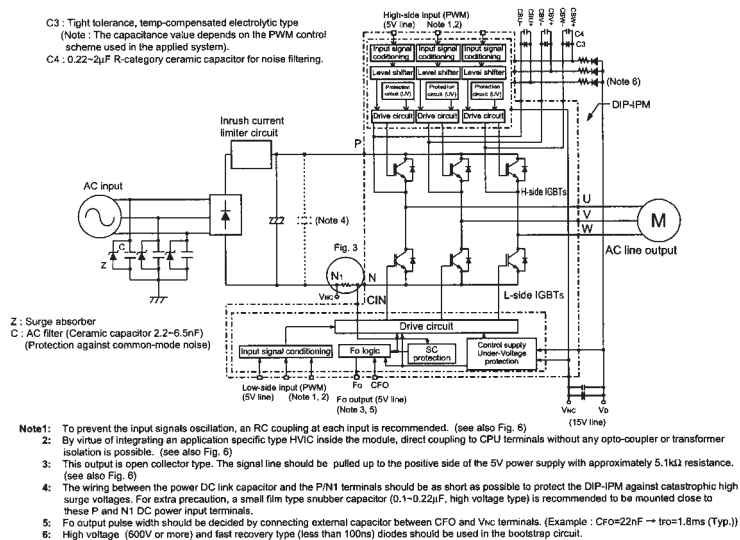
Line-up DIP & Mini-DIP-IPM

Type	V _{CES} (V)	Isolation Voltage (V _{rms})	Motor Rating (kW)						
			0.1	0.2	0.4	0.75	1.5	2.0	
DIP	Low speed f _{PWM} 5kHz	600	2500				PS21244-EP	PS21245-EP	PS21246-EP
	High speed f _{PWM} 15kHz						PS21254-EP	PS21255-EP	
Mini DIP	Low speed f _{PWM} 5kHz	500 / 600		PS20341-GP PS20341-NP*	PS21342-GP PS21342-NP*	PS21343-GP PS21343-NP*			
	High speed f _{PWM} 15kHz			PS20351-GP PS20351-NP* PS21351-NP*	PS21352-GP PS21352-NP*	PS21353-GP PS21353-NP*			

*: reduced t_{dead}

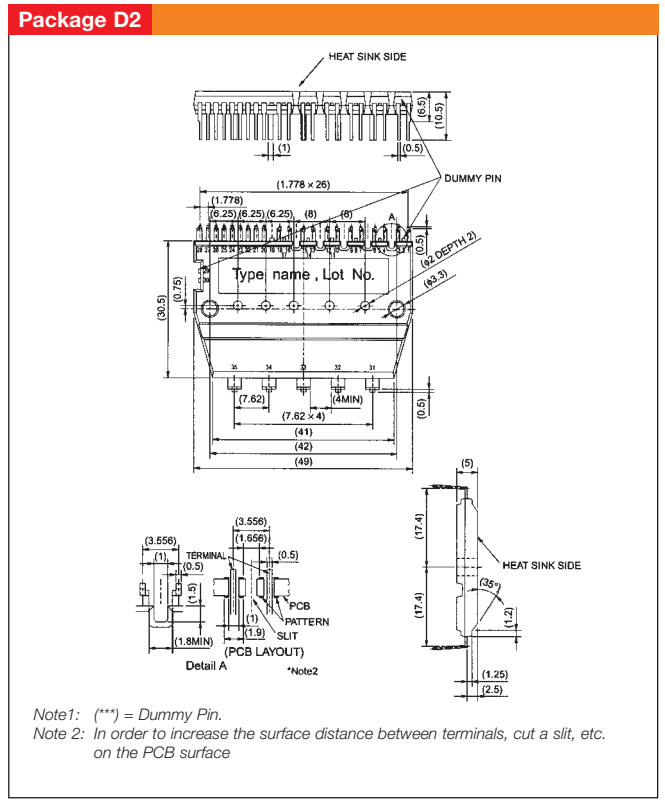
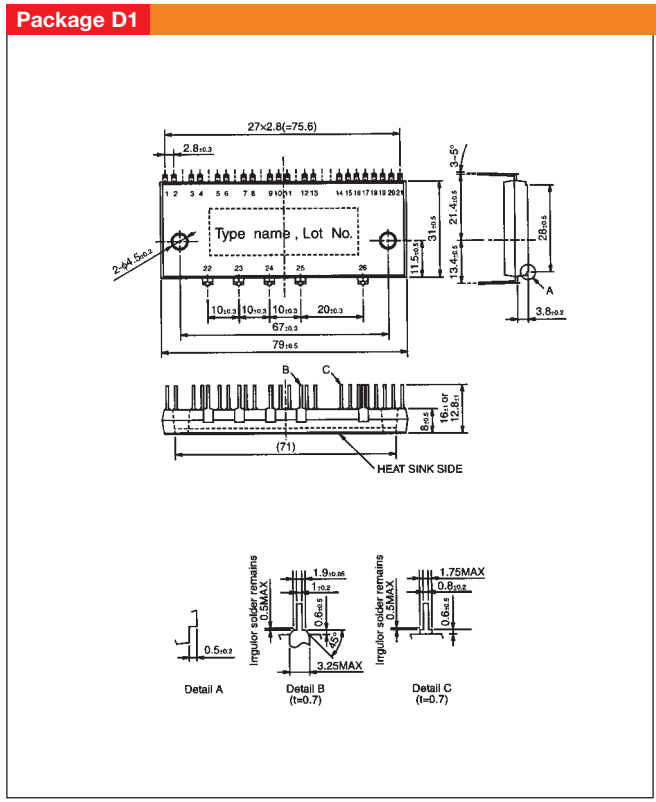
Circuit Diagram

INTERNAL FUNCTIONS BLOCK DIAGRAM (TYPICAL APPLICATION EXAMPLE)



2.12 2nd Generation DIP and Mini-DIP-IPM (Dual-in-line Package Intelligent Power Modules)

Type Number	Electrical Characteristics							Thermal & Mechanical Characteristics			Package-No.
	V_{CES} (V)	Applicable Motor Ratings (kW)	I_c (A)	f_c (kHz)	Isolation Voltage (V)	$V_{CE(sat)}$ @ $T_j = 25^\circ\text{C}$ (V)		IGBT $R_{th(j-c)}$ ($^\circ\text{C}/\text{W}$)	FW-Diode $R_{th(j-c)}$ ($^\circ\text{C}/\text{W}$)	$R_{th(c-f)}$ ($^\circ\text{C}/\text{W}$)	
						Typ.	Max.				
600V DIP-IPMs											
P21244-EP	600	0.75	15	5	2500	1.55	-	2.85	4.5	0.067	D1
PS21245-EP	600	1.5	20	5	2500	1.55	-	2.20	4.5	0.067	D1
PS21246-EP	600	2.0	25	5	2500	1.55	-	2.10	3.0	0.067	D1
PS21254-EP	600	0.75	15	15	2500	1.80	-	2.85	4.5	0.067	D1
PS21255-EP	600	1.5	20	15	2500	1.80	-	2.20	4.5	0.067	D1
500V / 600V Mini-DIP-IPMs											
PS20341-GP	500	0.1	3	5	2500	1.40	1.90	7.0	8.0	-	D2
PS20341-NP	500	0.1	3	5	2500	1.40	1.90	7.0	8.0	-	D2
PS20351-GP	500	0.1	3	15	2500	1.70	2.35	7.0	8.0	-	D2
PS20351-NP	500	0.1	3	15	2500	1.70	2.35	7.0	8.0	-	D2
PS21342-GP	600	0.2	5	5	2500	1.55	2.15	6.0	6.5	-	D2
PS21342-NP	600	0.2	5	5	2500	1.55	2.15	6.0	6.5	-	D2
PS21343-GP	600	0.4	10	5	2500	1.55	2.15	5.0	6.5	-	D2
PS21343-NP	600	0.4	10	5	2500	1.55	2.15	5.0	6.5	-	D2
PS21351-NP	600	0.1	3	15	2500	1.80	2.45	7.0	8.0	-	D2
PS21352-GP	600	0.2	5	15	2500	1.80	2.45	6.0	6.5	-	D2
PS21352-NP	600	0.2	5	15	2500	1.80	2.45	6.0	6.5	-	D2
PS21353-GP	600	0.4	10	15	2500	1.80	2.45	5.0	6.5	-	D2
PS21353-NP	600	0.4	10	15	2500	1.80	2.45	5.0	6.5	-	D2



2.