



IGBTMOD™ Selector Guide

The Powerex IGBT modules are our newest product line. Powerex IGBTs are available in Single, Dual and Six-IGBT configurations.

The design engineers met the challenge of solving many design issues which have resulted in the significant achievements outlined below:

Product Features

Design Aspects:

- Optimum LG-LS Spacing
- Optimum N⁺-Buffer Structure
- Electron Beam Irradiation
- Gate-Source Stripe Geometry
- Balanced Internal R_g
- Multiple Emitter Electrode for Large Chip
- Optimized P-body Diffusion
- Optimized Internal Capacitances

Achievements:

- Optimization of V_{CE(SAT)} vs. Fall Time
- Latch-up Immunity
- Wide SOA
- High Voltage/Current Capability
- Wide Gate Bias Selection Range
- Low FWD Recovery Losses
- Compact Package Size
- Rugged Short Circuit Performance

Type	Current Rating I _c (Amperes)	Voltage V _{ces} (Volts)	Circuit Diagram
------	---	----------------------------------	-----------------

Single IGBTMOD™ Transistor Power Modules

IS621K20	200	1000	
IS621220	200	1200	
IS626030	300	600	
IS621K30	300	1000	
IS621230	300	1200	
IS626040	400	600	
IS621K40	400	1000	
IS621240	400	1200	
IS621K60*	600	1000	
IS621260*	600	1200	

Dual IGBTMOD™ Transistor Power Modules

ID2260A2	25	600	
ID221KA2	25	1000	
ID2212A2	25	1200	
ID226005	50	600	
ID221K05	50	1000	
ID221205	50	1200	
ID226075	75	600	
ID221K75	75	1000	
ID221275	75	1200	
ID226010	100	600	
ID221K10	100	1000	
ID221210	100	1200	
ID226015	150	600	
ID121K15	150	1000	
ID121215	150	1200	
ID226020	200	600	
ID121K20	200	1000	
ID121220	200	1200	
ID126030	300	600	
ID621K30*	300	1000	
ID621230*	300	1200	
ID126040	400	600	

Six-IGBTMOD™ Transistor Power Modules

IEF260A1	15	600	
IEF21KA1	15	1000	
IEF212A1	15	1200	
IEF260A2	25	600	
IET21KA2	25	1000	
IEF212A2	25	1200	
IEF26005	50	600	
IET21K05	50	1000	
IET21205	50	1200	
IET26075	75	600	
IET26010	100	600	

* Under Development



IGBTMOD™ Selector Guide

Major Ratings and Characteristics at T_C = 25°C (T_J Maximum = 150°C)

MAXIMUM RATINGS						ELECTRICAL CHARACTERISTICS						
Type	V _{CE} Volts	I _C Amperes	I _{CM} Amperes	P _T Watts	V _{RMS} Isolation Volts	Static				Dynamic		
						Test Conditions I _C Amperes	V _{GE} Volts	Typ. V _{CE(SAT)} Volts	Max. V _{CE(SAT)} Volts	V _{GE} = 0V, V _{CE} = 10V, f = 1mHZ		
										C _{ies} pf	C _{oes} pf	C _{res} pf
Single IGBTMOD™ Transistor Power Modules												
IS621K20	1000	200	400	1500	2500	200	15	3.5	5	44000	11000	1100
IS621220	1200	200	400	1500	2500	200	15	3.5	5	44000	11000	1100
IS626030	600	300	600	1100	2500	300	15	3.0	5	33000	8100	810
IS621K30	1000	300	600	2100	2500	300	15	3.5	5	66000	17000	1700
IS621230	1200	300	600	2100	2500	300	15	3.5	5	66000	17000	1700
IS626040	600	400	800	1380	2500	400	15	3.0	5	44000	11000	1100
IS621K40	1000	400	800	2800	2500	400	15	3.5	5	88000	22000	2200
IS621240	1200	400	800	2800	2500	400	15	3.5	5	88000	22000	2200
IS621K60*	1000	600	1200	—	2500	600	15	—	5	—	—	—
IS621260*	1200	600	1200	—	2500	600	15	—	5	—	—	—
Dual IGBTMOD™ Transistor Power Modules												
ID2260A2	600	25	50	150	2500	25	15	3.2	5	2500	600	60
ID221KA2	1000	25	50	250	2500	25	15	3.5	5	5000	1200	120
ID2212A2	1200	25	50	250	2500	25	15	3.5	5	5000	1200	120
ID226005	600	50	100	250	2500	50	15	3.0	5	5000	1200	120
ID221K05	1000	50	100	400	2500	50	15	3.5	5	11000	2700	270
ID221205	1200	50	100	400	2500	50	15	3.5	5	11000	2700	270
ID226075	600	75	150	310	2500	75	15	2.8	5	8300	2000	200
ID221K75	1000	75	150	600	2500	75	15	3.2	5	22000	5400	540
ID221275	1200	75	150	600	2500	75	15	3.2	5	22000	5400	540
ID226010	600	100	200	400	2500	100	15	3.0	5	11000	2700	270
ID221K10	1000	100	200	780	2500	100	15	3.5	5	22000	5400	540
ID221210	1200	100	200	780	2500	100	15	3.5	5	22000	5400	540
ID226015	600	150	300	600	2500	150	15	3.0	5	17000	4000	400
ID121K15	1000	150	300	1100	2500	150	15	3.5	5	33000	8300	830
ID121215	1200	150	300	1100	2500	150	15	3.5	5	33000	8300	830
ID226020	600	200	400	780	2500	200	15	3.0	5	22000	2700	270
ID121K20	1000	200	400	1500	2500	200	15	3.5	5	44000	11000	1100
ID121220	1200	200	400	1500	2500	200	15	3.5	5	44000	11000	1100
ID126030	600	300	600	1100	2500	300	15	3.0	5	33000	8100	810
ID621K30	1000	300	600	2100	2500	300	15	2.9	5	66000	16000	1600
ID621230	1200	300	600	2100	2500	300	15	2.9	5	66000	16000	1600
ID126040*	600	400	800	1380	2500	400	15	3.0	5	44000	11000	1100
Six-IGBTMOD™ Transistor Power Modules												
IEF260A1	600	15	30	130	2500	15	15	3.0	5	1500	400	40
IEF21KA1	1000	15	30	150	2500	15	15	3.8	5	2500	600	60
IEF212A1	1200	15	30	150	2500	15	15	3.8	5	2500	600	60
IEF260A2	600	25	50	150	2500	25	15	3.0	5	2500	600	60
IEF21KA2	1000	25	50	250	2500	25	15	3.5	5	5000	1200	120
IEF212A2	1200	25	50	250	2500	25	15	3.5	5	5000	1200	120
IEF26005	600	50	100	250	2500	50	15	3.0	5	5000	1200	120
IET21K05	1000	50	100	400	2500	50	15	3.5	5	11000	2700	270
IET21205	1200	50	100	400	2500	50	15	3.5	5	11000	2700	270
IET26075	600	75	150	310	2500	75	15	2.8	5	8300	2000	200
IET26010	600	100	200	400	2500	100	15	3.0	5	11000	2700	270

