

Integra

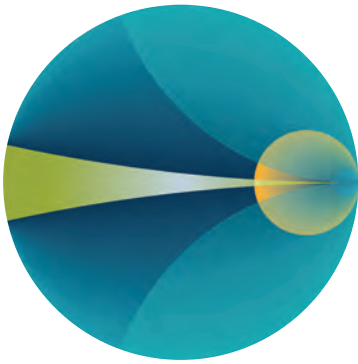
Technologies

High Power Radio
Frequency Devices, Pallets
and Amplifiers



THETA-J ASSOCIATES
MICROWAVE RESOURCE ENGINEERS
Ph: 847-549-8820 ♦ Fax: 847-549-8824
www.theta-j.com

www.integratech.com



Integra

Technologies

Integra's mission is to be the global technological leader in the design, development and manufacture of high performance RF power transistors serving the radar, avionics and wireless communications industries.

Integra excels by providing the highest power, gain and efficiency devices available. Extensive technical support and application specific designs make Integra the preferred choice for your system.

Integra Technologies was founded in February 1997 with the goal of redefining the state of the art in S-Band pulsed bipolar power transistors. Within a few short years this goal was realized and resulted in the granting of two US patents in late 2001.

Integra's core group of engineers and scientists has worked in the high power RF semiconductor industry for many years including having been founding members of successful startups.

Integra is an ISO 9001:2008 certified manufacturer of state of the art Radio Frequency (RF) power transistors, pallets and RF high power amplifiers (HPA). The facility produces 150mm (6") wafers in its 300 square meter Class-100 clean room. In addition, device assembly and 100% functional testing is performed onsite using fully automated equipment.

At its inception, Integra operated using a fabless model, producing die in both Silicon Valley and Asia. After several years it became apparent that the wafer fabrication process would need to be performed onsite to ensure consistent, high quality devices.

At this point Integra built the largest all gold metal wafer fab in the industry. Integra has the capacity to fabricate 250 150mm wafers/month.

Integra has continued to expand in size and capability and has recently added a design center in El Dorado Hills, California. This group is working on advanced R&D with the goal of once more making a revolutionary increase in device performance.

Integra's patent protected technology consists of BIPOLAR, LDMOS and VDMOS RF power transistors, 50 Ohm matched RF amplifier pallets and modules, as well as multi stage High Power Amplifiers (HPA) intended for Radar, Avionics, Military Communication and other defense applications.

Integra is fully committed to a policy of total customer satisfaction through compliance to our customers' requirements, on-time delivery, and continual improvement of our quality systems.

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MPA products



MPAL2731M30
30W LDMOS 2.7-3.1GHz



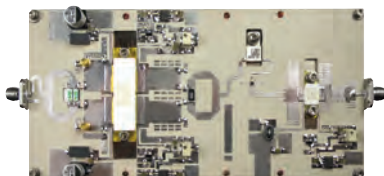
MPAL2731M130
130W LDMOS 2.7-3.1GHz

MPA stands for Miniaturized Power Amplifier. Integra's MPA devices are completely impedance matched to 50 ohms. This makes them very easy to use. As with any typical LDMOS device, they can operate under nearly any pulse width and duty factor combination and also under biasing conditions ranging from class B through class A.

Part number	Frequency band	Output power	Pulse width/duty factor
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S-Band Radar LDMOS

MPAL2731M15	2.7-3.1 GHz	15W	300µs, 10%
MPAL2731M30	2.7-3.1 GHz	30W	300µs, 10%
MPAL2731M130	2.7-3.1 GHz	130W	100µs, 10%
MPAL3035M15	3.0-3.5 GHz	15W	300µs, 10%
MPAL3035M30	3.0-3.5 GHz	30W	300µs, 10%



ILP1214EL200
1.2-1.4GHz 200W 16ms, 50%

Pallet Products

IBP1011L900	1030 MHz	900W	2.4ms burst, 6.4%
IBPM1090S600	1090 MHz	600W	10µs, 1%
IBPM1030S1K	1030 MHz	1000W	10µs, 1%
IBLP1012S1800	1025-1150 MHz	1800W	10µs, 1%
ILP1214EL200	1.2-1.4 GHz	200W	16ms, 50%
IBP1214M700	1.2-1.4 GHz	700W	200µs, 10%
IBP2226M300	2.2-2.6 GHz	300W	200µs, 10%
IBP2729M300	2.7-2.9 GHz	300W	100µs, 10%
IBP2731M200	2.7-3.1 GHz	200W	200µs, 10%
IBP2934M190	2.9-3.4 GHz	190W	100µs, 10%
IBLP2729M90	2.7-2.9 GHz	90W	100µs, 10%
IBP2729MH300	2.7-2.9 GHz	300W	100µs, 10%
IBP3134M25	3.1-3.4 GHz	25W	300µs, 10%
IBP3134M220	3.1-3.4 GHz	220W	200µs, 10%
IBP3135M150	3.1-3.5 GHz	150W	100µs, 10%
IBP3135MH200	3.1-3.5 GHz	200W	100µs, 10%

Broadband Communication Products



IDM30512CW20
30-512 MHz 20W CW

CW Portfolio

IDM175CW300	1-200 MHz	300W	CW
IDM500CW80	1-500 MHz	80W	CW
IDM500CW120	1-500 MHz	120W	CW
IDM500CW150	1-500 MHz	150W	CW
IDM500CW200	1-500 MHz	200W	CW
IDM500CW300	1-500 MHz	300W	CW
IDM30512CW20	30-512 MHz	20W	CW
IDM30512CW50	30-512 MHz	50W	CW
IDM30512CW100	30-512 MHz	100W	CW
ILD1214CW60	1200-1400 MHz	60W	CW
ILD0814CW60	850-1450 MHz	60W	CW
ILD1414CW300	1400 MHz	300W	CW
ILD2325CW90	2.3-2.5 GHz	90W	CW

Part number	Frequency band	Output power	Pulse width/ duty factor
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Avionics Products / BiPolar

IB0912L30	960-1215 MHz	30W	5.8ms burst, 22.7%
IB0912L70	960-1215 MHz	70W	5.8ms burst, 22.7%
IB0912L200	960-1215 MHz	200W	5.8ms burst, 22.7%
IB0912M70	960-1215 MHz	70W	10us, 10%
IB0912M210	960-1215 MHz	210W	10us, 10%
IB0912M350	960-1215 MHz	350W	10us, 10%
IB0912M500	960-1215 MHz	500W	10us, 10%
IB0912M600	960-1215 MHz	600W	10us, 10%
IB1012S10	1025-1150 MHz	10W	10µs, 1%
IB1012S20	1025-1150 MHz	20W	10µs, 1%
IB1012S50	1025-1150 MHz	50W	10µs, 1%
IB1012S150	1025-1150 MHz	150W	10µs, 1%
IB1012S500	1025-1150 MHz	500W	10µs, 1%
IB1012S800	1025-1150 MHz	800W	10µs, 1%
IB1012S1100	1025-1150 MHz	1100W	10µs, 1%
IB1011S70	1030/1090 MHz	70W	10µs, 1%
IB1011S190	1030/1090 MHz	190W	10µs, 1%
IB1011S250	1030/1090 MHz	250W	10µs, 1%
IB1011S350	1030/1090 MHz	350W	10µs, 1%
IB1011S1000	1030/1090 MHz	1000W	10µs, 1%
IB1011S1500	1030/1090 MHz	1425W	10µs, 1%
IB1011M10	1030/1090 MHz	10W	128µs burst, 1%
IB1011M20	1030/1090 MHz	20W	128µs burst, 1%
IB1011M70	1030/1090 MHz	70W	128µs burst, 1%
IB1011M140	1030/1090 MHz	140W	128µs burst, 1%
IB1011M190	1030/1090 MHz	190W	128µs burst, 1%
IB1011M350	1030/1090 MHz	350W	128µs burst, 1%
IB1011M660	1030/1090 MHz	660W	128µs burst, 1%
IB1011M800	1030/1090 MHz	800W	128µs burst, 1%
IB1011M1000	1030/1090 MHz	1000W	128µs burst, 1%
IB1011M1100	1030/1090 MHz	1100W	32µs, 2%
IB1011L15	1030/1090 MHz	15W	2.4ms burst, 6.4%
IB1011L40	1030/1090 MHz	40W	2.4ms burst, 6.4%
IB1011L110	1030/1090 MHz	110W	2.4ms burst, 6.4%
IB1011L220	1030/1090 MHz	220W	2.4ms burst, 6.4%
IB1011L470	1030/1090 MHz	470W	2.4ms burst, 6.4%

Avionics Products / LDMOS

IFF

ILD1011M15	1030-1090 MHz	15W	50µs, 2%
ILD1011M30	1030-1090 MHz	30W	50µs, 2%
ILD1011M150	1030/1090 MHz	150W	50µs, 2%
ILD1011M250	1030/1090 MHz	250W	50µs, 2%
ILD1011M400	1030-1090 MHz	400W	50µs, 2%
ILD1011M15HV	1030-1090 MHz	15W	50µs, 2%
ILD1011M275HV	1030-1090 MHz	275W	50µs, 2%
ILD1011M550HV	1030-1090 MHz	550W	50µs, 2%
ILD1011M800HV	1030-1090 MHz	800W	50µs, 2%
ILD1011M160HV	1030/1090 MHz	160W	50µs, 2%
ILD1011M280HV	1030/1090 MHz	280W	50µs, 2%
ILD1011M1000HV	1030/1090 MHz	1000W	50µs, 2%

TACAN/DME

ILD0912M60	960-1215 MHz	60W	10µs, 10%
ILD0912M15HV	960-1215 MHz	15W	10µs, 10%
ILD0912M150HV	960-1215 MHz	150W	10µs, 10%
ILD0912M400HV	960-1215 MHz	400W	10µs, 10%
ILD1012S500HV	1025-1150 MHz	500W	10µs, 1%

S-Band Medical Products

IB2856S30	2856 MHz	30W	12µs, 3%
IB2856S65	2856 MHz	65W	12µs, 3%
IB2856S250	2856 MHz	250W	12µs, 3%
IB3000S60	3000 MHz	60W	12µs, 1%
IB3000S200	3000 MHz	200W	12µs, 1%

Part number	Frequency band	Output power	Pulse width/ duty factor
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VHF / UHF / L Band Radar Products

IDM165L650	125-167 MHz	650W	1ms, 20%
IDM265L650	190-265 MHz	650W	1ms, 20%
IB450S300	450 MHz	300W	30µs, 10%
IB450S500	450 MHz	500W	30µs, 10%
IB0810M12	870-990 MHz	12W	300µs, 15%
IB0810M50	870-990 MHz	50W	300µs, 15%
IB0810M100	870-990 MHz	100W	300µs, 15%
IB0810M210	870-990 MHz	210W	300µs, 15%
IB1214M6	1.2-1.4 GHz	6W	100µs, 10%
IB1214M32	1.2-1.4 GHz	32W	100µs, 10%
IB1214M55	1.2-1.4 GHz	55W	100µs, 10%
IB1214M150	1.2-1.4 GHz	150W	100µs, 10%
IB1214M300	1.2-1.4 GHz	300W	100µs, 10%
IB1214M130	1.2-1.4 GHz	130W	300µs, 10%
IB1214M375	1.2-1.4 GHz	375W	300µs, 10%

L-Band Radar Products / LDMOS

ILD1214EL40	1.2-1.4 GHz	40W	16ms, 50%
ILD1214EL200	1.2-1.4 GHz	200W	16ms, 50%
ILD1214M60	1.2-1.4 GHz	60W	300µs, 10%
ILD1214L120	1.2-1.4 GHz	120W	2.2ms, 20%
ILD1214L250	1.2-1.4 GHz	250W	1ms, 10%

S-Band Radar Products

IB2226M80	2.2-2.6 GHz	80W	200µs, 10%
IB2226M160	2.2-2.6 GHz	160W	200µs, 10%
IB2226MH15	2.2-2.6 GHz	15W	200µs, 10%
IB2226MH110	2.2-2.6 GHz	110W	200µs, 10%
IB2729M5	2.7-2.9 GHz	5W	100µs, 10%
IB2729M25	2.7-2.9 GHz	25W	100µs, 10%
IB2729M90	2.7-2.9 GHz	90W	100µs, 10%
IB2729M170	2.7-2.9 GHz	170W	100µs, 10%
IB2729MH200	2.7-2.9 GHz	200W	100µs, 10%
IB2731M110	2.7-3.1 GHz	110W	200µs, 10%
IB2731MH25	2.7-3.1 GHz	25W	200µs, 10%
IB2731MH110	2.7-3.1 GHz	110W	200µs, 10%
IB2931MH55	2.9-3.1 GHz	55W	100µs, 10%
IB2931MH155	2.9-3.1 GHz	155W	100µs, 10%
IB2934M100	2.9-3.4 GHz	100W	100µs, 10%
IB3134M15	3.1-3.4 GHz	15W	300µs, 10%
IB3134M25	3.1-3.4 GHz	25W	300µs, 10%
IB3134M70	3.1-3.4 GHz	70W	300µs, 10%
IB3134M100	3.1-3.4 GHz	100W	300µs, 10%
IB3135MH5	3.1-3.5 GHz	5W	100µs, 10%
IB3135MH20	3.1-3.5 GHz	20W	100µs, 10%
IB3135MH45	3.1-3.5 GHz	45W	100µs, 10%
IB3135MH65	3.1-3.5 GHz	65W	100µs, 10%
IB3135MH75	3.1-3.5 GHz	75W	100µs, 10%
IB3135MH100	3.1-3.5 GHz	100W	100µs, 10%
ILD2731M30	2.7-3.1 GHz	30W	300µs, 10%
ILD2731M140	2.7-3.1 GHz	140W	300µs, 10%
ILD2933M130	2.9-3.3 GHz	130W	300µs, 10%
ILD3135EL20	3.1-3.5 GHz	20W	16ms, 20%
ILD3135M30	3.1-3.5 GHz	30W	300µs, 10%
ILD3135M120	3.1-3.5 GHz	120W	300µs, 10%
ILD3135M180	3.1-3.5 GHz	180W	300µs, 10%
ILD2735M120	2.7-3.5 GHz	120W	300µs, 10%



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