

High-Voltage Power Transistors

A wide variety of high-power, medium-power, high-current, and fast-switching types in JEDEC TO-3, TO-39, TO-66, TO-202 VERSATAB, and TO-220 VERSAWATT package.

Features

- Multiple-epitaxial structures
- n-p-n and p-n-p complementary pairs available
- High breakdown-voltage ratings
- High dissipations
- Good current and power-handling capabilities at high voltage

Applications

- High-voltage differential and operational amplifiers
- High-voltage inverters
- High-voltage, low-current switching and series regulators
- Audio output and amplifier circuits
- TV deflection circuits
- Neon indicators and NIXIE tube drivers
- Electronic ignition
- Off-line inverters
- Motor controls
- High-fidelity amplifiers

RCA Family	Structure	I _C Max. A	P _T Max. W	V _{CEO(sus)} Range V	V _{CE(sat)} Range V	Beta Selection Range		f _T Typ. MHz	Comp. Family
						hFE Min.	At I _C A		
2N5415	p-n-p	1	10	100-350	0.6-5	20-30	0.05	15	2N3439
RCP131	n-p-n	1	10	100-350	1-5	20-50	0.05	30 min.	
RCP111	n-p-n	0.15	6.25	100-350	1-2	20-50	0.025	80	
2N3439	n-p-n	1	10	100-350	0.5-1	25-40	0.01-0.03	15	2N5415
2N6510	n-p-n	8	125	100-375	0.7-5	7-30	1-6	3	
2N6251	n-p-n	10	175	150-350	1.5-3	6-20	4	8	
2N3585	n-p-n	2	35	150-350	0.75-5	10-40	0.1-2	10	2N6213
2N6213	p-n-p	2	35	150-400	1.4-2.5	10	1	20	2N3585
2N5240	n-p-n	5	100	200-350	0.8-2.5	8-20	0.4	5	
2N6079	n-p-n	7	45	250-350	0.5-3	12	1.2	1	
2N6308	n-p-n	8	125	250-350	0.8-1.5	12-15	3	5	
TIP50	n-p-n	2	40	250-400	1	10	1	5	
2N6678	n-p-n	17	200	300-400	1	6-10	15	20	
2N6673	n-p-n	10	175	300-400	1	8	6	20	
BU208	n-p-n	5	12.5	600-700	1-5	2.25-2.5	4.5	1	

Darlington Power Transistors

Features

- DC current gain (h_{FE}) typically ranges from 1000 to 20,000 at I_C from 3 to 5 A
- Operation at I_C up to 10 A and supply voltages ranging from 40 to 120 V
- High gain permits transistors to be driven directly by integrated circuits
- In audio circuits eliminate the need for not only a driver transistor but also the diode across the output device
- Ideally suited for linear voltage regulators because of their high-power, high-beta, current-handling capability

Applications

- Audio power amplifiers
- Series and shunt regulators
- Driver circuits of automotive ignition systems
- Switching of inductive loads such as print hammers and solenoids
- Motor control applications
- Solenoid and hammer drivers

• Available in JEDEC package styles TO-3, TO-39, TO-66, and TO-220 (VERSAWATT)

RCA Family	Structure	I _C Max. A	P _T Max. W	V _{CEO(sus)} Range V	V _{CE(sat)} Range V	Beta Selection Range		f [•] Min. MHz
						hFE Min.	At I _C A	
RCS683	n-p-n	4	10	40-80	1.6	1000	2	20
2N6537	n-p-n	8	36	80-120	2-3	500-1000	3-5	20
2N6530	n-p-n	8	65	80-120	2-3	500-1000	3-5	20
2N6385	n-p-n	8	100	40-100	2	750-1000	3-5	20
2N6388	n-p-n	10	65	40-120	2-2.5	750-1000	3-5	20
2N6666	p-n-p	10	70	40-100	2-2.5	750-1000	3-5	20
2N6650	p-n-p	10	70	40-80	2	1000	5	20
RCA8766	n-p-n	10	150	350-450	1.5	100	4-6	20
2N6284	n-p-n	20	160	60-100	2	750	10	4
2N6287	p-n-p	20	160	60-100	2	750	10	4

Note: For p-n-p types voltages and currents are negative.

[•] Unity-gain frequency