

# DIONICS INC.

65 RUSHMORE ST., WESTBURY, N.Y. 11590 516-997-7474

## HIGH VOLTAGE SILICON NPN AND PNP TRANSISTORS

**APPLICATIONS:** PLASMA AND GAS DISCHARGE  
DISPLAY DRIVERS • SWITCHING REGULATORS  
• PULSE MODULATORS • HIGH VOLTAGE AMPLIFIERS

The DIONICS DTN and DTP series of high voltage transistors are specially designed for plasma display and gas discharge applications. A unique process technology\* permits the use of high voltage while still maintaining nano-amp level leakage currents.

The DTN series of NPN devices, and the DTP series of PNP devices are each available as single unit TO-106 transistors and feature complementary specifications.

Well-suited to a wide range of high voltage complementary symmetry applications in the data display, processing and communication fields, this series of devices offers an economical means of obtaining more efficient circuit performance with simplified complementary circuitry.

\*Pat. Pend.

### ABSOLUTE MAXIMUM RATINGS

	<b>DTN203</b> <b>DTP203</b>	<b>DTN204</b> <b>DTP204</b>	<b>DTN205</b> <b>DTP205</b>	<b>DTN206</b> <b>DTP206</b>
<b>NPN TYPE</b> <b>PNP TYPE</b>				
Collector-Base Voltage . . . . .	200V	175V	150V	125V
Collector-Emitter Voltage . . . . .	200V	175V	150V	125V
Emitter-Base Voltage . . . . .	5.0V	5.0V	5.0V	5.0V
D.C. Collector Current . . . . .	20MA	20MA	20MA	20MA
Peak Collector Current . . . . .	200MA	200MA	200MA	200MA
Power Dissipation at 25°C Ambient Temperature . . . . .	360MW	360MW	360MW	360MW
Operating and Storage Temperature Range	← 65 to +200°C →			

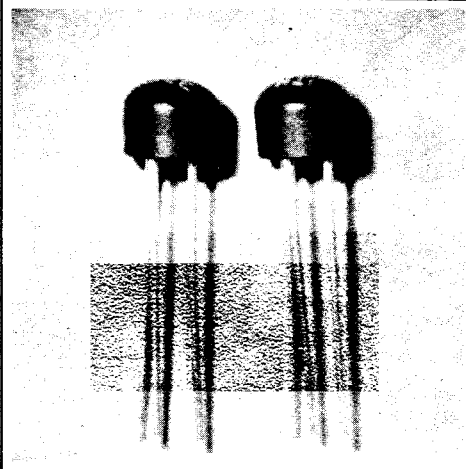
DTN203 – DTP203

DTN204 – DTP204

DTN205 – DTP205

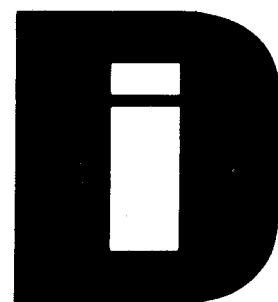
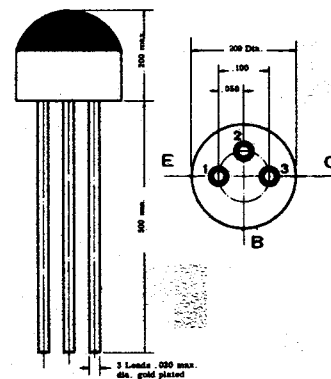
DTN206 – DTP206

COMPLEMENTARY NPN-PNP



### PHYSICAL DIMENSIONS

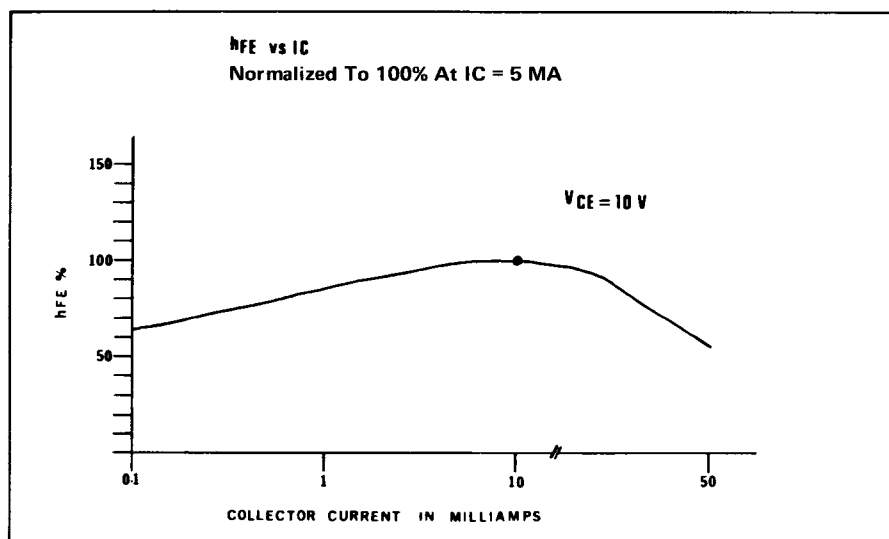
TO-106



CHARACTERISTICS AT 25°C CASE TEMPERATURE (unless otherwise noted)

ELECTRICAL CHARACTERISTICS	TEST SYMBOL	TEST CONDITIONS	DTN 203		DTN 204		DTN 205		DTN 206		NPN
			DTP 203		DTP 204		DTP 205		DTP 206		PNP
			MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	UNITS
Collector Breakdown Voltage	BVCBO	IC= 10μA IE=0	200		175		150		125		Volts
Collector-Emitter, Breakdown Voltage	BVCEO	IC= 1 MA IB=0	200		175		150		125		Volts
Collector-Emitter, Breakdown Voltage	BVCE(sus)*	IC= 10MA IB=0	200		175		150		125		Volts
Emitter Breakdown Voltage	BVEBO	IB= 10μA IC=0	5.0		5.0		5.0		5.0		Volts
D.C. Current Gain	hFE	IC= 1MA VCE=10V	30		—		—		—		—
D.C. Current Gain	hFE	IC= 5MA VCE=10V	—		40		40		40		—
Collector to Emitter Saturation Voltage	VCE(Sat)	IC= 1MA IB=0.1MA		5.0		—		—		—	Volts
Collector to Emitter Saturation Voltage	VCE(Sat)	IC= 5MA IB=0.5MA		—		5.0		5.0		5.0	Volts
Base to Emitter Saturation Voltage	VBE(Sat)	IC= 5MA IB=0.5MA		1.2		1.2		1.2		1.2	Volts
Collector to Base Cut off Current	ICBO	VCBO= 175V IE=0		0.1		—		—		—	μA
		150V		—		0.1		—		—	μA
		125V		—		—		0.1		—	μA
		100V		—		—		—		0.1	μA
A.C. Current Gain	hfe	IC= 10MA VCE= 10V f= 100MHZ	0.5		0.5		0.5		0.5		Typical
Common Base Output Capacitance	cob	VCB= 10V IE=0		8.0		8.0		8.0		8.0	pF

\*Pulse Test: Pulse Width=300μS Duty Cycle=2%



Also Available in Chip or Slice Form

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