



New Product Announcement

DXTN/DXTP Series

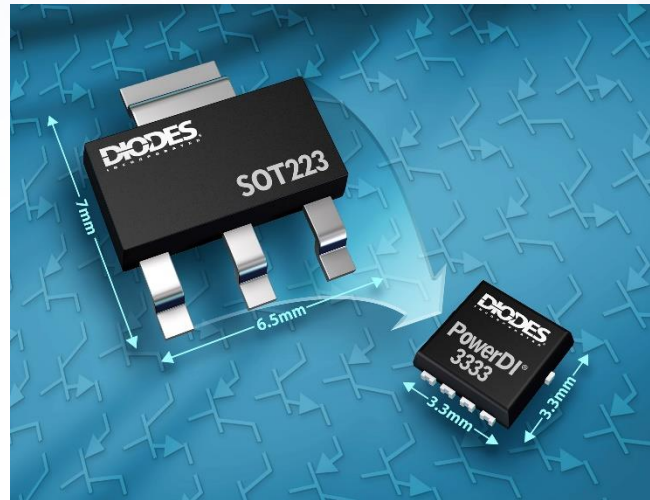
First Bipolar Transistors in PowerDI3333

The first eight bipolar transistors are now available in the PowerDI®3333 package. With four NPN (DXTN07xxxxFG) and a complimentary set of 4 PNP transistors (DXTP07xxxxFG).

Having breakdown capability ranging up to 100V and current handling to 3A, these transistors can perform many functions including linear or LDO regulation, gate driving of MOSFETs or IGBTs and load switches across a multitude industrial and consumer applications.

Improving power density was a major consideration to develop these products with the aim to offer the package as an alternative to SOT223 bringing very similar power dissipation in a footprint approximately one third the size.

The extended operating temperature range to +175°C will also be beneficial in applications required to operate in elevated ambient temperatures.



The Diodes Advantage

The DXTN07xxxxFG and DXTP07xxxxFG are the worlds first bipolar transistors offered in the PowerDI3333 package.

- **Small form factor, thermally efficient package**
Takes only 30% of the PCB area required by a SOT223 transistor
Enables higher power density system design
- **Protruding leads with wettable flanks**
Applicable to reflow soldering techniques
Allows the optical inspection of solder joints without the need for x-ray
- **Devices qualified to +175°C**
Useable in high temperature environments
- **Low Profile Package**
Maximum package height of 0.85mm

Applications

Various Power Management functions:

- **Linear regulation**
- **LDO regulation**
- **Gate driving of MOSFETs and IGBTs**
- **Load switches**
- **Motor drive**

*PowerDI is a registered trademark of
Diodes Incorporated.*



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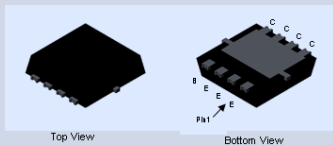
DXTN/DXTP Series

Product Information

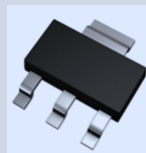
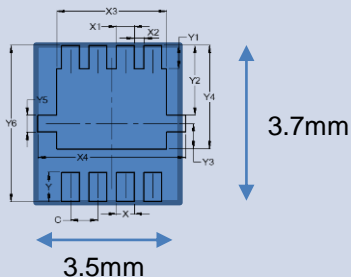
<https://www.diodes.com/products/power-management/gate-drivers/First-in-a-range-of-Bipolar-Transistors-launched-at-Embedded-World-Show-February-2019/>

Part Number	V _{CEO} (V)	I _C (A)	I _{CM} (A)	P _D (W)	h _{FE}				V _{CE(sat)}				f _T Min. (MHz)	R _{CE(sat)} (mΩ)	SOT223 Part No.
					Min.	@ I _C (A)	Min.	@ I _C (A)	Max. (mV)	@ I _C /I _B (A/mA)	Max. (mV)	@ I _C /I _B (A/mA)			
NPN															
DXTN07025BFG-7	25	3	8	2	100	1	75	2	200	1/100	400	3/300	150	133mΩ @3A	FZT649
DXTN07045DFG-7	45	3	6	2	400	1	150	2	100	0.1/0.5	300	1/5	150	300mΩ @1A	FZT689
DXTN07060BFG-7	60	3	6	2	100	0.5	40	2	250	1/100	500	3/300	140	167mΩ @3A	FZT651
DXTN07100BFG-7	100	2	6	2	100	0.5	25	2	250	1/100	400	2/200	100	100mΩ @2A	FZT653
PNP															
DXTP07025BFG-7	25	3	8	2	100	1	75	2	200	1/100	400	3/300	100	133mΩ @3A	FZT749
DXTP07040CFG-7	40	3	6	2	250	0.5	150	2	200	0.5/5	400	1/10	100	400mΩ @1A	FZT789
DXTP07060BFG-7	60	3	6	2	100	0.5	40	2	250	1/100	500	3/300	100	167mΩ @3A	FZT751
DXTP07100BFG-7	100	2	6	2	100	0.5	55	1	250	1/100	500	2/200	100	250mΩ @2A	FZT753

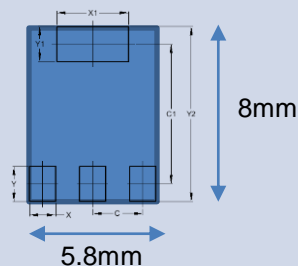
PCB Footprint Comparisons



PowerDI3333



SOT223



Min PCB Area for PowerDI3333 = 13mm²
compared to 46.5mm² for SOT223
70% area saving

Thermal Comparisons

