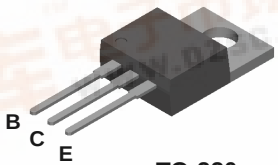
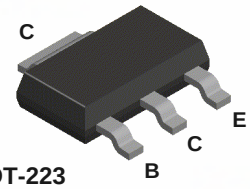
FAIRCHILD SEMICONDUCTOR TM

D45C11 NZT45C11



TO-220



SOT-223

PNP Current Driver Transistor

This device is designed for power amplifier, regulator and switching circuits where speed is important. Sourced from Process 5P. See NZT751 for characteristics.

Absolute Maximum Ratings*

TA = 25°C unless otherwise noted

Symbol	Parameter	Value	Units
V_{CEO}	Collector-Emitter Voltage	80	V
I_C	Collector Current - Continuous	4.0	A
T_J, T_{stg}	Operating and Storage Junction Temperature Range	-55 to +150	°C

*These ratings are limiting values above which the serviceability of any semiconductor device may be impaired.

NOTES:
1) These ratings are based on a maximum junction temperature of 150 degrees C.
2) These are steady state limits. The factory should be consulted on applications involving pulsed or low duty cycle operations.

Thermal Characteristics

TA = 25°C unless otherwise noted

Symbol	Characteristic	Max		Units
		D45C11	*NZT45C11	
P_D	Total Device Dissipation Derate above 25°C	60 480	1.2 9.7	W mW/°C
$R_{\theta JC}$	Thermal Resistance, Junction to Case	2.1		°C/W
$R_{\theta JA}$	Thermal Resistance, Junction to Ambient	62.5	103	°C/W

*Device mounted on FR-4 PCB 36 mm X 18 mm X 1.5 mm; mounting pad for the collector lead min. 6 cm^2.

PNP Current Driver
(continued)

Electrical Characteristics
TA = 25°C unless otherwise noted

Symbol	Parameter	Test Conditions	Min	Max	Units
OFF CHARACTERISTICS					
$V_{(BR)CEO}$	Collector-Emitter Breakdown Voltage	I_C = 100 mA, I_B = 0	60		V
I_{CES}	Collector-Cutoff Current	V_{CB} = 90 V, I_E = 0		10	µA
I_{EBO}	Emitter-Cutoff Current	V_{EB} = 5.0 V, I_C = 0		100	µA
ON CHARACTERISTICS					
h_{FE}	DC Current Gain	I_C = 0.2 A, V_{CE} = 1.0 V I_C = 1.0 A, V_{CE} = 1.0 V	40 20	120	
$V_{CE(sat)}$	Collector-Emitter Saturation Voltage	I_C = 1.0 A, I_B = 50 mA		0.5	V
$V_{BE(sat)}$	Base-Emitter On Voltage	I_C = 1.0 A, I_B = 100 mA		1.3	V
SMALL SIGNAL CHARACTERISTICS					
f_T	Current Gain - Bandwidth Product	I_C = 20 mA, V_{CE} = 4.0 V,	32		MHz

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2. A critical component is any component of a life support device or system whose failure to perform can be reasonably expected to cause the failure of the life support device or system, or to affect its safety or effectiveness.

PRODUCT STATUS DEFINITIONS

Definition of Terms

Datasheet Identification	Product Status	Definition
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No Identification Needed	Full Production	This datasheet contains final specifications. Fairchild Semiconductor reserves the right to make changes at any time without notice in order to improve design.
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