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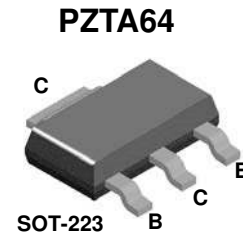
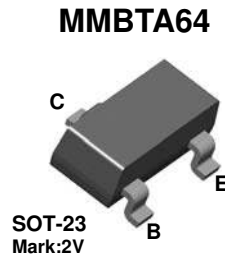
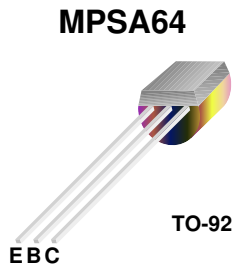
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MPSA64 / MMBTA64 / PZTA64 PNP Darlington Transistor

Features

- This device is designed for applications requiring extremely high current gain at currents to 800 mA.
- Sourced from Process 61.



Absolute Maximum Ratings* $T_a = 25^\circ\text{C}$ unless otherwise noted

Symbol	Parameter	Value	Units
V_{CES}	Collector-Emitter Voltage	-30	V
V_{CBO}	Collector-Base Voltage	-30	V
V_{EBO}	Emitter-Base Voltage	-10	V
I_C	Collector Current - Continuous	-1.2	A
T_J, T_{stg}	Operating and Storage Junction Temperature Range	-55 to +150	$^\circ\text{C}$

* 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 $T_a = 25^\circ\text{C}$ unless otherwise noted

Symbol	Parameter	Max.			Units
		MPSA64	*MMBTA64	**PZTA64	
P_D	Total Device Dissipation	625	350	1,000	mW
	Derate above 25°C	5.0	2.8	8.0	$\text{mW}/^\circ\text{C}$
$R_{\theta JC}$	Thermal Resistance, Junction to Case	83.3			$^\circ\text{C}/\text{W}$
$R_{\theta JA}$	Thermal Resistance, Junction to Ambient	200	357	125	$^\circ\text{C}/\text{W}$

* Device mounted on FR-4 PCB 1.6" X 1.6" X 0.06."

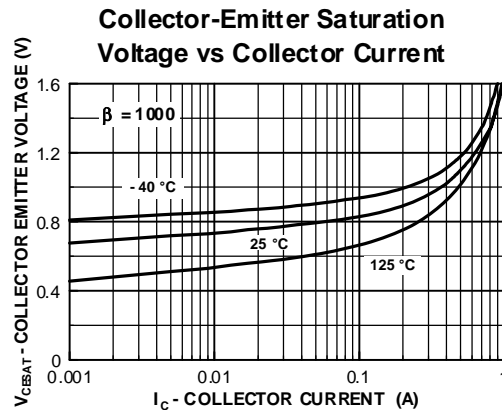
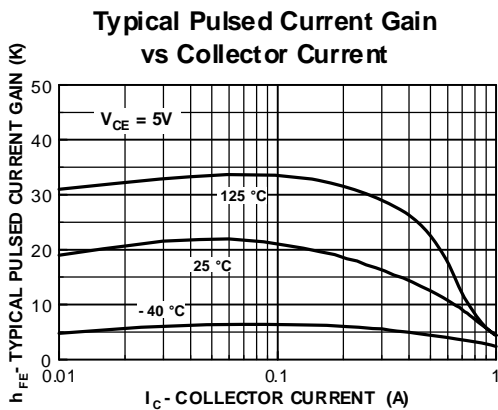
** Device mounted on FR-4 PCB 36 mm X 18 mm X 1.5 mm; mounting pad for the collector lead min. 6 cm^2 .

Electrical Characteristics $T_a = 25^\circ\text{C}$ unless otherwise noted

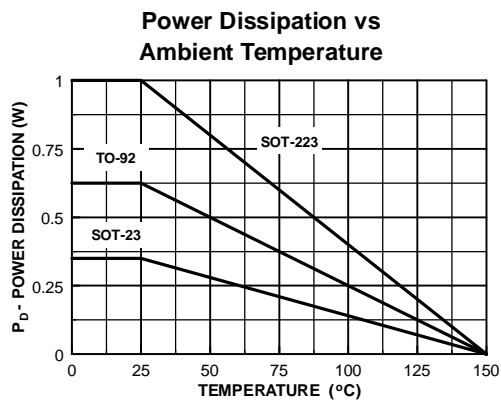
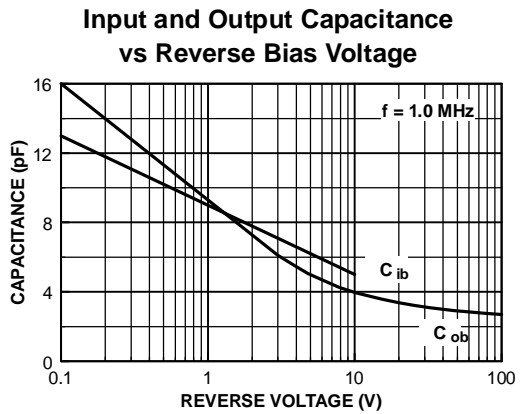
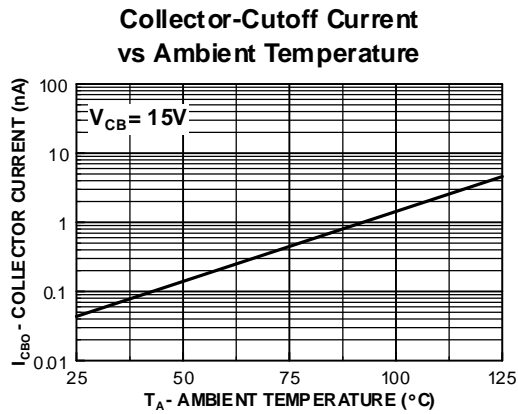
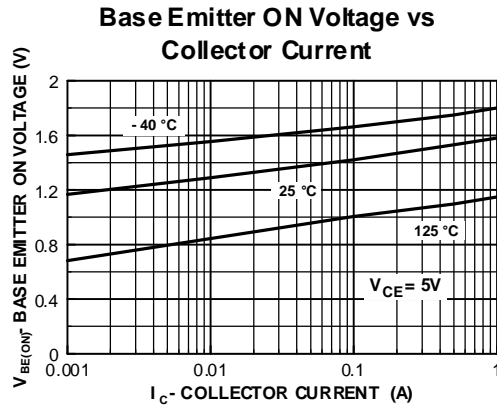
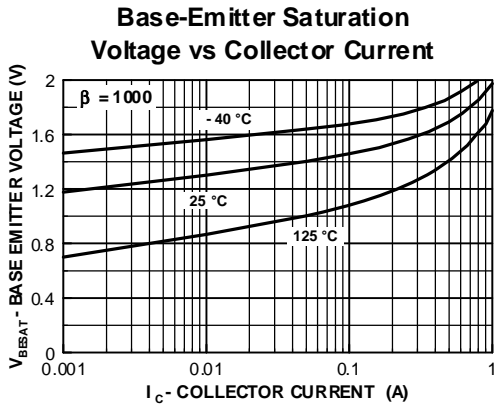
Symbol	Parameter	Test Condition	Min.	Max.	Units
OFF CHARACTERISTICS					
$V_{(BR)CES}$	Collector-Emitter Breakdown Voltage	$I_C = -100\mu\text{A}, I_B = 0$	-30		V
I_{CBO}	Collector-Cutoff Current	$V_{CB} = -30\text{V}, I_E = 0$		-100	nA
I_{EBO}	Emitter-Cutoff Current	$V_{EB} = -10\text{V}, I_C = 0$		-100	nA
ON CHARACTERISTICS*					
h_{FE}	DC Current Gain	$I_C = -10\text{mA}, V_{CE} = -5.0\text{V}$ $I_C = -100\text{mA}, V_{CE} = -5.0\text{V}$	10,000 20,000		
$V_{CE(sat)}$	Collector-Emitter Saturation Voltage	$I_C = -100\text{mA}, I_B = -0.1\text{mA}$		-1.5	V
$V_{BE(on)}$	Base-Emitter On Voltage	$I_C = -100\text{mA}, V_{CE} = -5.0\text{V}$		-2.0	V
SMALL SIGNAL CHARACTERISTICS					
f_T	Current Gain - Bandwidth Product	$I_C = -10\text{mA}, V_{CE} = -5.0\text{V},$ $f = 100\text{MHz}$	125		MHz

* Pulse Test: Pulse Width $\leq 300\mu\text{s}$, Duty Cycle $\leq 2.0\%$

Typical Performance Characteristics



Typical Performance Characteristics (continued)



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Preliminary	First Production	Datasheet contains preliminary data; supplementary data will be published at a later date. Fairchild Semiconductor reserves the right to make changes at any time without notice to improve design.
No Identification Needed	Full Production	Datasheet contains final specifications. Fairchild Semiconductor reserves the right to make changes at any time without notice to improve the design.
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