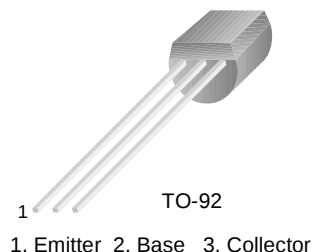


MPSA77

PNP Darlington Transistor

- This device is designed for applications requiring extremely high current gain at currents to 800mA.
- 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	-60	V
V_{CBO}	Collector-Base Voltage	-60	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 ~ +150	$^\circ\text{C}$

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

NOTES:

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

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	$I_C = -100\mu\text{A}, I_B = 0$	-60		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 10,000		
$V_{CE(sat)}$	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	$I_C = -100\text{mA}, V_{CE} = -5.0\text{mA}$		-2.0	V
Small Signal Characteristics *					
f_T	Current Gain Bandwidth Product	$I_C = -10\text{mA}, V_{CE} = -5.0\text{V}$ $f = 100\text{MHz}$	100		MHz

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

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

Symbol	Parameter	Max.	Units
P_D	Total Device Dissipation Derate above 25°C	625 5.0	mW mW/ $^\circ\text{C}$
$R_{\theta JC}$	Thermal Resistance, Junction to Case	83.3	$^\circ\text{C/W}$
$R_{\theta JA}$	Thermal Resistance, Junction to Ambient	200	$^\circ\text{C/W}$

Package Dimensions

TO-92



Dimensions in Millimeters

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