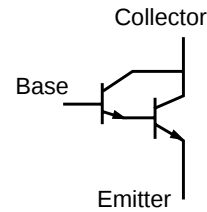
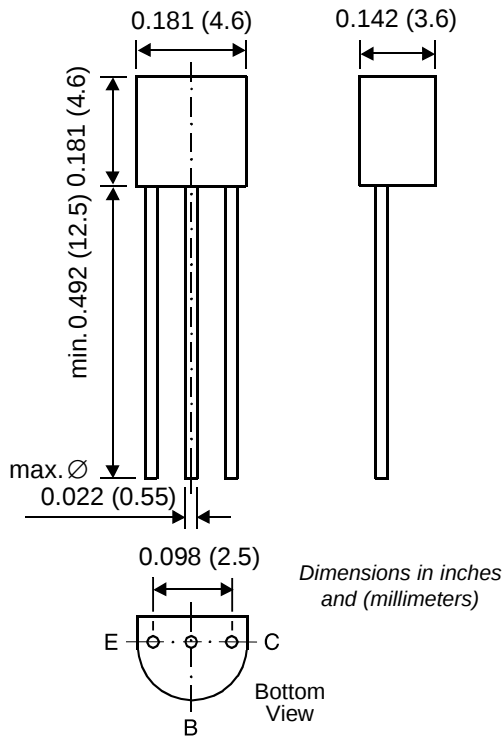


MPSA13 and MPSA14

Darlington Transistors (NPN)



TO-226AA (TO-92)



Features

- NPN Silicon Darlington Transistor for switching and amplifier applications.
- High collector current
- High current gain
- These transistors are also available in the SOT-23 case with the type designation MMBTA13 & MMBTA14

Mechanical Data

Case: TO-92 Plastic Package

Weight: Approx. 0.18g

Packaging Codes/Options:

- E6/Bulk – 5K per container
- E7/4K per Ammo tape

Maximum Ratings and Thermal Characteristics ($T_C = 25^\circ\text{C}$ unless otherwise noted)

Parameter	Symbol	Value	Unit
Collector-Base Voltage	V_{CB0}	30	V
Collector-Emitter Voltage	V_{CES}	30	V
Emitter-Base Voltage	V_{EB0}	10	V
Collector Current	I_C	500	mA
Power Dissipation at $T_A = 25^\circ\text{C}$ at $T_C = 25^\circ\text{C}$	P_{tot}	625 1.5	mW W
Thermal Resistance Junction to Ambient Air	$R_{\theta JA}$	200 ⁽¹⁾	$^\circ\text{C/W}$
Thermal Resistance Junction to Case	$R_{\theta JC}$	83.3	$^\circ\text{C/W}$
Maximum Junction Temperature	T_J	150	$^\circ\text{C}$
Storage Temperature Range	T_S	-55 to +150	$^\circ\text{C}$

Note: (1) Valid provided that leads are kept at ambient temperature

MPSA13 and MPSA14

Darlington Transistors (NPN)

Electrical Characteristics (T_C = 25°C unless otherwise noted)

Parameter	Symbol	Minimum	Maximum	Unit
Collector-Emitter Breakdown Voltage at I _C = 100 µA, I _B = 0	V _{(BR)CEO}	30	–	V
Emitter Cutoff Current V _{EB} = 10 V, I _C = 0	I _{EBO}	–	100	nA
Collector Cutoff Current V _{CB} = 30 V, I _E = 0	I _{CBO}	–	100	nA
Collector-Emitter Saturation Voltage at I _C = 100 mA, I _B = 0.1 mA	V _{CEsat}	–	1.5	V
Base-Emitter On Voltage at I _C = 100 mA, V _{CE} = 5.0V	V _{BE(on)}	–	2.0	V
DC Current Gain at V _{CE} = 5.0 V, I _C = 10 mA	h _{FE}	5000	–	–
MPSA13		10000	–	–
MPSA14		10000	–	–
at V _{CE} = 5.0 V, I _C = 100 mA		20000	–	–
Gain-Bandwidth Product at V _{CE} = 5.0 V, I _C = 10 mA, f = 100 MHz	f _T	125	–	MHz