



Micro Commercial Components



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20736 Marilla Street Chatsworth
CA 91311
Phone: (818) 701-4933
Fax: (818) 701-4939

MPSA13
MPSA14

NPN Silicon
Darlington Transistor

Features

- Capable of 1.5Watts of Power Dissipation.
Collector-current 500mA
Collector-base Voltage 30V
Operating and storage junction temperature range: -55°C to +150°C
Epoxy meets UL 94 V-0 flammability rating
Moisure Sensitivity Level 1
Marking:MPSA13--MPSA13,MPSA14--MPSA14.
Lead Free Finish/RoHS Compliant ("P" Suffix designates RoHS Compliant. See ordering information)

Maximum Ratings

Table with 4 columns: Symbol, Rating, Rating, Unit. Rows include V_CES, V_CBO, V_EBO, I_C, P_D, T_J, T_STG.

Electrical Characteristics @ 25°C Unless Otherwise Specified

Table with 5 columns: Symbol, Parameter, Min, Max, Units

OFF CHARACTERISTICS

Table with 5 columns: Symbol, Parameter, Min, Max, Units. Rows include V_BR/CES, I_CBO, I_EBO.

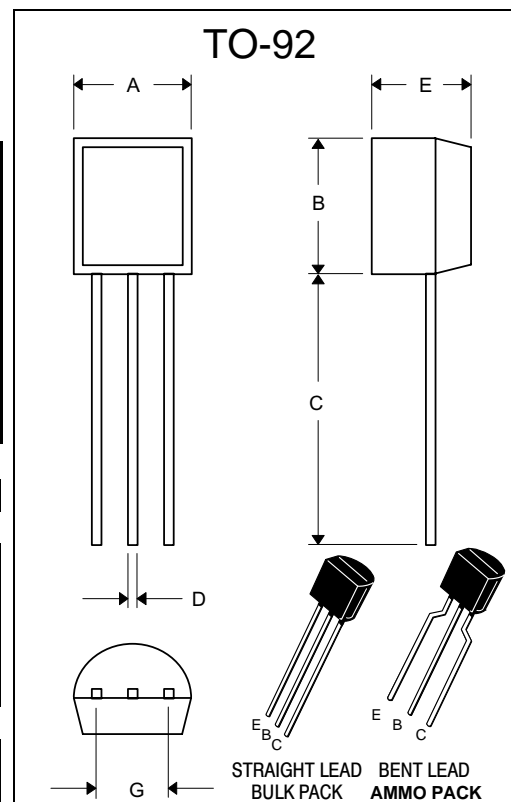
ON CHARACTERISTICS(1)

Table with 5 columns: Symbol, Parameter, Min, Max, Units. Rows include h_FE(1), h_FE(2), V_CE(sat), V_BE(on).

SMALL-SIGNAL CHARACTERISTICS

Table with 5 columns: Symbol, Parameter, Min, Max, Units. Row includes f_T.

- 1. Pulse Test: Pulse Width<300us, Duty Cycle<2.0%
2. f_T=|h_fe| x f_test



DIMENSIONS table with columns: DIM, INCHES (MIN, MAX), MM (MIN, MAX), NOTE. Rows include dimensions A through G.

* For ammo packing detailed specification, click here to visit our website of product packaging for details.

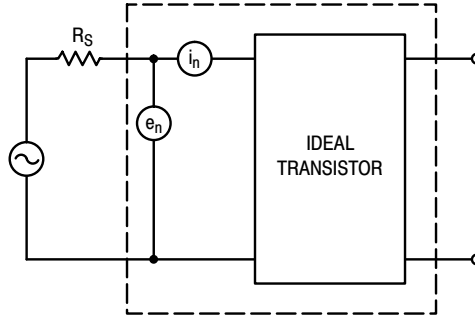


Figure 1. Transistor Noise Model

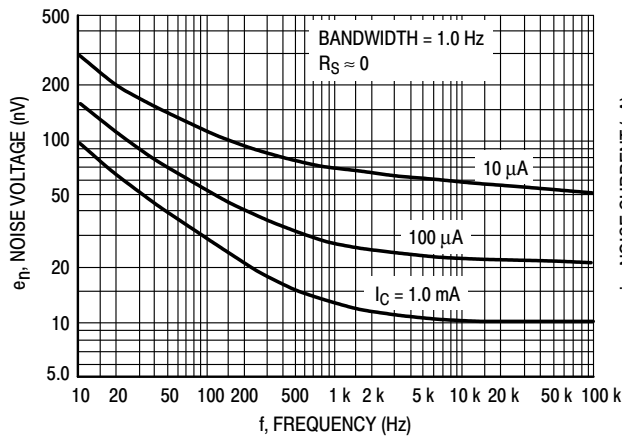


Figure 2. Noise Voltage

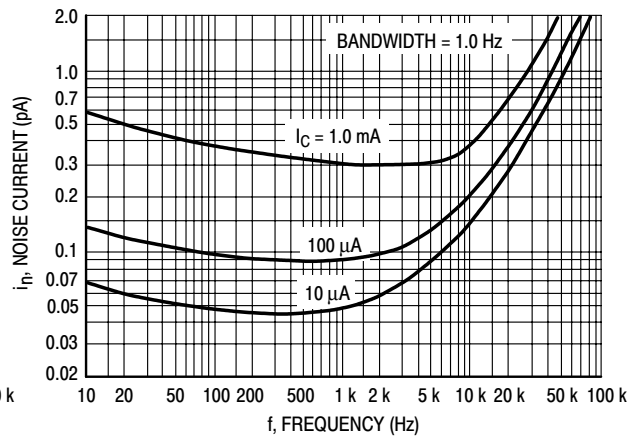


Figure 3. Noise Current

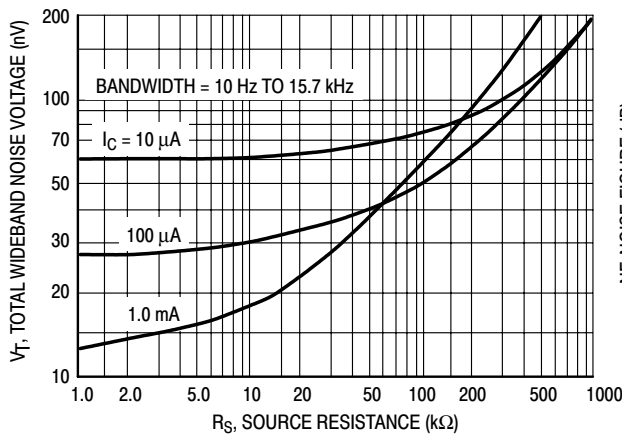


Figure 4. Total Wideband Noise Voltage

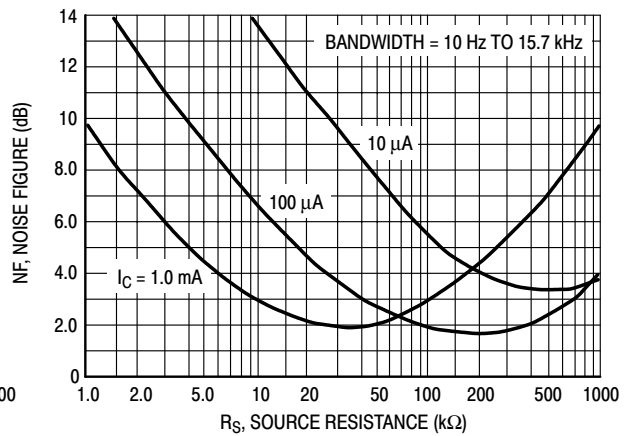


Figure 5. Wideband Noise Figure

MPSA13 thru MPSA14

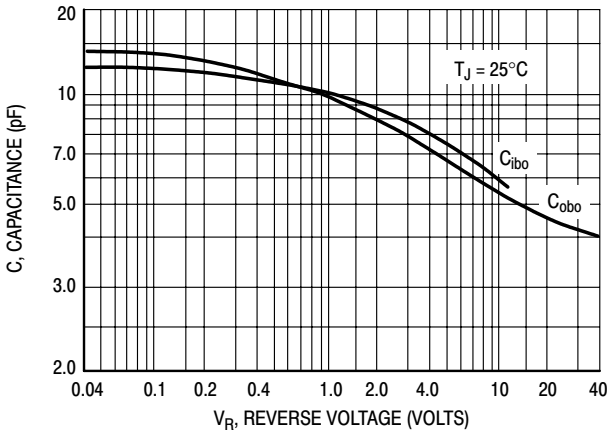


Figure 6. Capacitance

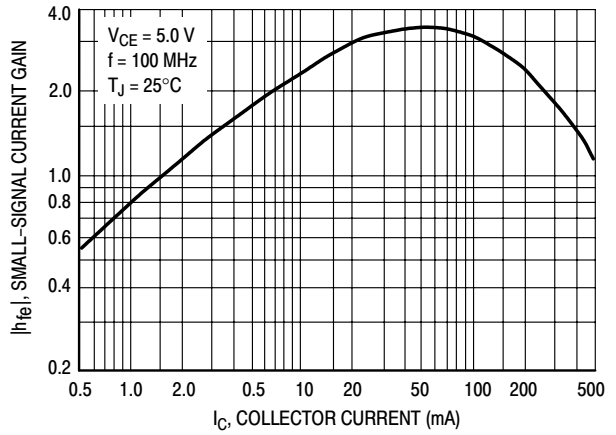


Figure 7. High Frequency Current Gain

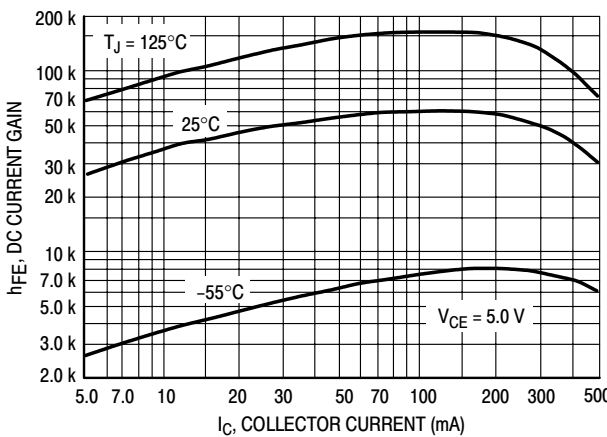


Figure 8. DC Current Gain

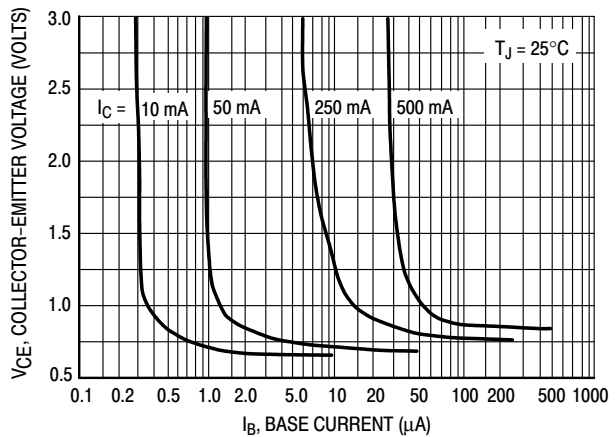


Figure 9. Collector Saturation Region

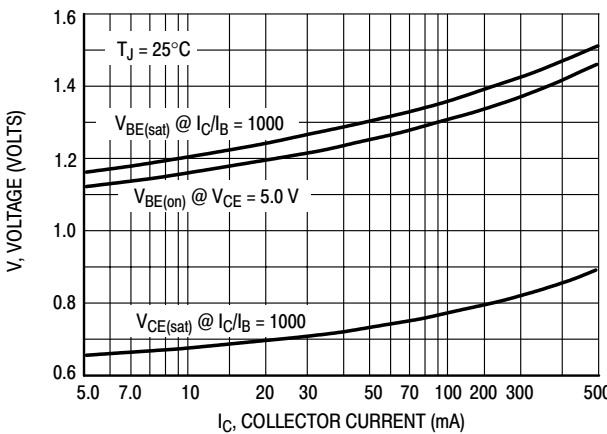


Figure 10. "On" Voltages

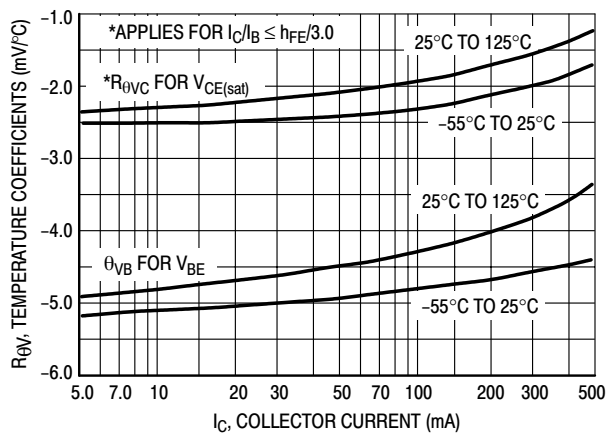


Figure 11. Temperature Coefficients

MPSA13 thru MPSA14

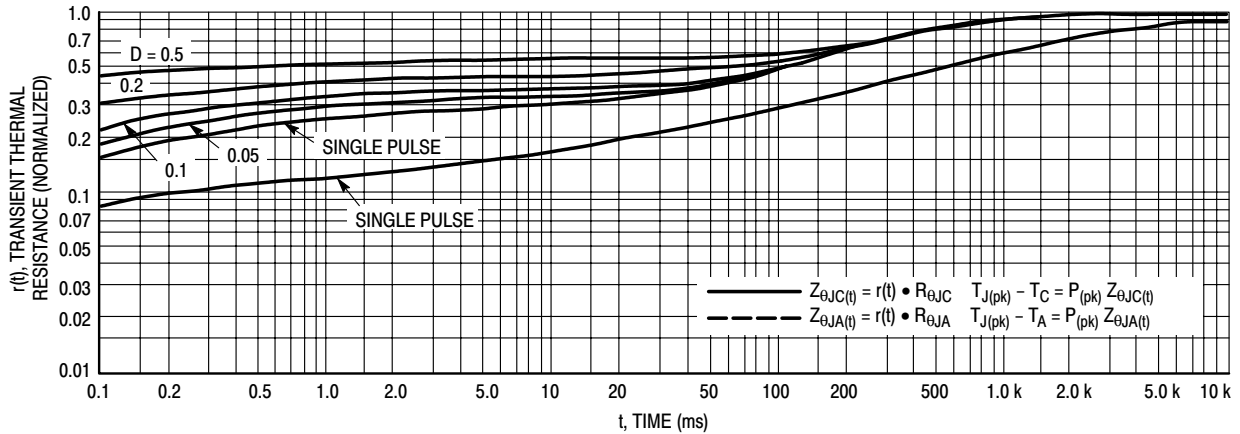


Figure 12. Thermal Response

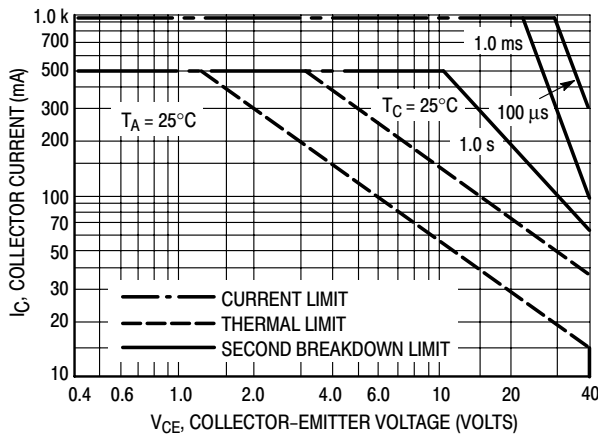
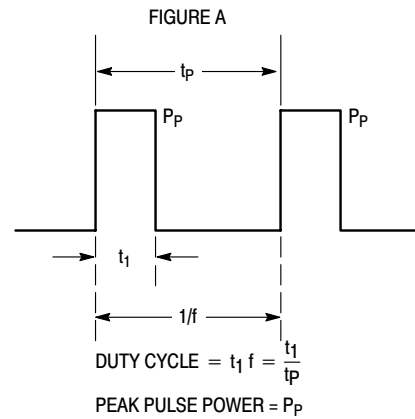


Figure 13. Active Region Safe Operating Area



Design Note: Use of Transient Thermal Resistance Data



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Ordering Information :

Device	Packing
Part Number-AP	Ammo Packing: 20Kpcs/Carton
Part Number-BP	Bulk: 100Kpcs/Carton

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