



MPSA42 THRU MPSA43

NPN Silicon High Voltage Transistor 625mW

Features

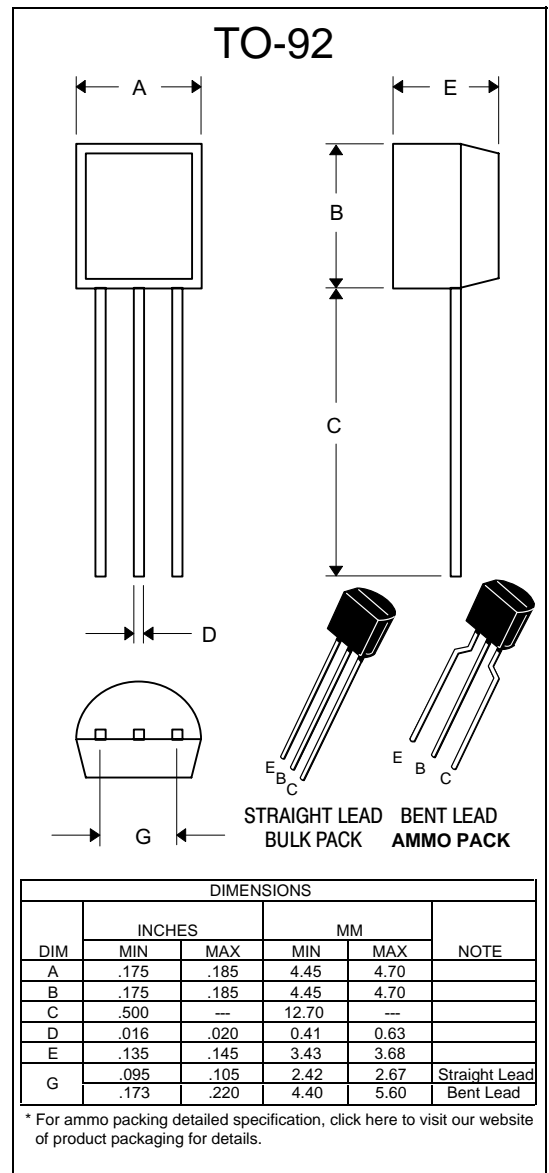
- Through Hole Package
- 150°C Junction Temperature
- Epoxy meets UL 94 V-0 flammability rating
- Moisture Sensitivity Level 1
- Lead Free Finish/RoHS Compliant ("P" Suffix designates RoHS Compliant. See ordering information)
- Halogen free available upon request by adding suffix "-HF"

Mechanical Data

- Case: TO-92, Molded Plastic
- Marking:
 MPSA42 ----A42
 MPSA43 ----MPSA43

Maximum Ratings @ 25°C Unless Otherwise Specified

Charateristic	Symbol	Value	Unit
Collector-Emitter Voltage MPSA42 MPSA43	V_{CEO}	300 200	V
Collector-Base Voltage MPSA42 MPSA43	V_{CBO}	300 200	V
Emitter-Base Voltage MPSA42 MPSA43	V_{EBO}	5.0	V
Collector Current(DC)	I_C	300	mA
Power Dissipation@ $T_A=25^\circ\text{C}$	P_d	625 5.0	mW mW/°C
Power Dissipation@ $T_C=25^\circ\text{C}$	P_d	1.5 12	W mW/°C
Thermal Resistance, Junction to Ambient Air	$R_{\theta JA}$	200	°C/W
Thermal Resistance, Junction to Case	$R_{\theta JC}$	83.3	°C/W
Operating & Storage Temperature	T_j, T_{STG}	-55~150	°C



MPSA42 thru MPSA43

ELECTRICAL CHARACTERISTICS ($T_A = 25^\circ\text{C}$ unless otherwise noted)

Characteristic	Symbol	Min	Max	Unit
----------------	--------	-----	-----	------

OFF CHARACTERISTICS

Collector–Emitter Breakdown Voltage ⁽¹⁾ ($I_C = 1.0\text{ mA}$, $I_B = 0$)	MPSA42 MPSA43	$V_{(BR)CEO}$	300 200	— —	Vdc
Collector–Base Breakdown Voltage ($I_C = 100\ \mu\text{A}$, $I_E = 0$)	MPSA42 MPSA43	$V_{(BR)CBO}$	300 200	— —	Vdc
Emitter–Base Breakdown Voltage ($I_E = 10\ \mu\text{A}$, $I_C = 0$)		$V_{(BR)EBO}$	5.0	—	Vdc
Collector Cutoff Current ($V_{CB} = 200\text{ Vdc}$, $I_E = 0$) ($V_{CB} = 160\text{ Vdc}$, $I_E = 0$)	MPSA42 MPSA43	I_{CBO}	— —	0.25 0.1	μA
Emitter Cutoff Current ($V_{EB} = 3.0\text{ Vdc}$, $I_C = 0$) ($V_{EB} = 4.0\text{ Vdc}$, $I_C = 0$)	MPSA42 MPSA43	I_{EBO}	— —	0.25 0.1	μA

ON CHARACTERISTICS⁽¹⁾

DC Current Gain ($I_C = 1.0\text{ mA}$, $V_{CE} = 10\text{ Vdc}$) ($I_C = 10\text{ mA}$, $V_{CE} = 10\text{ Vdc}$) ($I_C = 50\text{ mA}$, $V_{CE} = 10\text{ Vdc}$)		h_{FE}	25 80 25	— —	250
Collector–Emitter Saturation Voltage ($I_C = 20\text{ mA}$, $I_B = 2.0\text{ mA}$)	MPSA42 MPSA43	$V_{CE(sat)}$	— —	0.5 0.4	Vdc
Base–Emitter Saturation Voltage ($I_C = 20\text{ mA}$, $I_B = 2.0\text{ mA}$)		$V_{BE(sat)}$	—	0.9	Vdc

SMALL–SIGNAL CHARACTERISTICS

Current–Gain — Bandwidth Product ($I_C = 10\text{ mA}$, $V_{CE} = 5\text{ Vdc}$, $f = 30\text{ MHz}$)		f_T	50	—	MHz
Collector–Base Capacitance ($V_{CB} = 20\text{ Vdc}$, $I_E = 0$, $f = 1.0\text{ MHz}$)	MPSA42 MPSA43	C_{cb}	— —	3.0 4.0	pF

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

MPSA42 thru MPSA43

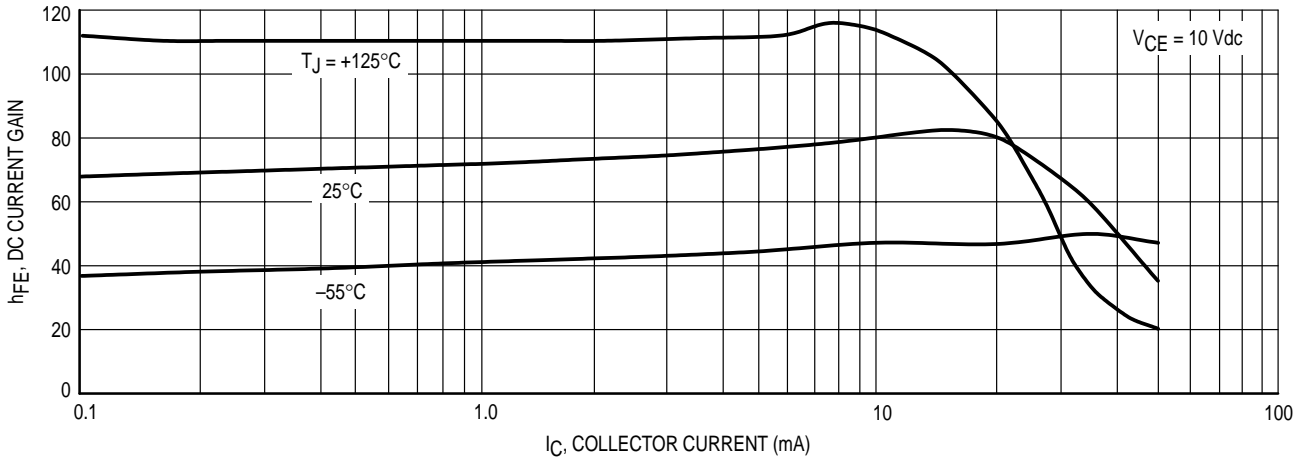


Figure 1. DC Current Gain

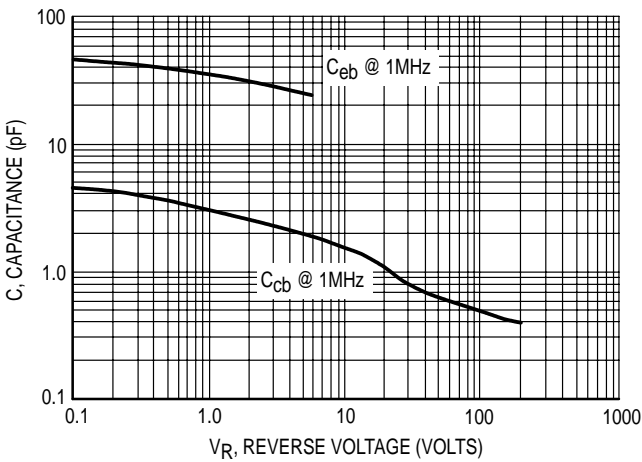


Figure 2. Capacitance

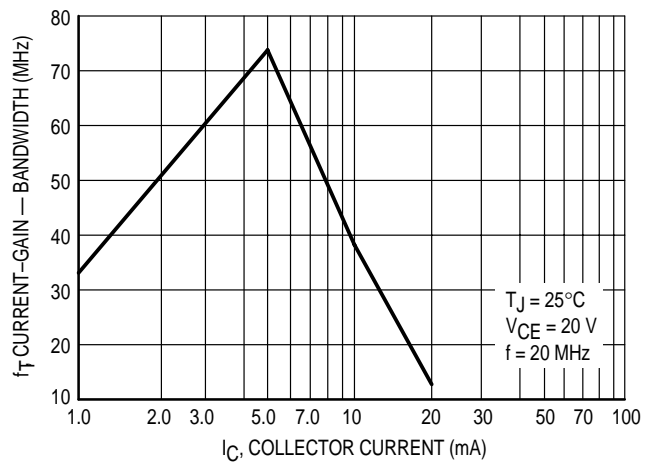


Figure 3. Current-Gain - Bandwidth

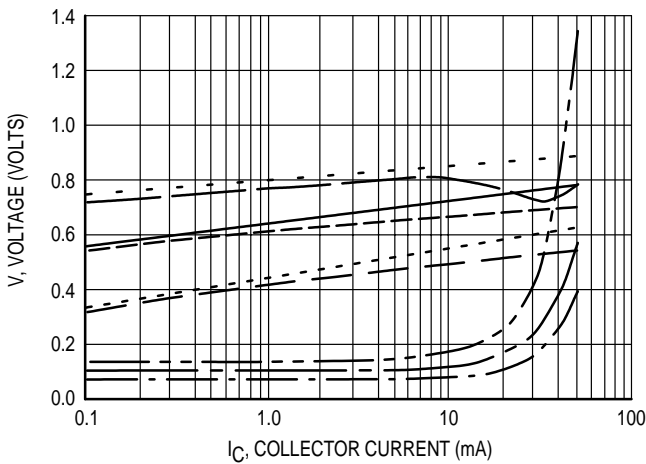


Figure 4. "ON" Voltages

- $V_{CE(sat)}$ @ 25°C, $I_C/I_B = 10$
- $V_{CE(sat)}$ @ 125°C, $I_C/I_B = 10$
- $V_{CE(sat)}$ @ -55°C, $I_C/I_B = 10$
- $V_{BE(sat)}$ @ 25°C, $I_C/I_B = 10$
- $V_{BE(sat)}$ @ 125°C, $I_C/I_B = 10$
- $V_{BE(sat)}$ @ -55°C, $I_C/I_B = 10$
- $V_{BE(on)}$ @ 25°C, $V_{CE} = 10 V$
- $V_{BE(on)}$ @ 125°C, $V_{CE} = 10 V$
- $V_{BE(on)}$ @ -55°C, $V_{CE} = 10 V$



Micro Commercial Components

Ordering Information :

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

Note : Adding "-HF" suffix for halogen free, eg. Part Number-AP-HF

IMPORTANT NOTICE

Micro Commercial Components Corp. reserves the right to make changes without further notice to any product herein to make corrections, modifications, enhancements, improvements, or other changes. **Micro Commercial Components Corp.** does not assume any liability arising out of the application or use of any product described herein; neither does it convey any license under its patent rights, nor the rights of others. The user of products in such applications shall assume all risks of such use and will agree to hold **Micro Commercial Components Corp.** and all the companies whose products are represented on our website, harmless against all damages.

LIFE SUPPORT

MCC's products are not authorized for use as critical components in life support devices or systems without the express written approval of Micro Commercial Components Corporation.

CUSTOMER AWARENESS

Counterfeiting of semiconductor parts is a growing problem in the industry. Micro Commercial Components (MCC) is taking strong measures to protect ourselves and our customers from the proliferation of counterfeit parts. MCC strongly encourages customers to purchase MCC parts either directly from MCC or from Authorized MCC Distributors who are listed by country on our web page cited below. Products customers buy either from MCC directly or from Authorized MCC Distributors are genuine parts, have full traceability, meet MCC's quality standards for handling and storage. **MCC will not provide any warranty coverage or other assistance for parts bought from Unauthorized Sources.** MCC is committed to combat this global problem and encourage our customers to do their part in stopping this practice by buying direct or from authorized distributors.

www.mccsemi.com

X-ON Electronics

Largest Supplier of Electrical and Electronic Components

Click to view similar products for [Bipolar Transistors - BJT category](#):

Click to view products by [Micro Commercial Components \(MCC\) manufacturer](#):

Other Similar products are found below :

[619691C](#) [MCH4017-TL-H](#) [BC546/116](#) [BC557/116](#) [BSW67A](#) [NTE158](#) [NTE187A](#) [NTE195A](#) [NTE2302](#) [NTE2330](#) [NTE63](#) [C4460](#)
[2SA1419T-TD-H](#) [2SA1721-O\(TE85L,F\)](#) [2SA2126-E](#) [2SB1204S-TL-E](#) [2SC5488A-TL-H](#) [2SD2150T100R](#) [SP000011176](#) [FMMTA92QTA](#)
[2N2369ADCSM](#) [2SC2412KT146S](#) [2SC5490A-TL-H](#) [2SD1816S-TL-E](#) [2SD1816T-TL-E](#) [CMXT2207 TR](#) [CPH6501-TL-E](#) [MCH4021-TL-E](#)
[US6T6TR](#) [732314D](#) [CMXT3906 TR](#) [CPH3121-TL-E](#) [CPH6021-TL-H](#) [873787E](#) [UMX21NTR](#) [EMT2T2R](#) [MCH6102-TL-E](#) [FP204-TL-E](#)
[NJL0302DG](#) [2N3583](#) [2SA1434-TB-E](#) [2SC3143-4-TB-E](#) [2SD1621S-TD-E](#) [NTE103](#) [30A02MH-TL-E](#) [NSV40301MZ4T1G](#) [NTE101](#) [NTE13](#)
[NTE15](#) [NTE16001](#)