



Micro Commercial Components



Micro Commercial Components
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NPN
2N6515, 2N6517
PNP
2N6519, 2N6520

Features

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

Mechanical Data

- Case: TO-92, Molded Plastic
Polarity: indicated as above.

Maximum Ratings @ 25°C Unless Otherwise Specified

Table with 4 columns: Characteristic, Symbol, Value, Unit. Rows include Collector-Emitter Voltage, Collector-Base Voltage, Emitter-Base Voltage, Base Current, Collector Current, Power Dissipation, Thermal Resistance, and Operating & Storage Temperature.

High Voltage
Transistor
625mW

TO-92
Diagram showing dimensions A, B, C, D, E, G for straight lead and bent lead bulk pack and ammo pack. Includes a DIMENSIONS table with columns for DIM, INCHES (MIN, MAX), MM (MIN, MAX), and NOTE.

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ELECTRICAL CHARACTERISTICS (T_A = 25°C unless otherwise noted)

Characteristic	Symbol	Min	Max	Unit
OFF CHARACTERISTICS				
Collector–Emitter Breakdown Voltage ⁽¹⁾ (I _C = 1.0 mA _{dc} , I _B = 0)	V _{(BR)CEO}	250 300 350	— — —	V _{dc}
Collector–Base Breakdown Voltage (I _C = 100 μA _{dc} , I _E = 0)	V _{(BR)CBO}	250 300 350	— — —	V _{dc}
Emitter–Base Breakdown Voltage (I _E = 10 μA _{dc} , I _C = 0)	V _{(BR)EBO}	6.0 5.0	— —	V _{dc}
Collector Cutoff Current (V _{CB} = 150 V _{dc} , I _E = 0) (V _{CB} = 200 V _{dc} , I _E = 0) (V _{CB} = 250 V _{dc} , I _E = 0)	I _{CBO}	— — —	50 50 50	nA _{dc}
Emitter Cutoff Current (V _{EB} = 5.0 V _{dc} , I _C = 0) (V _{EB} = 4.0 V _{dc} , I _C = 0)	I _{EBO}	— —	50 50	nA _{dc}
ON CHARACTERISTICS⁽¹⁾				
DC Current Gain (I _C = 1.0 mA _{dc} , V _{CE} = 10 V _{dc})	h _{FE}	35 30 20	— — —	—
(I _C = 10 mA _{dc} , V _{CE} = 10 V _{dc})		50 45 30	— — —	
(I _C = 30 mA _{dc} , V _{CE} = 10 V _{dc})		50 45 30	300 270 200	
(I _C = 50 mA _{dc} , V _{CE} = 10 V _{dc})		45 40 20	220 200 200	
(I _C = 100 mA _{dc} , V _{CE} = 10 V _{dc})		25 20 15	— — —	
Collector–Emitter Saturation Voltage (I _C = 10 mA _{dc} , I _B = 1.0 mA _{dc}) (I _C = 20 mA _{dc} , I _B = 2.0 mA _{dc}) (I _C = 30 mA _{dc} , I _B = 3.0 mA _{dc}) (I _C = 50 mA _{dc} , I _B = 5.0 mA _{dc})	V _{CE(sat)}	— — — —	0.30 0.35 0.50 1.0	V _{dc}
Base–Emitter Saturation Voltage (I _C = 10 mA _{dc} , I _B = 1.0 mA _{dc}) (I _C = 20 mA _{dc} , I _B = 2.0 mA _{dc}) (I _C = 30 mA _{dc} , I _B = 3.0 mA _{dc})	V _{BE(sat)}	— — —	0.75 0.85 0.90	V _{dc}
Base–Emitter On Voltage (I _C = 100 mA _{dc} , V _{CE} = 10 V _{dc})	V _{BE(on)}	—	2.0	V _{dc}

1. Pulse Test: Pulse Width ≤ 300 μs, Duty Cycle ≤ 2.0%.

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

Characteristic	Symbol	Min	Max	Unit
SMALL-SIGNAL CHARACTERISTICS				
Current-Gain — Bandwidth Product ⁽¹⁾ ($I_C = 10\text{ mAdc}$, $V_{CE} = 20\text{ Vdc}$, $f = 20\text{ MHz}$)	f_T	40	200	MHz
Collector-Base Capacitance ($V_{CB} = 20\text{ Vdc}$, $I_E = 0$, $f = 1.0\text{ MHz}$)	C_{cb}	—	6.0	pF
Emitter-Base Capacitance ($V_{EB} = 0.5\text{ Vdc}$, $I_C = 0$, $f = 1.0\text{ MHz}$)	C_{eb}	—	80	pF
			100	
SWITCHING CHARACTERISTICS				
Turn-On Time ($V_{CC} = 100\text{ Vdc}$, $V_{BE(off)} = 2.0\text{ Vdc}$, $I_C = 50\text{ mAdc}$, $I_{B1} = 10\text{ mAdc}$)	t_{on}	—	200	μs
Turn-Off Time ($V_{CC} = 100\text{ Vdc}$, $I_C = 50\text{ mAdc}$, $I_{B1} = I_{B2} = 10\text{ mAdc}$)	t_{off}	—	3.5	μs

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

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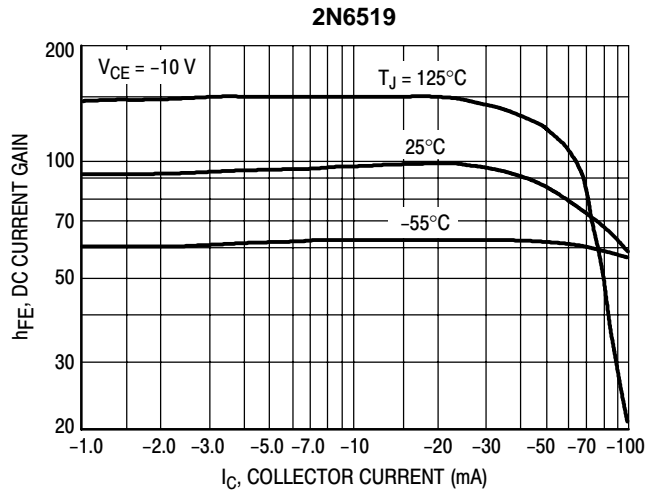
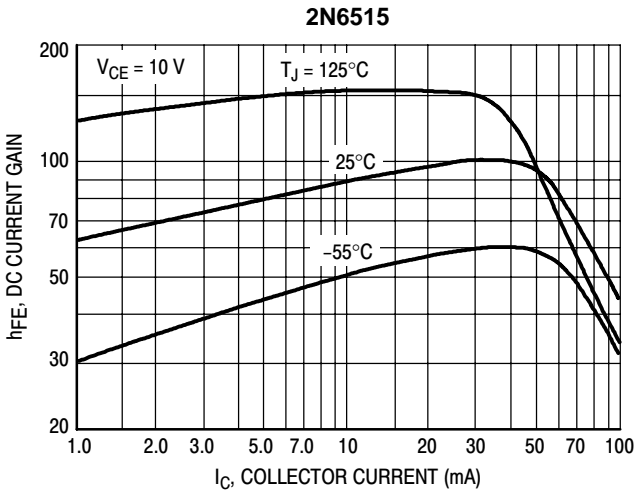


Figure 1. DC Current Gain

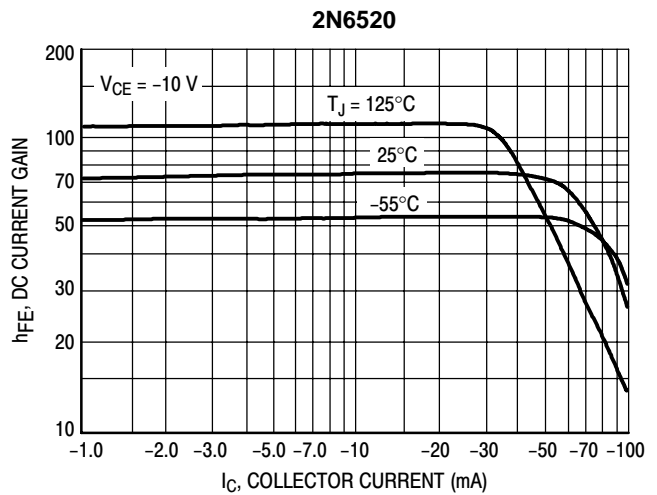
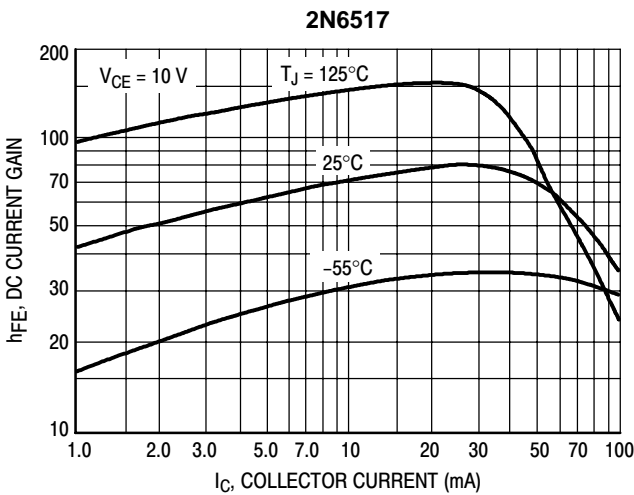


Figure 2. DC Current Gain

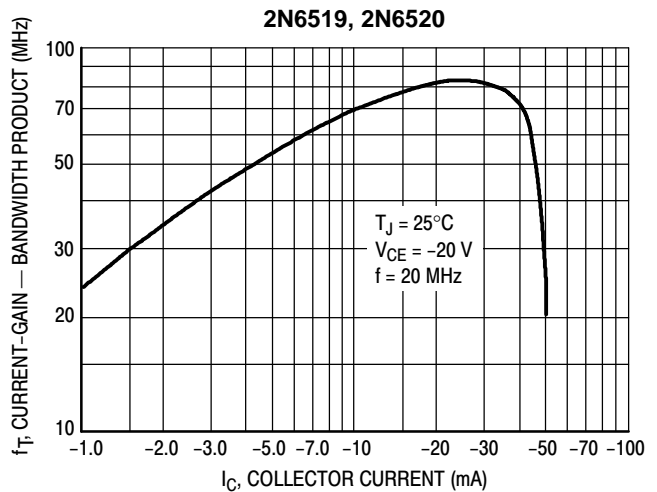
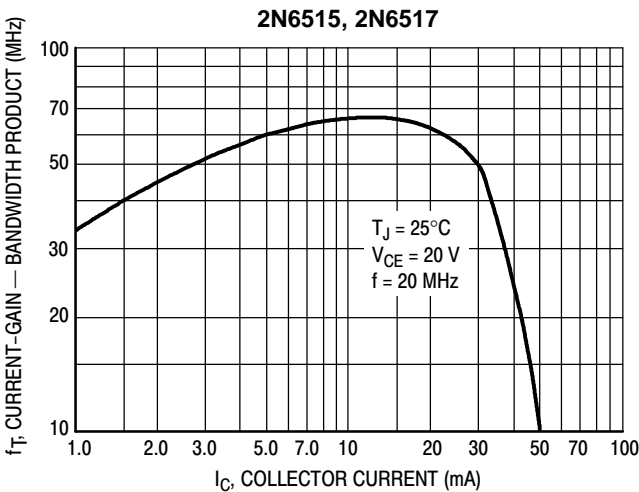


Figure 3. Current-Gain — Bandwidth Product

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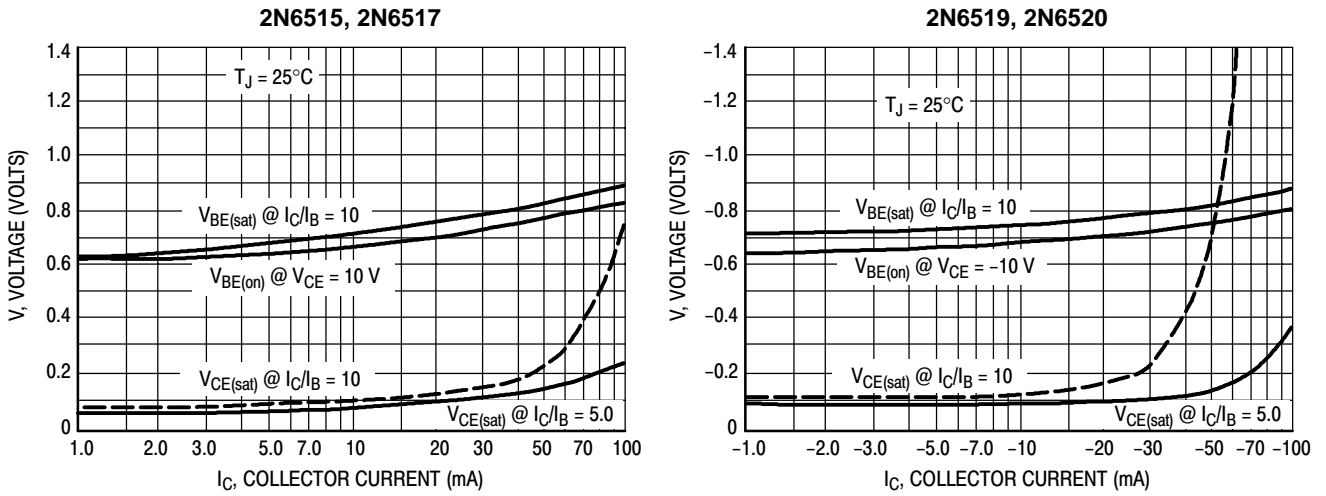


Figure 4. "On" Voltages

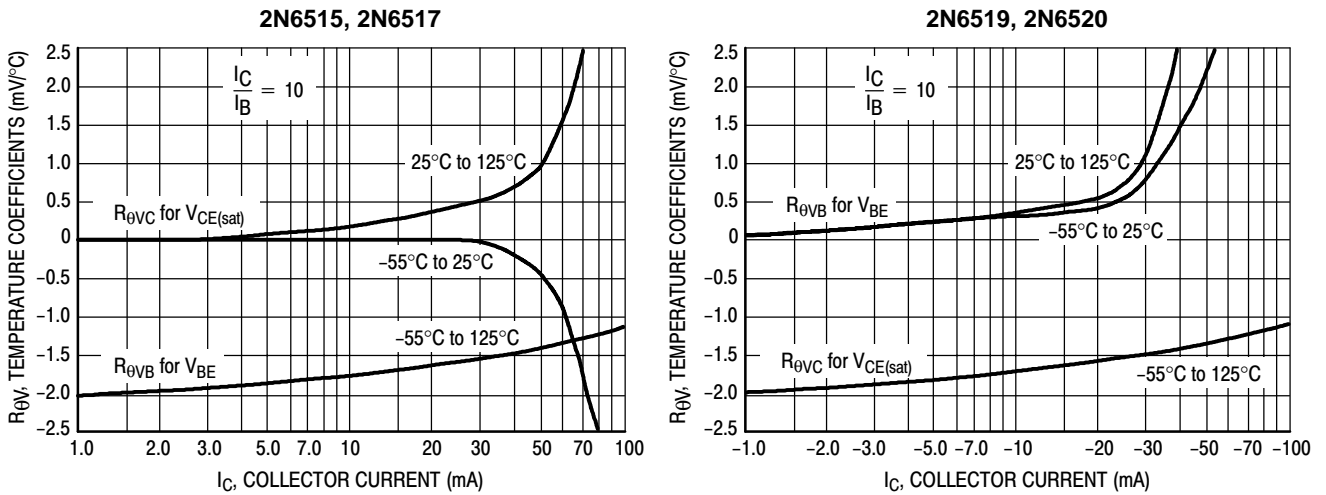


Figure 5. Temperature Coefficients

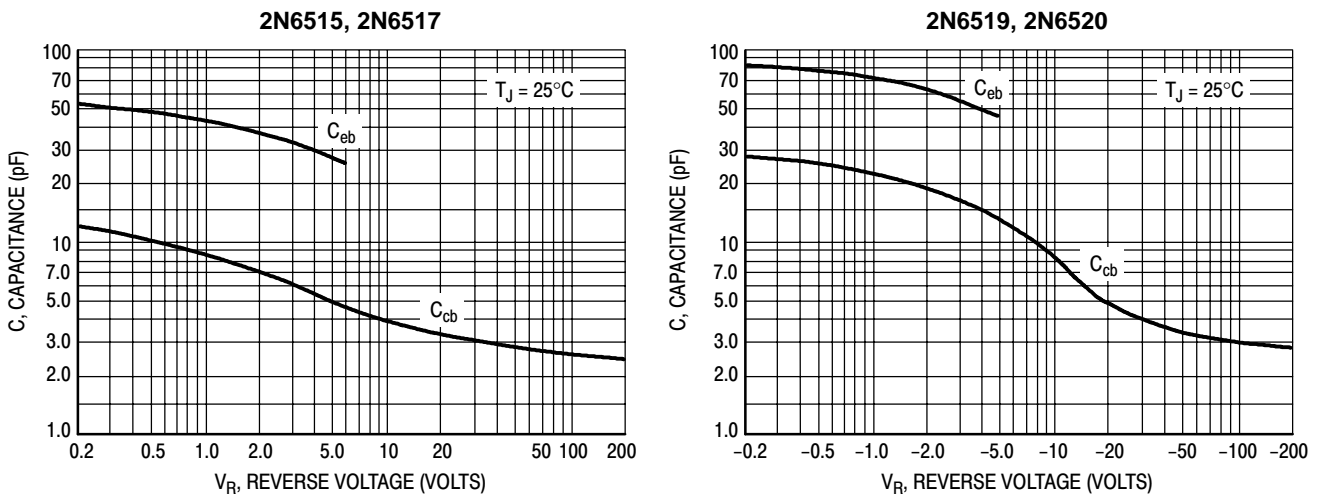


Figure 6. Capacitance

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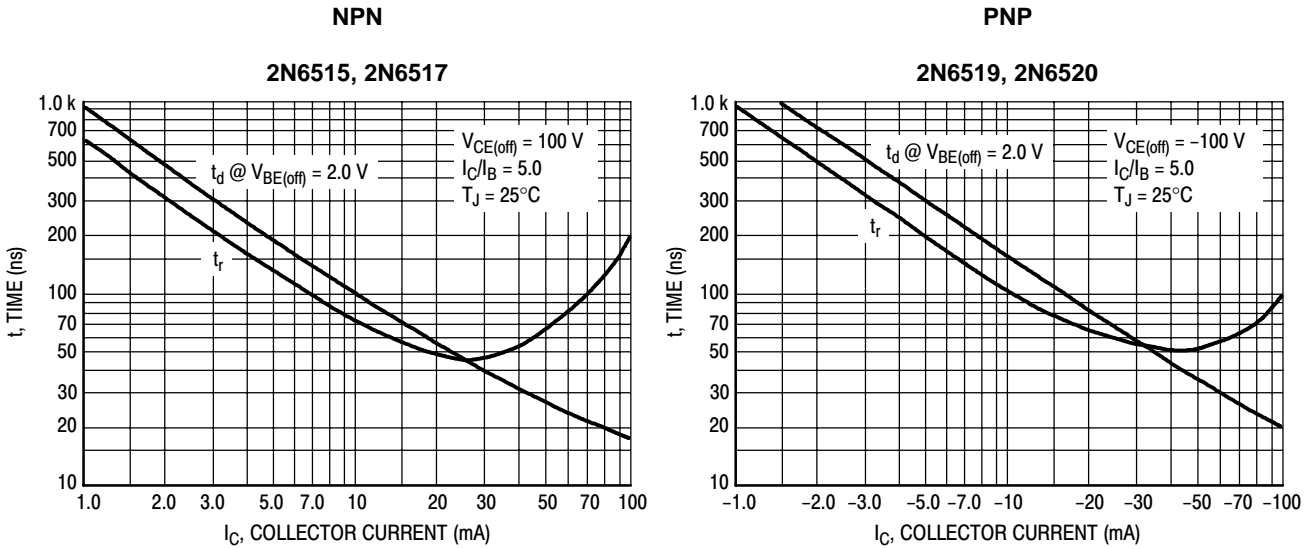


Figure 7. Turn-On Time

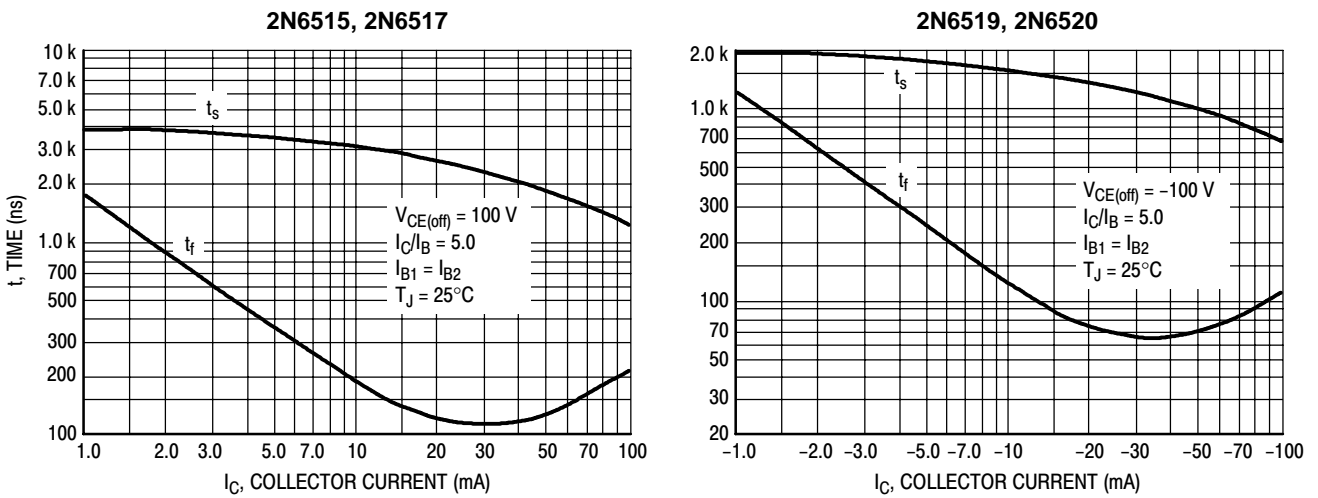


Figure 8. Turn-Off Time



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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-BP-HF

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