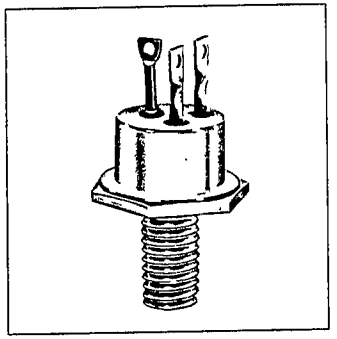
Westinghouse

"O.E.M. Line" Silicon Power Transistors Westinghouse Type 153 Type 154

7.5 Amperes, 200 Watts
Collector Voltages 40 to 300 Volts



Application

Westinghouse types 153 and 154 NPN silicon power transistors are a series of low-cost units designed expressly to meet the needs of Original Equipment Manufacturers of commercial electronic and control apparatus. Their low saturation resistance, high collector voltage and high temperature characteristics make them ideally suited for use in regulator, amplifier and switching circuits. In many applications, one of these units can replace two or more germanium power transistors.

Typical Applications

Amplifiers
Switching Circuits
Industrial Controls
Regulators
Power Supplies
Pulse Generators
Oscillators
Inverters
Ignition Systems
Modulators
Servo Systems
Sweep Circuits
Logic Circuits
Active Filters

Maximum Ratings

Voltage

Type		V_{CBO}	V_{CE}	V_{EBO}
153-04	154-04	65	40	25
153-06	154-06	85	60	25
153-08	154-08	105	80	25
153-10	154-10	125	100	25
153-12	154-12	145	120	25
153-14	154-14	165	140	25
153-16	154-16	185	160	25
153-18	154-18	205	180	25
153-20	154-20	225	200	25
153-22	154-22	245	220	25
153-24	154-24	265	240	25
153-26	154-26	285	260	25
153-28	154-28	305	280	25
153-30	154-30	325	300	25

Current
Collector current, I_C, Adc.....7.5
Base current, I_B, Adc.....3.0

Power
Power dissipation, P_T @ T_C=25°C, watts, max.....200
Linear derating factor from 25°C..1.33W/°C

Temperature
Storage and operating temperature, T_{stg}, T_J.....−65 to +175°C

Electrical Characteristics

T_C=25°C unless otherwise specified

	Symbol	Type 153			Type 154		
		Min.	Typ.	Max.	Min.	Typ.	Max.
Collector cut-off current at V_{CEX}=max. rating, V_{BE}=−1.5 Vdc, mAdc	I_{CEX}	..	..	10	..	..	10
Collector cut-off current at V_{CEX}=max. rating, T_C=175°C, V_{BE}=−1.5 Vdc, mAdc	I_{CEX}	..	..	20	..	..	20
Emitter cut-off current at V_{EB}=25 Vdc, I_C=0, T_C=175°C, mAdc	I_{EBO}	..	..	20	..	..	20
Turn-on time at V_{CE}=12 Vdc, I_C=1.5A, I_B=.3A, microseconds	t_{on}	..	3	..	..	3	..
Turn-off time at V_{CE}=12 Vdc, V_{BE}=−15 Vdc, I_C=1.5A, I_B=−.3A, microseconds	t_{off}	..	6	..	..	6	..
Collector-emitter saturation voltage at I_C=1.5 Adc, I_B=0.25 Adc, Vdc	$V_{CE(sat)}$	..	..	1.30	..	..	1.25
Base-emitter voltage at I_C=1.5 Adc, I_B=0.25 Adc, Vdc	$V_{BE(sat)}$	..	..	2.5	..	..	2.0
Base-emitter voltage at I_C=1.5 Adc, V_{CE}=4 Vdc, Vdc	V_{BE}	..	..	2.2	..	..	1.8
Dc current gain at V_{CE}=4 Vdc, I_C=1.5 Adc	h_{FE}	15	..	..	25	..	..

Typical Characteristics

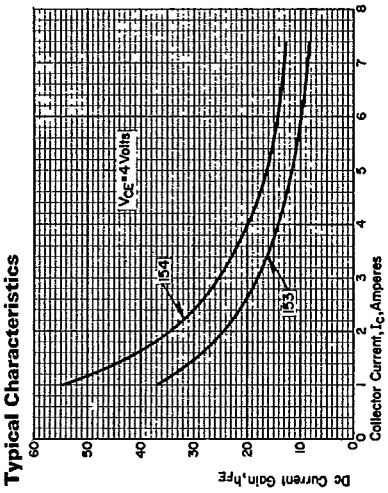


Figure 1. Typical dc gain versus collector current at T_C=25°C.

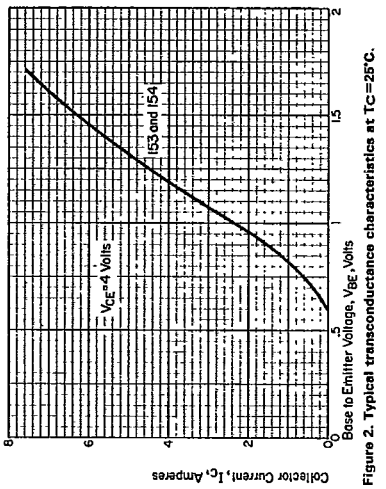
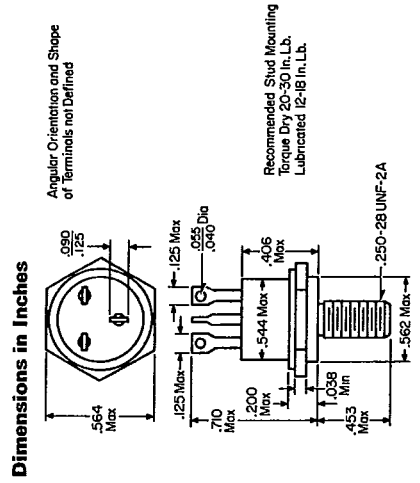


Figure 2. Typical transconductance characteristics at T_C=25°C.

Dimensions in Inches



Insulating hardware supplied, S#140A601G23.

April, 1967
Supersedes TD 54-672, pages 3 and 4, dated December, 1963
E, D, C/2116/DB; E, D, C/2117

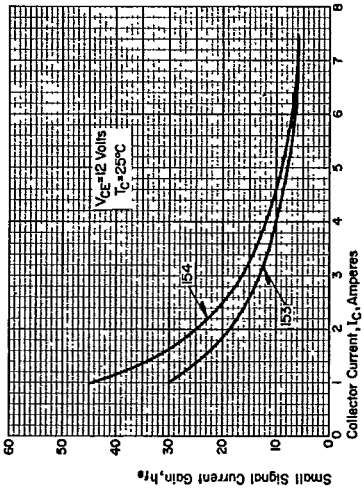


Figure 3. Typical small signal gain versus collector current.

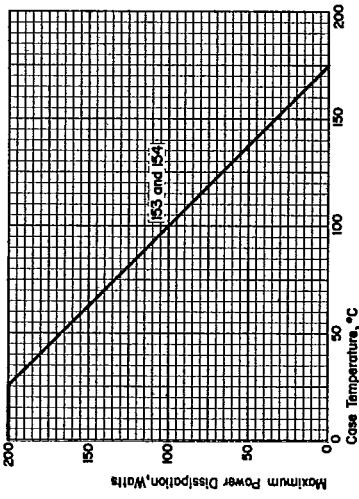


Figure 4. Derating curve.

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