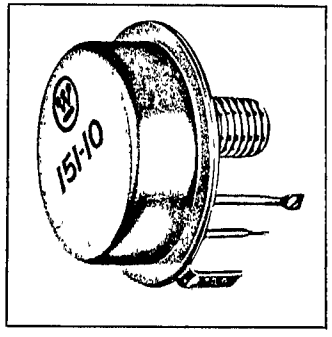
Westinghouse

"O.E.M. Line" Silicon Power Transistors Westinghouse Type 151 Type 152

6.0 Amperes, 100 Watts
Collector Voltages 40 to 300 Volts



Application

Westinghouse types 151 and 152 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	Inverters
Switching Circuits	Ignition Systems
Industrial Controls	Modulators
Regulators	Servo Systems
Power Supplies	Sweep Circuits
Pulse Generators	Logic Circuits
Oscillators	Active Filters

Maximum Ratings

Voltage

Type		V_{CBO}	V_{CE}	V_{EBO}
151-04	152-04	65	40	25
151-06	152-06	85	60	25
151-08	152-08	105	80	25
151-10	152-10	125	100	25
151-12	152-12	145	120	25
151-14	152-14	165	140	25
151-16	152-16	185	160	25
151-18	152-18	205	180	25
151-20	152-20	225	200	25
151-22	152-22	245	220	25
151-24	152-24	265	240	25
151-26	152-26	285	260	25
151-28	152-28	305	280	25
151-30	152-30	325	300	25

Current

Collector current, I_C, Adc.....6.0
Base current, I_B, Adc.....3.0

Power

Power dissipation, P_T @ T_C=25°C, watts, max.....100
Linear derating factor from 25°C..1.4W/°C

Temperature

Storage and operating temperature, T_{stg}, T_J.....−65 to +150°C

Electrical Characteristics

T_C=25°C unless otherwise specified

	Symbol	Type 151 Min.	Type 151 Max.	Type 152 Min.	Type 152 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=150°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=150°C, mAdc	I_{EBO}	—	20	—	20
Turn-on time at V_{CC}=12 Vdc, I_C=1.5A, I_B=.4A, microseconds	t_{on}	—	7	—	7
Turn-on time at V_{CC}=12 Vdc, I_C=1.5A, I_B=.25A, microseconds	t_{on}	—	14	—	14
Turn-off time at V_{CC}=12 Vdc, V_{BE}=−25 Vdc, I_C=1.5A, I_B=−.4A, microseconds	t_{off}	—	1.30	—	1.25
Turn-off time at V_{CC}=12 Vdc, V_{BE}=−25 Vdc, I_C=1.5A, I_B=−.25A, microseconds	t_{off}	—	2.5	—	2.0
Collector-emitter saturation voltage at I_C=1.5 Adc, I_B=0.25 Adc, Vdc	$V_{CE(sat)}$	—	—	—	—
Base-emitter voltage at I_C=1.5 Adc, I_B=0.25 Adc, Vdc	$V_{BE(sat)}$	—	—	—	—
Dc current gain at V_{CE}=4 Vdc, I_C=1.5 Adc	h_{FE}	11	—	18	—

Typical Characteristics

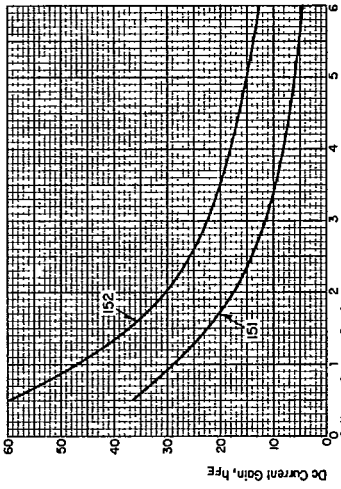


Figure 1. Typical dc gain versus collector current at T_C=25°C.

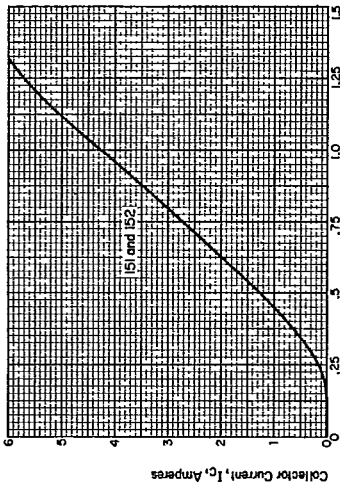
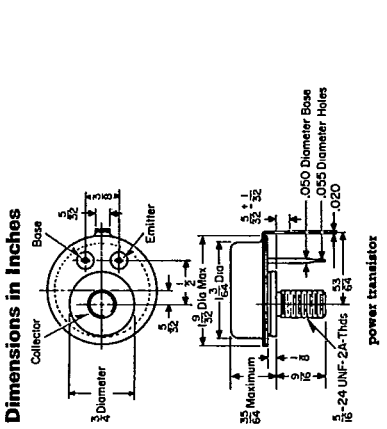
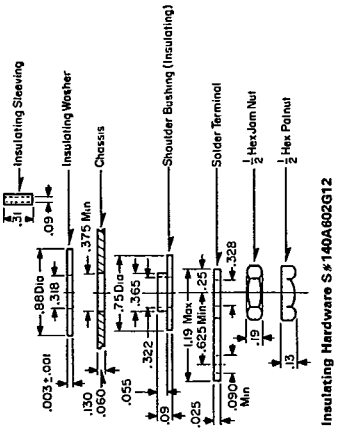


Figure 2. Typical transconductance characteristics at T_C=25°C.





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Supersedes TD 54-672, pages 1 and 2, dated July, 1965
E, D, C/2116/DB; E, D, C/2117

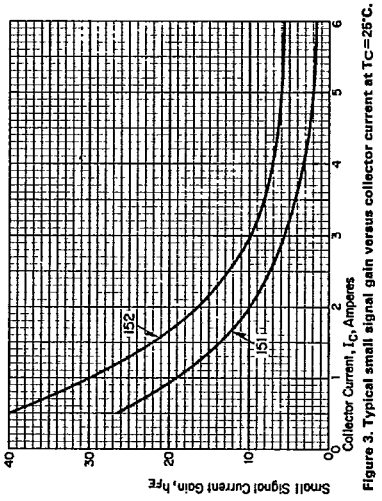

Figure 3. Typical small signal gain versus collector current at TC=25°C.

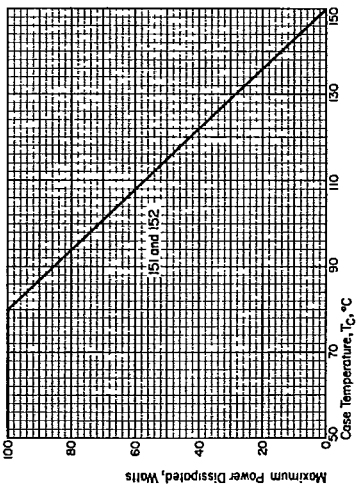

Figure 4. Derating curve.

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