

FEATURES

- Available as "HR" (high reliability) screened per MIL-PRF-19500, JANTX level. Add "HR" suffix to base part number.
- Available as non-RoHS (Sn/Pb plating), standard, and as RoHS by adding "-PBF" suffix.

MAXIMUM RATINGS

Parameter	Symbol	2SD820	Unit
Collector-base voltage	V_{CB0}	1500	V
Collector-emitter voltage	V_{CE0}	600	V
Emitter-base voltage	V_{EB0}	5	V
Collector current – continuous	I_C	5	A
Emitter current	I_{E0}	-5	A
Total power dissipation	P_D	50	W
Junction temperature	T_J	150	°C
Storage temperature range	T_{stg}	-65 to 150	°C

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

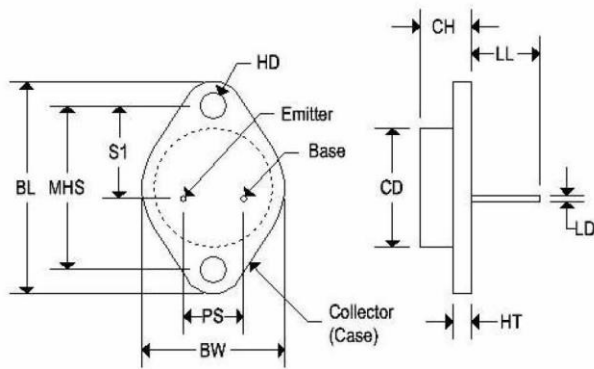
Parameter	Symbol	Conditions	2SD820			Unit
			Min	Typ	Max	
Collector cutoff current	I_{CB0}	$V_{CB} = 500V, I_E = 0$	-	-	10	μA
Emitter cutoff current	I_{E0}	$V_{EB} = 5V, I_C = 0$	-	-	1	mA
DC current gain	h_{FE}	$I_C = 1.0A, V_{CE} = 5V$	8	20	-	-
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C = 4.0A, I_B = 0.8A$	-	3	5	V
Base-emitter saturation voltage	$V_{BE(sat)}$	$I_C = 4.0A, I_B = 0.8A$	-	-	1.5	V
Transition frequency	f_T	$I_C = 0.1A, V_{CE} = 10V$	-	3	-	MHz
Output capacitance	C_{ob}	$I_E = 0, V_{CB} = 10V, f = 1\text{MHz}$	-	165	-	pF
Fall time	t_f	$I_{CP} = 4A, I_{B1}(\text{end}) = 0.8A$	-	0.5	1.0	μs

2SD820

SILICON NPN TRANSISTOR

MECHANICAL CHARACTERISTICS

Case:	TO-3
Marking:	Alpha-Numeric
Polarity:	See below



	TO-3			
	Inches		Millimeters	
	Min	Max	Min	Max
CD	-	0.875	-	22.220
CH	0.250	0.380	6.860	9.650
HT	0.060	0.135	1.520	3.430
BW	-	1.050	-	26.670
HD	0.131	0.188	3.330	4.780
LD	0.038	0.043	0.970	1.090
LL	0.312	0.500	7.920	12.700
BL	1.550 REF		39.370 REF	
MHS	1.177	1.197	29.900	30.400
PS	0.420	0.440	10.670	11.180
S1	0.655	0.675	16.640	17.150