

FEATURES

- Available as "HR" (high reliability) screened per MIL-PRF-19500, JANTX level. Add "HR" suffix to base part number.
- Available Non-RoHS (standard) or RoHS compliant (add PBF suffix).

MAXIMUM RATINGS

Parameter	Symbol	2N6298	2N6299	Unit
Collector-emitter voltage	V_{CEO}	60	80	Volts
Collector-base voltage	V_{CBO}	60	80	Volts
Emitter-base voltage	V_{EBO}	5.0		Volts
Base current	I_B	120		mA
Collector current	I_C	8.0		Amps
Total power dissipation $T_C = 0^\circ\text{C}^{(1)}$ $T_C = 100^\circ\text{C}$	P_D	75 32		Watts
Operating and storage temperature range	T_J, T_{stg}	-65 to +175		$^\circ\text{C}$
Thermal resistance, junction to case	$R_{\theta JC}$	2.33		$^\circ\text{C}/\text{W}$

Note 1: Derate linearly 0.428W/ $^\circ\text{C}$ above $T_C > 0^\circ\text{C}$.

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

Parameter	Symbol	Min	Max	Units	
OFF CHARACTERISTICS					
Collector emitter breakdown voltage $I_C = 100\text{mA}$	2N6298 2N6299	$V_{(BR)CEO}$	60 80	- -	Volts
Collector emitter cutoff current $V_{CE} = 30\text{V}$ $V_{CE} = 40\text{V}$	2N6298 2N6299	I_{CEO}	- -	0.5 0.5	mA
Collector emitter cutoff current $V_{CE} = 60\text{V}, V_{BE} = 1.5\text{V}$ $V_{CE} = 80\text{V}, V_{BE} = 1.5\text{V}$	2N6298 2N6299	I_{CEX}	- -	0.5 0.5	mA
Emitter base cutoff current $V_{EB} = 5.0\text{V}$		I_{EBO}	-	2.0	mA
ON CHARACTERISTICS ⁽²⁾					
Forward current transfer ratio $I_C = 1.0\text{A}, V_{CE} = 3\text{V}$ $I_C = 4.0\text{A}, V_{CE} = 3\text{V}$ $I_C = 8.0\text{A}, V_{CE} = 3\text{V}$		h_{FE}	500 750 100	- 18000 -	-
Collector emitter saturation voltage $I_C = 4.0\text{A}, I_B = 16\text{mA}$ $I_C = 8.0\text{A}, I_B = 80\text{mA}$		$V_{CE(sat)}$	- -	2.0 3.0	Volts
Base emitter saturation voltage $I_C = 8.0\text{A}, I_B = 80\text{mA}$		$V_{BE(sat)}$	-	4.0	Volts
Base emitter voltage $I_C = 4.0\text{A}, V_{CE} = 3.0\text{V}$		$V_{BE(on)}$	-	2.8	Volts

2N6298, 2N6299

PNP SILICON DARLINGTON POWER TRANSISTORS

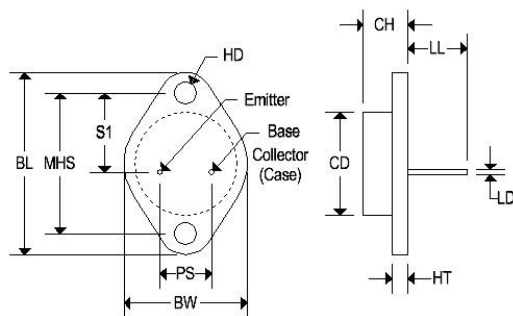
ELECTRICAL CHARACTERISTICS (T_C = 25°C unless otherwise noted)

Parameter	Symbol	Min	Max	Units
DYNAMIC CHARACTERISTICS				
Magnitude of common emitter small signal short circuit forward current transfer ratio I _C = 3.0A, V _{CE} = 3.0V, f = 1MHz	h _{fe}	25	350	-
Small signal short circuit forward current transfer ratio I _C = 3.0A, V _{CE} = 3.0V, f = 1kHz	h _{fe}	300	-	-
Output capacitance V _{CB} = 10V, I _E = 0, 100kHz ≤ f ≤ 1.0MHz	C _{obo}	-	200	pF
SWITCHING CHARACTERISTICS				
Turn-on time V _{CC} = 30V, I _C = 4A, I _{B1} = 16mA	t _{on}	-	2.0	μs
Turn-off time V _{CC} = 30V, I _C = 4.0A, I _{B1} = 16mA	t _{off}	-	8.0	μs
SAFE OPERATING AREA				
DC Tests T _C = 25°C, 1 cycle, t = 1.0s				
Test 1 V _{CE} = 8.0V, I _C = 8.0A				
Test 2 V _{CE} = 20V, I _C = 2.0A				
Test 3 V _{CE} = 60V, I _C = 100mA (2N6298) V _{CE} = 80V, I _C = 100mA (2N6299)				

Note 2: Pulse width < 300μs, duty cycle < 2%.

MECHANICAL CHARACTERISTICS

Case	TO-66
Marking	Alpha-numeric
Polarity	Pin out



Dim	TO-66			
	Inches		Millimeters	
	Min	Max	Min	Max
BL	1.205	1.280	30.60	32.50
CD	0.445	0.557	11.303	14.148
CH	0.257	0.284	6.540	7.220
LL	0.374	0.413	9.500	10.50
BW	0.680	0.727	17.26	18.46
LD	0.030	0.036	0.760	0.920
HT	0.054	0.065	1.380	1.650
MHS	0.951	0.976	24.16	24.78
S1	0.545	0.614	13.84	15.60
HD	0.131	0.154	3.320	3.920
PS	0.191	0.210	4.860	5.340