

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	2N6576	2N6577	2N6578	Unit
Collector-Emitter Voltage	$V_{CEO(SUS)}$	60	90	120	V
Collector-Base Voltage	V_{CBO}	60	90	120	V
Emitter-Base Voltage	V_{EBO}	7			V
Collector Current – Continuous	I_C	15			A
Collector Current – Peak	I_C	30			A
Base Current – Continuous	I_B	0.25			A
Base Current – Peak	I_B	0.50			A
Emitter Current – Continuous	I_E	15.25			A
Base Current – Peak	I_E	30.5			A
Total Power Dissipation Derate above 25°C	P_D	120 0.685			W W/°C
Junction and Storage Temperature Range	T_J, T_{stg}	-65 to 200			°C

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

Parameter	Symbol	Conditions	2N6576		2N6577		2N6578		Unit
			Min	Max	Min	Max	Min	Max	
Collector-Emitter Sustaining Voltage ⁽¹⁾	$V_{CEO(SUS)}$ $V_{CER(SUS)}$	$I_C = 200\text{mA}, I_B = 0$	60	-	90	-	120	-	V
Collector Cutoff Current	I_{CEO}	$V_{CE} = \text{Rated Value}$	-	1.0	-	1.0	-	1.0	mA
Collector Cutoff Current	I_{CER}	$V_{CER} = \text{Rated } V_{CEO(SUS)},$ $R_{BE} = 10\text{k}\Omega, T_C = 150^\circ\text{C}$	-	5.0	-	5.0	-	5.0	mA
Collector Cutoff Current	I_{CEV}	$V_{CER} = \text{Rated } V_{CEO(SUS)},$ $V_{BE(off)} = 1.5\text{V}$	-	5.0	-	5.0	-	5.0	mA
Collector Cutoff Current	I_{CBO}	$V_{CB} = \text{Rated Value}$	-	0.5	-	0.5	-	0.5	mA

ON CHARACTERISTICS

DC Current Gain	h_{FE}	$I_C = 15\text{A}, V_{CE} = 4\text{V}$ $I_C = 10\text{A}, V_{CE} = 3\text{V}$ $I_C = 4\text{A}, V_{CE} = 3\text{V}$ $I_C = 0.4\text{A}, V_{CE} = 3\text{V}$	100 500 2000 200	- 5000 20000 -	100 500 2000 200	- 5000 20000 -	100 500 2000 200	- 5000 20000 -	-
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C = 15\text{A}, I_B = 0.15\text{A}$ $I_C = 10\text{A}, I_B = 0.10\text{A}$	- -	4.0 2.8	- -	4.0 2.8	- -	4.0 2.8	V
Base-Emitter Saturation Voltage	$V_{BE(sat)}$	$I_C = 15\text{A}, I_B = 0.15\text{A}$ $I_C = 10\text{A}, I_B = 0.10\text{A}$	- -	4.5 3.5	- -	4.5 3.5	- -	4.5 3.5	V
Collector-Emitter Diode Voltage Drop	V_F	$I_{EC} = 15\text{A}$	-	4.5	-	4.5	-	4.5	V

2N6576-2N6578

SILICON NPN DARLINGTON TRANSISTORS

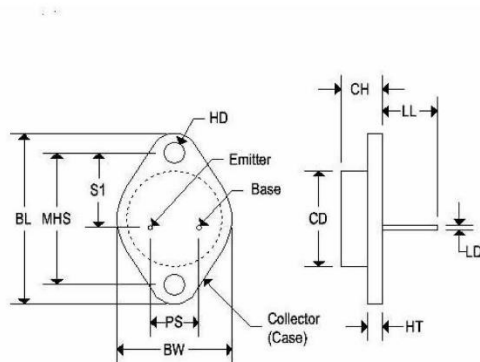
ELECTRICAL CHARACTERISTICS ($T_C = 25^\circ\text{C}$ unless otherwise noted)

Parameter	Symbol	Conditions	2N6576		2N6577		2N6578		Unit
			Min	Max	Min	Max	Min	Max	
Magnitude of Common-Emitter Small-Signal Short-Circuit Current Transfer Ratio	$ h_{re} $	$I_C = 3.0\text{A}$, $V_{CE} = 3.0\text{V}$, $f = 1.0\text{MHz}$	10	200	10	200	10	200	-
SWITCHING CHARACTERISTICS									
Delay Time	t_d	$V_{CC} = 30\text{V}$, $I_C = 10\text{A}$, $I_{B1} = 0.1\text{A}$, $t_p = 300\mu\text{s}$, Duty Cycle = 2.0%	-	0.15	-	0.15	-	0.15	μs
Rise Time	t_r		-	1.0	-	1.0	-	1.0	
Storage Time	t_s	$V_{CC} = 30\text{V}$, $I_C = 10\text{A}$, $I_{B1} = I_{B2} = 0.1\text{A}$, $t_p = 300\mu\text{s}$, Duty Cycle = 2.0%	-	2.0	-	2.0	-	2.0	
Fall Time	t_f		-	7.0	-	7.0	-	7.0	

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

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

DARLINGTON SCHEMATIC

