

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

Rating	Symbol	2N6057 2N6050	2N6058 2N6051	2N6059 2N6052	Units
Collector-base voltage ($I_E = 0$)	V_{CBO}	60	80	100	V
Collector-emitter voltage ($V_{BE} = -1.5V$)	V_{CEX}	60	80	100	V
Collector-emitter voltage ($I_B = 0$)	V_{CEO}	60	80	100	V
Emitter base voltage ($I_C = 0$)	V_{EBO}	5.0			V
Collector current – continuous	I_C	12			A
Collector current – peak	I_{CM}	20			A
Base current	I_B	0.2			A
Total power dissipation $T_C \leq 25^\circ C$	P_D	150			W
Operating and storage junction temperature range	T_J, T_{stg}	-65 to +200			$^\circ C$
Thermal resistance, junction to case	R_{thj-c}	1.170			$^\circ C/W$

ELECTRICAL CHARACTERISTICS ($T_C = 25^\circ C$ unless otherwise specified)

Characteristic	Symbol	Min	Max	Unit
OFF CHARACTERISTICS				
Collector cutoff current ($V_{CE} = \text{rated } V_{CEX}, V_{BE(off)} = -1.5V$) ($V_{CE} = \text{rated } V_{CEX}, V_{BE(off)} = -1.5V, T_C = 150^\circ C$)	I_{CEX}	-	0.5 5.0	mA
Collector cutoff current ($V_{CE} = 30V, I_B = 0$) ($V_{CE} = 40V, I_B = 0$) ($V_{CE} = 50V, I_B = 0$)	I_{CEO}	-	1.0 1.0 1.0	mA
Emitter cutoff current ($I_C = 0, V_{EB} = 5.0V$)	I_{EBO}	-	2.0	mA
Collector-emitter sustaining voltage ⁽¹⁾ ($I_C = 100mA$)	$V_{CEO(sus)}$	60 80 100	- - -	V
Collector emitter saturation voltage ⁽¹⁾ ($I_C = 6A, I_B = 24mA$) ($I_C = 12A, I_B = 120mA$)	$V_{CE(sat)}$	- -	2.0 3.0	V
Base emitter saturation voltage ⁽¹⁾ ($I_C = 12A, I_B = 120mA$)	$V_{BE(sat)}$	-	4.0	V
Base emitter on voltage ⁽¹⁾ ($I_C = 6A, V_{CE} = 3.0V$)	$V_{BE(ON)}$	-	2.8	V

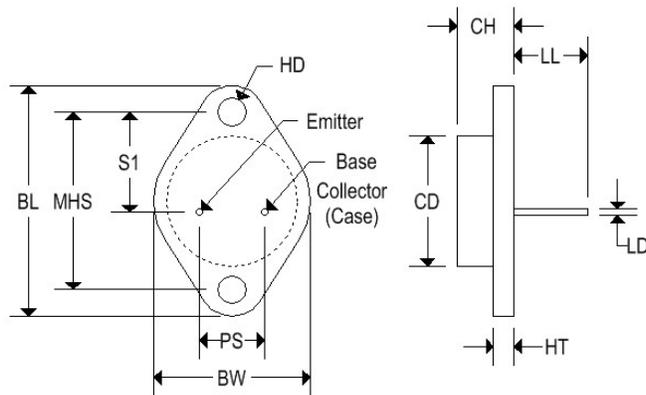
ELECTRICAL CHARACTERISTICS ($T_C = 25^\circ\text{C}$ unless otherwise specified)

Characteristic	Symbol	Min	Max	Unit
DC current gain ⁽¹⁾ ($I_C = 6\text{A}, V_{CE} = 3.0\text{V}$) ($I_C = 12\text{A}, V_{CE} = 3.0\text{V}$)	h_{FE}	750 100	- -	-
Transition frequency ($I_C = 5.0\text{A}, V_{CE} = 3.0\text{V}, f = 1.0\text{MHz}$)	f_T	4	-	MHz

Note 1: Pulse test: pulse width $\leq 300\mu\text{s}$, duty cycle $\leq 1.5\%$.

MECHANICAL CHARACTERISTICS

Case	TO-3
Marking	Alpha-numeric
Pin out	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