

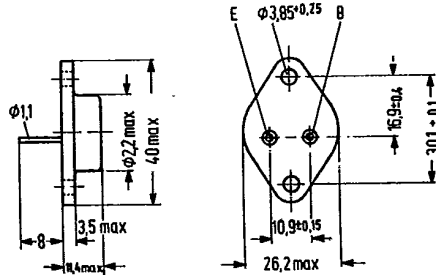
**NPN Transistor for Powerful AF Output Stages**

**2 N 3055**

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2 N 3055 is a single diffused NPN silicon transistor in TO 3 case (3 A 2 DIN 41872). The collector is electrically connected to the case. The transistor is particularly suitable for use in powerful AF output stages and in stabilized power supply units. One mica washer and two insulating nipples are provided for the insulated mounting of this transistor on a chassis; they are to be ordered separately.

Type	Ordering code
2 N 3055	Q62702-U58



Approx. weight 18 g

Dimensions in mm

**Maximum ratings**

Collector-base voltage	$V_{CBO}$	100	V
Collector-emitter voltage ( $V_{BE} = -1.5 \text{ V}; I_C = 10 \text{ mA}$ )	$V_{CEV}$	90	V
Collector-emitter voltage ( $R_{BE} = 100 \Omega; I_C = 200 \text{ mA}$ )	$V_{CER}$	70	V
Collector-emitter voltage	$V_{CEO}$	60	V
Emitter-base voltage	$V_{EBO}$	7	V
Collector current	$I_C$	15	A
Base current	$I_B$	7	A
Junction temperature	$T_j$	200	°C
Storage temperature range	$T_{stg}$	-65 to +200	°C
Total power dissipation ( $T_{case} = 25 \text{ °C}$ )	$P_{tot}$	115	W

**Thermal resistance**

Junction to case	$R_{thJC}$	$\leq 1.5$	K/W
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**Static characteristics** ( $T_{\text{case}} = 25^\circ\text{C}$ )

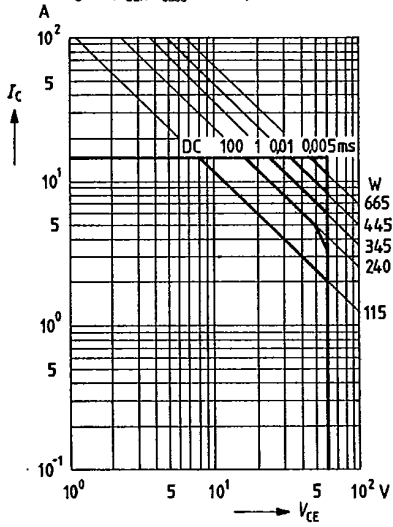
Collector cutoff current ( $V_{\text{CE}} = 30\text{ V}$ )	$I_{\text{CEO}}$	< 0.7	mA
Collector cutoff current ( $V_{\text{CEV}} = 100\text{ V}$ ; $V_{\text{BE}} = -1.5\text{ V}$ )	$I_{\text{CEV}}$	< 5	mA
Collector cutoff current ( $V_{\text{CEV}} = 100\text{ V}$ ; $V_{\text{BE}} = -1.5\text{ V}$ ; $T_{\text{case}} = 150^\circ\text{C}$ )	$I_{\text{CEV}}$	< 30	mA
Emitter cutoff current ( $V_{\text{EBO}} = 7\text{ V}$ )	$I_{\text{EBO}}$	< 5	mA
Collector-emitter breakdown voltage ( $I_{\text{C}} = 200\text{ mA}$ )	$V_{(\text{BR})\text{CEO}}$	> 60	V
Collector-emitter breakdown voltage ( $I_{\text{C}} = 100\text{ mA}$ ; $V_{\text{BE}} = -1.5\text{ V}$ )	$V_{\text{CEV}}$	> 90	V
Collector-emitter breakdown voltage ( $I_{\text{C}} = 200\text{ mA}$ ; $R_{\text{BE}} = 100\ \Omega$ )	$V_{\text{CER}}$	> 70	V
Base-emitter voltage ( $I_{\text{C}} = 4\text{ A}$ ; $V_{\text{CE}} = 4\text{ V}$ )	$V_{\text{BE}}$	< 1.8	V
Collector-emitter saturation voltage ( $I_{\text{C}} = 4\text{ A}$ ; $I_{\text{B}} = 0.4\text{ A}$ )	$V_{\text{CEsat}}$	< 1.1	V
( $I_{\text{C}} = 10\text{ A}$ ; $I_{\text{B}} = 3.3\text{ A}$ )	$V_{\text{CEsat}}$	< 8	V
DC current gain ( $I_{\text{C}} = 4\text{ A}$ ; $V_{\text{CE}} = 4\text{ V}$ )	$h_{\text{FE}}$	20 to 70	—

**Dynamic characteristics** ( $T_{\text{case}} = 25^\circ\text{C}$ )

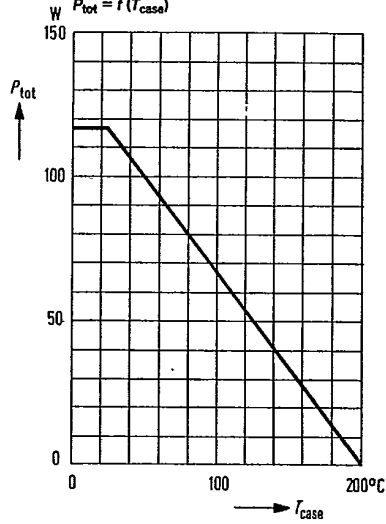
Transition frequency ( $I_{\text{C}} = 1\text{ A}$ )	$f_{\text{T}}$	> 0.8	MHz
$h_{\text{fe}}$ cutoff frequency ( $I_{\text{C}} = 1\text{ A}$ ; $V_{\text{CE}} = 4\text{ V}$ )	$f_{\text{hfe}}$	> 10	kHz

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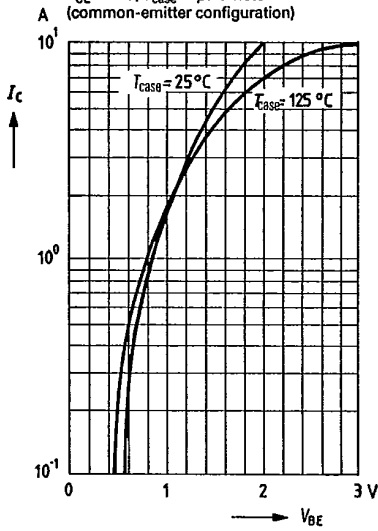
Permissible operating range  
 $I_C = f(V_{CE})$ ;  $T_{case} = 25^\circ\text{C}$ ;  $v = 0$



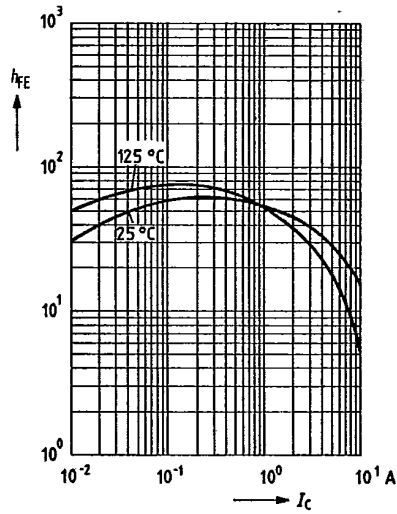
Total perm. power dissipation  
 versus temperature  
 $P_{tot} = f(T_{case})$



Collector current  $I_C = f(V_{BE})$   
 $V_{CE} = 4\text{ V}$ ;  $T_{case} = \text{parameter}$   
 (common-emitter configuration)



DC current gain  $h_{FE} = f(I_C)$   
 $V_{CE} = 4\text{ V}$ ;  $T_{case} = \text{parameter}$



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