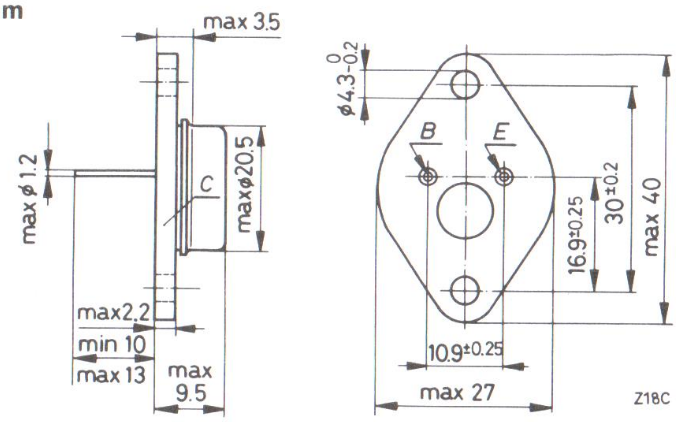
NPN Silicon Epibase Mesa Transistors

intended for use in AF power amplifiers as well as for switching applications. The devices are available as matched pairs, too. The collector is electrically connected to the case.

Dimensions in mm



Case: TO-3

Mass: approx. 15 g

Accessories (available as requested)

Insulating washer: CL-MO24/C
Insulating bush: VA-M168/B ($T_{case} \leq 100\,°C$)

Absolute maximum ratings

Emitter-base voltage	V_{EBO}	7	V
Collector-base voltage	V_{CBO}	100	V
Collector-emitter voltage $R_{BE} = 100\ \Omega$	V_{CER}	70	V
Collector-emitter voltage $-V_{BE} = 1.5$ V	V_{CEV}	90	V
Collector-emitter voltage	V_{CEO}	60	V
Collector current	I_C	15	A
Base current	I_B	7	A
Total power dissipation $T_{case} \leq 25\,°C$	P_{tot}	117	W
Junction temperature	T_j	200	°C
Storage temperature	T_s	−65 . . . + 200	°C

Thermal resistance

junction to case	R_{thjc}	= 1.5	K/W

Static characteristics[1]

$T_{amb} = 25\,°C$

		BDY 73	2N 3055	
Collector-emitter cut-off current $V_{CE} = 30$ V	I_{CEO}	–	≤0.7	mA
Collector-emitter cut-off current $V_{CE} = 100$ V, $-V_{BE} = 1.5$ V	I_{CEV}	≤5	≤5	mA

[1] measured under pulsed conditions

		BDY 73	2N 3055	
Collector-emitter cut-off current V_{CE} = 60 V, $-V_{BE}$ = 1.5 V, T_{case} = 150°C	I_{CEV}	≤10	–	mA
Collector-emitter cut-off current V_{CE} = 100 V, $-V_{BE}$ = 1.5 V, T_{case} = 150°C	I_{CEV}	–	≤30	mA
Emitter-base cut-off current V_{EB} = 7 V	I_{EBO}	≤5		mA
Collector-emitter breakdown voltage I_C = 200 mA	$V_{CEO(sus)}$	≥60		V
Collector-emitter breakdown voltage I_C = 200 mA, R_{BE} = 100 Ω	$V_{CER(sus)}$	≥70		V
Collector-emitter breakdown voltage $-V_{BE}$ = 1.5 V, I_C = 100 mA	$V_{CEV(sus)}$	≥90		V
Base-emitter voltage I_C = 4 A, V_{CE} = 4 V	V_{BE}	≤1.8		V
Collector-emitter saturation voltage I_C = 4 A, I_B = 0.4 A I_C = 10 A, I_B = 3.3 A	V_{CEsat} V_{CEsat}	≤1.1 ≤8		V V
DC forward current transfer ratio V_{CE} = 4 V, I_C = 4 A V_{CE} = 4 V, I_C = 10 A	h_{21E} h_{21E}	50 . . . 150 –	20 . . . 70 ≥5	

Pair conditions[1]

h_{21E}-ratio V_{CE} = 4 V, I_C = 500 mA		≤1.4		

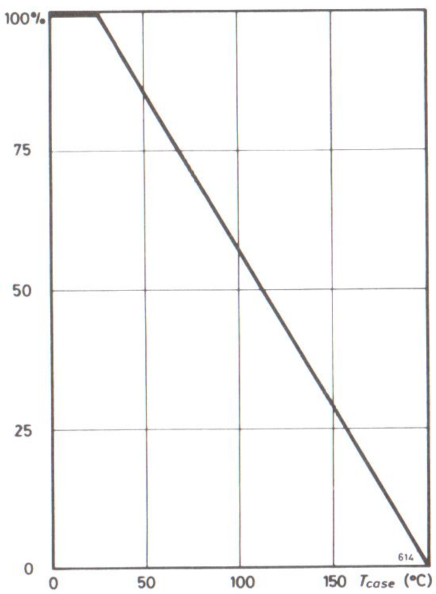
Dynamic characteristics[1]

T_{amb} = 25°C

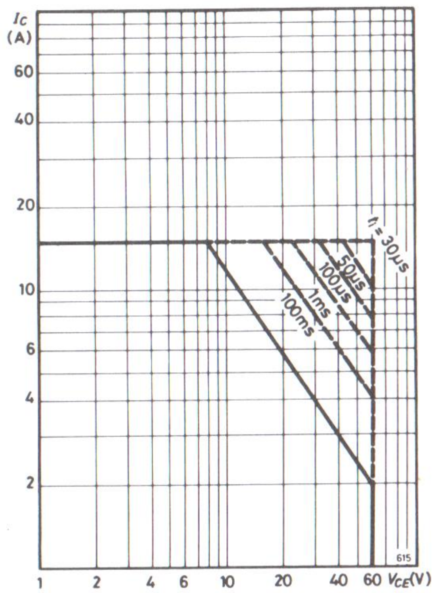
Transition frequency V_{CE} = 4 V, I_C = 1 A, f = 1 MHz	f_T	≥0.8		MHz

[1] measured under pulsed conditions

Derating of total power dissipation versus case temperatur

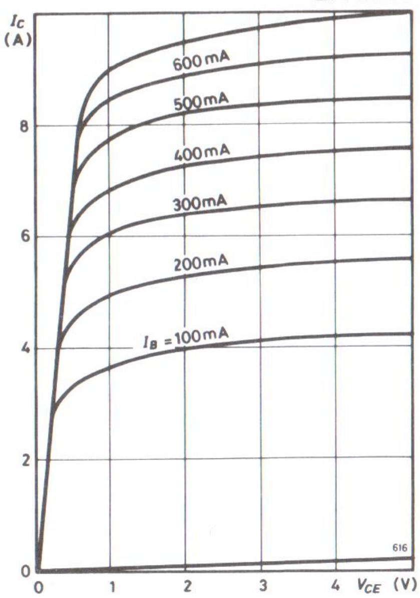


Safe operating area $I_C = f(V_{CE})$
$T_{case} \leq 25°C$, t_i = parameter

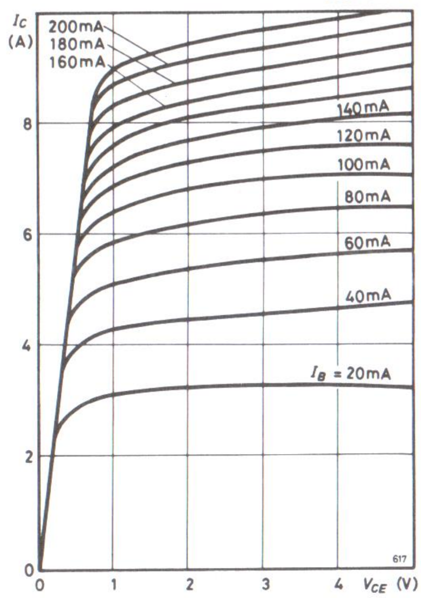


——— DC operation
------ Repetitive pulse operation

Collector current versus collector-emitter voltage
$I_C = f(V_{CE})$, I_B = parameter
2N 3055

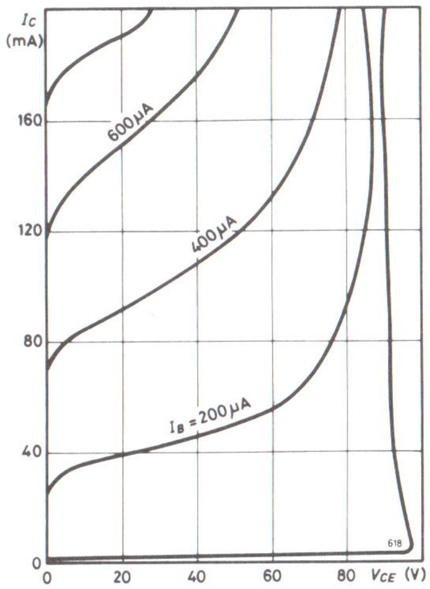


Collector current versus collector-emitter voltage
$I_C = f(V_{CE})$, I_B = parameter
BDY 73



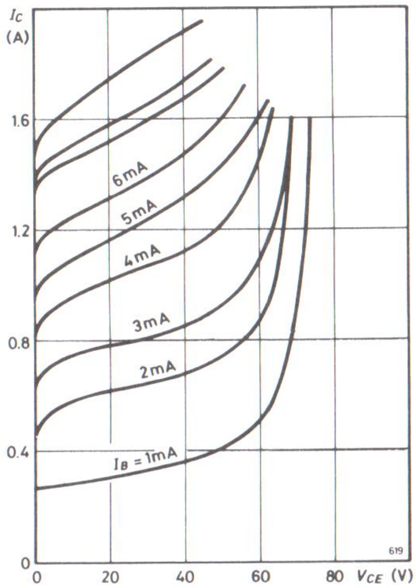
Collector current versus collector-emitter voltage
$I_C = f(V_{CE})$, I_B = parameter

2N 3055

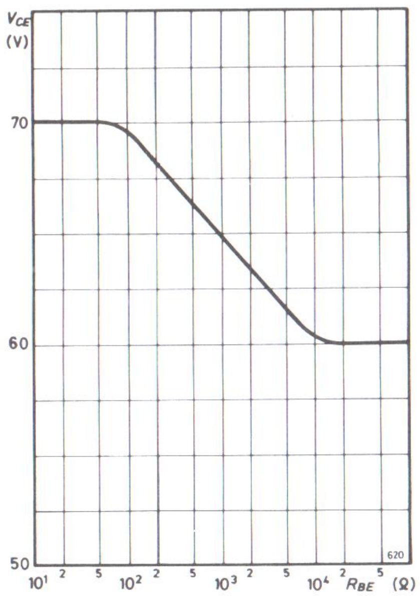


Collector current versus collector-emitter voltage
$I_C = f(V_{CE})$, I_B = parameter

BDY 73

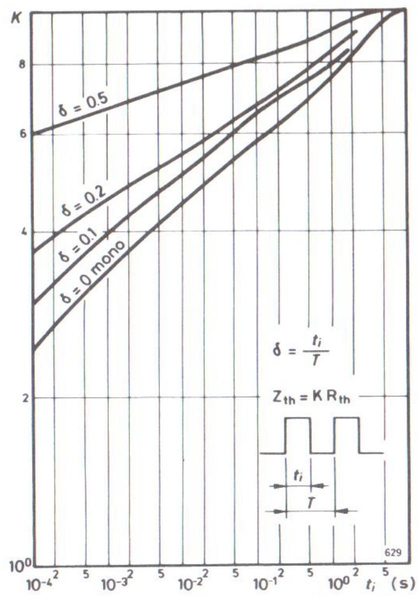


Collector-emitter voltage versus base-emitter resistance
$V_{CE} = f(R_{BE})$, I_C = 200 mA



Transient thermal resistance derating factor under pulsed conditions
$K = f(t_i)$, δ = parameter

2N 3055



DC forward current transfer ratio versus collector current
$h_{21E} = f(I_C)$, $V_{CE} = 4$ V

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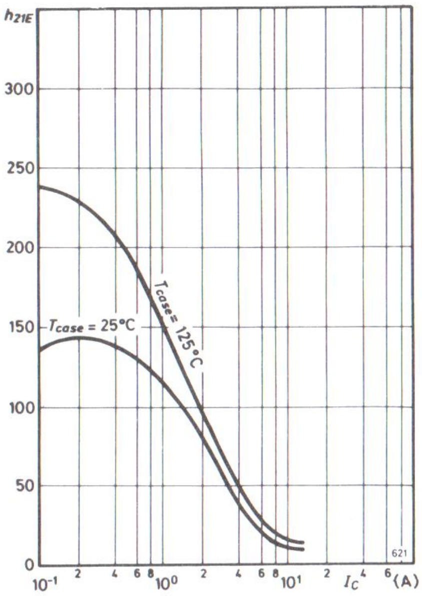
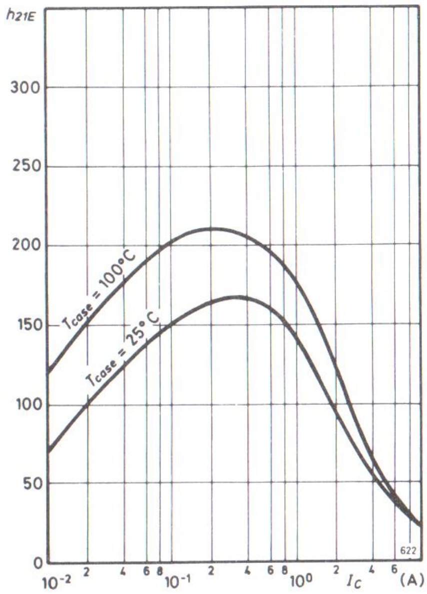
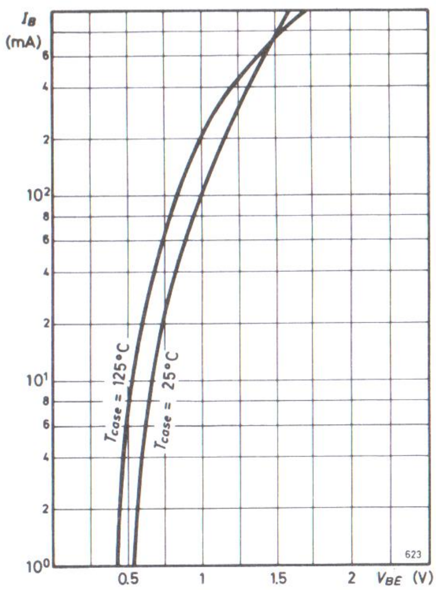


DC forward current transfer ratio versus collector current
$h_{21E} = f(I_C)$, $V_{CE} = 4$ V

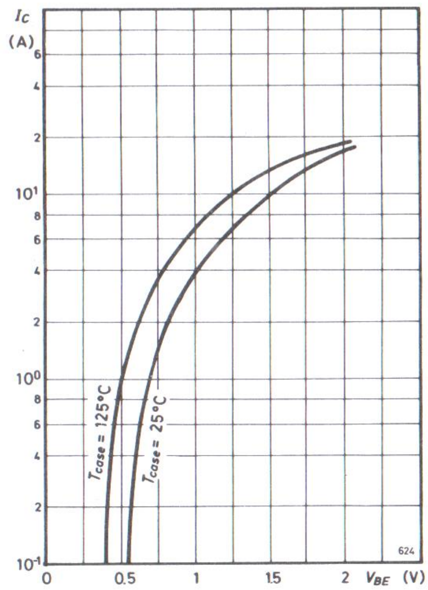
BDY 73



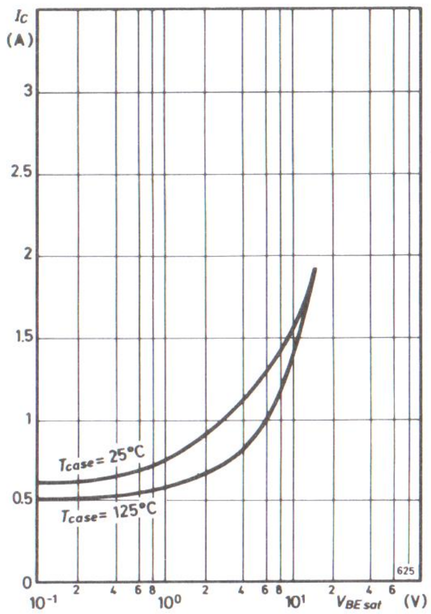
Base current versus base-emitter voltage
$I_B = f(V_{BE})$, $V_{CE} = 4$ V



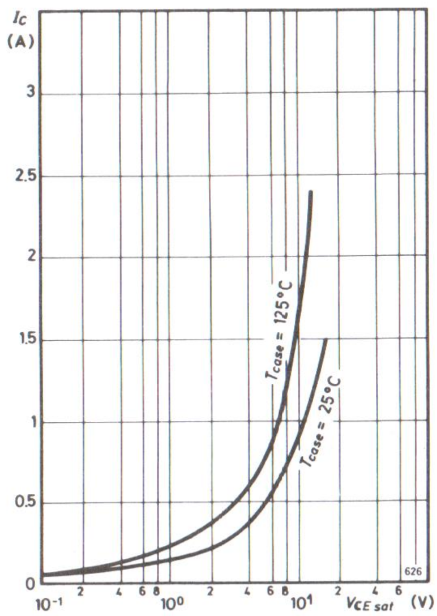
Collector current versus base-emitter voltage
$I_C = f(V_{BE})$, $V_{CE} = 4$ V



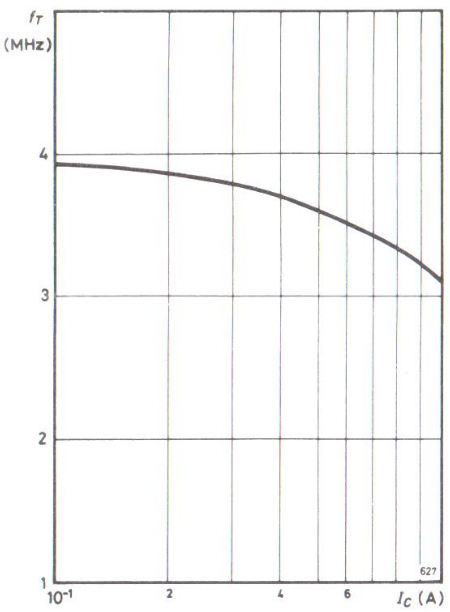
Base-emitter saturation voltage versus collector current
$I_C = f(V_{BEsat})$, $h_{21E} = 10$



Collector-emitter saturation voltage versus collector current
$I_C = f(V_{CEsat})$, $h_{21E} = 10$



Transition frequency versus collector current $f_T = f(I_C)$
$V_{CE} = 10$ V, $T_{case} = 25\,°C$



Output capacitance versus collector-base voltage
$C_{CBO} = f(V_{CB})$, $T_{case} = 25\,°C$