

/ Descriptions

TO-220 NPN Silicon NPN transistor in a TO-220 Plastic Package.

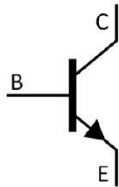
/ Features

High speed switching, high SOA.

/ Applications

High voltage switching and amplifier applications.

/ Equivalent Circuit



9 1 2 3 4 5 6 7 8 9



PIN1 Base PIN 2 Collector PIN 3 Emitter

/ h_{FE} Classifications & Marking

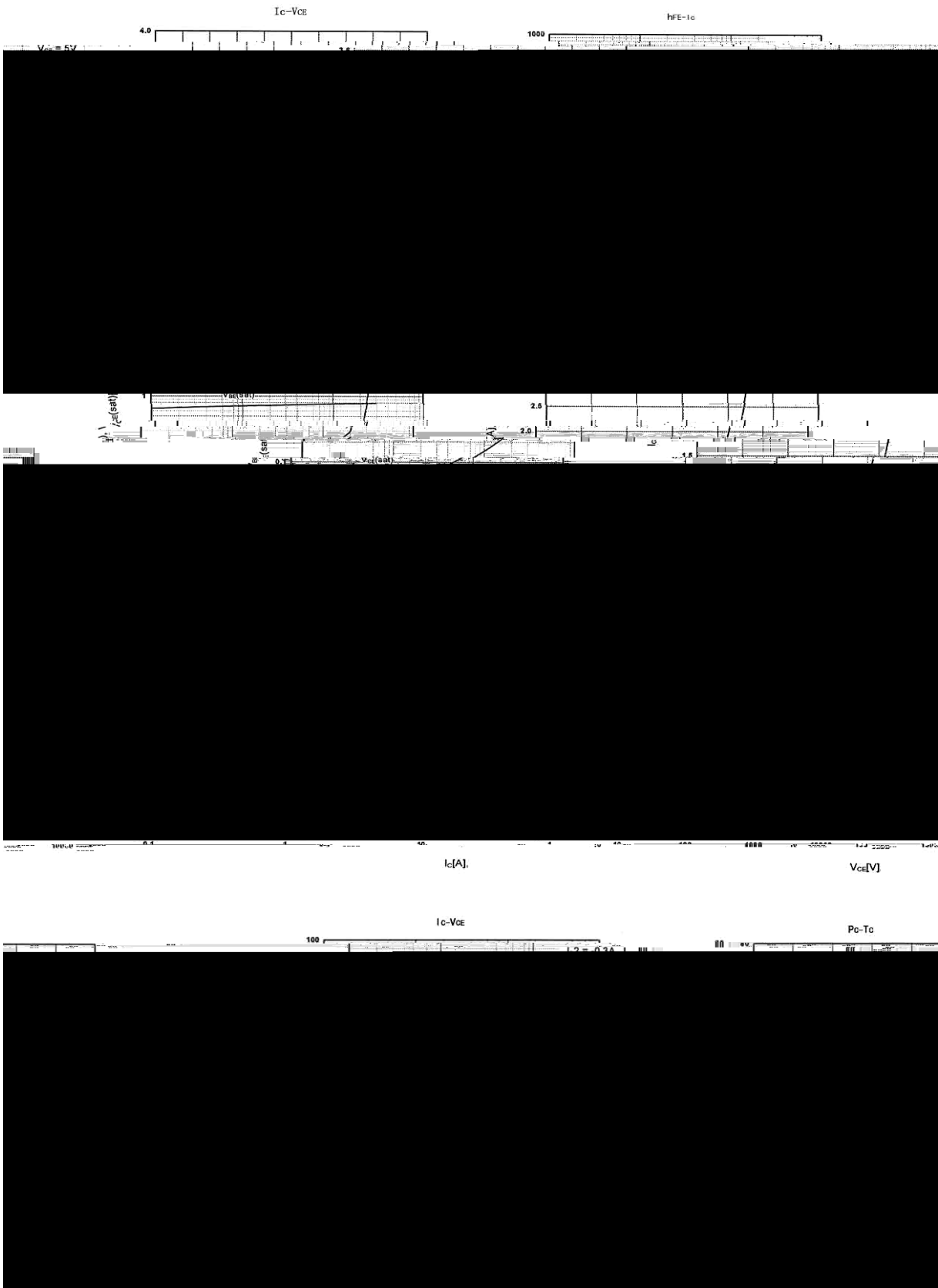
/ Absolute Maximum Ratings(Ta=25)

Parameter	Symbol	Rating	Unit
Collector to Base Voltage	V_{CBO}	1100	V
Collector to Emitter Voltage	V_{CEO}	800	V
Emitter to Base Voltage	V_{EBO}	7.0	V
Collector Current - Continuous	I_C	3.0	A
Collector Current – Continuous(Pulse)	I_{CP}	10	A
Base Current - Continuous	I_B	1.5	A
Collector Power Dissipation	$P_C(T_c=25)$	50	W
Junction Temperature	T_j	150	
Storage Temperature Range	T_{stg}	-55 150	

/ Electrical Characteristics(Ta=25)

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Collector to Base Breakdown Voltage	V_{CBO}	$I_C=1.0mA$ $I_E=0$	1100			V
Collector to Emitter Breakdown Voltage	V_{CEO}	$I_C=5.0mA$ $I_B=0$	800			V
Emitter to Base Breakdown Voltage	V_{EBO}	$I_E=1.0mA$ $I_C=0$	7.0			V
Collector Cut-Off Current	I_{CBO}	$V_{CB}=800V$ $I_E=0$			10	μA
Emitter Cut-Off Current	I_{EBO}	$V_{EB}=5.0V$ $I_C=0$			10	μA
DC Current Gain	$h_{FE(1)}$	$V_{CE}=5.0V$ $I_C=0.2A$	10		40	
	$h_{FE(2)}$	$V_{CE}=5.0V$ $I_C=1.0A$	8.0			
Collector to Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C=1.5A$ $I_B=0.3A$			2.0	V
Base to Emitter Saturation Voltage	$V_{BE(sat)}$	$I_C=1.5A$ $I_B=0.3A$			1.5	V
Transition Frequency	f_T	$V_{CE}=10V$ $I_C=0.2A$		15		MHz
Collector output capacitance	C_{ob}	$V_{CB}=10V$ $I_E=0$ $f=1.0MHz$		60		pF
Turn-On Time	T_{on}	$V_{CC}=400V$ $R_L=200\Omega$ $I_C=5I_{B1}=-2.5I_{B2}=2A$			0.5	μs
Storage Time	T_{stg}				3.0	
Fall Time	T_{off}				0.3	

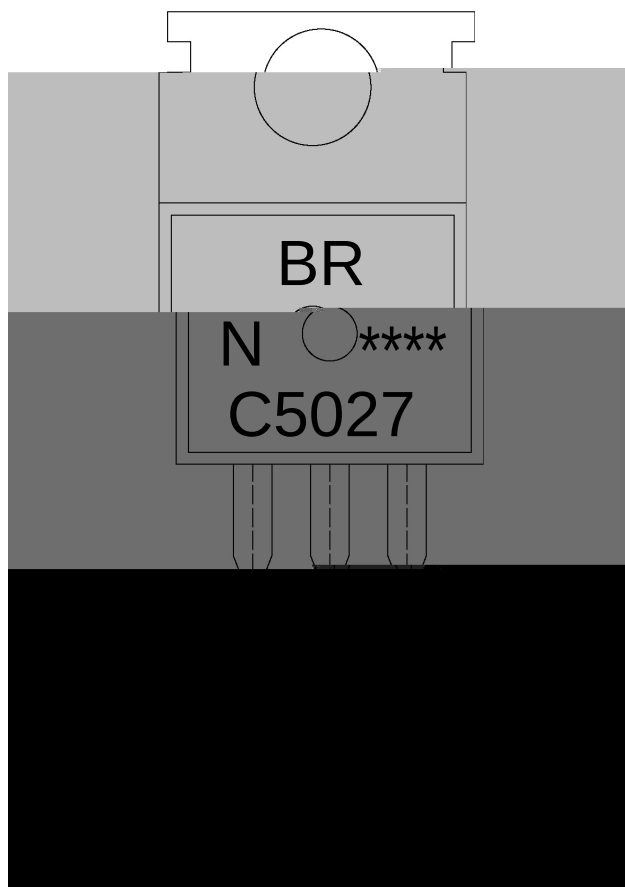
/ Electrical Characteristic Curve



Technical drawing of a mechanical assembly, likely a pump or motor component, showing a cross-section and side view. The drawing includes various dimensions and labels:

- Top View (Left):** Shows a circular feature with a diameter dimension ϕ and a radius dimension R . A dimension a is indicated for the distance from the center to the edge.
- Top View (Right):** Shows a rectangular feature with a width dimension b_1 and a length dimension C_1 . A dimension C is also indicated for the total length.
- Side View (Left):** Shows a vertical section with a height dimension k and a width dimension a_1 . A dimension l is indicated for the distance from the center to the edge.
- Side View (Right):** Shows a vertical section with a height dimension 3ϕ and a width dimension C . A dimension 3ϕ is also indicated for the distance from the center to the edge.
- Labels:** The drawing includes labels A , B , C , C_1 , a , a_1 , b_1 , k , l , and 3ϕ .

/ Marking Instructions



BR

C5027

N: h_{FE}

Note:

BR: Company Code

C5027: Product Type.

N: h_{FE} Classifications Symbol

****: Lot No. Code, code change with Lot No.

