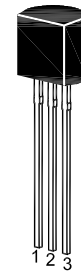


8050

NPN Silicon Epitaxial Planar Transistor

for switching and amplifier applications. Especially suitable for AF-driver stages and low power output stages.

The transistor is subdivided into four groups, B, C, D and E, according to its DC current gain.



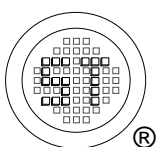
1. Emitter 2. Base 3. Collector
TO-92 Plastic Package

Absolute Maximum Ratings ($T_a = 25\text{ }^\circ\text{C}$)

Parameter	Symbol	Value	Unit
Collector Base Voltage	V_{CBO}	40	V
Collector Emitter Voltage	V_{CEO}	25	V
Emitter Base Voltage	V_{EBO}	6	V
Collector Current	I_C	800	mA
Base Current	I_B	100	mA
Power Dissipation	P_{tot}	625	mW
Junction Temperature	T_j	150	$^\circ\text{C}$
Storage Temperature Range	T_{stg}	- 55 to + 150	$^\circ\text{C}$

Characteristics at $T_a = 25\text{ }^\circ\text{C}$

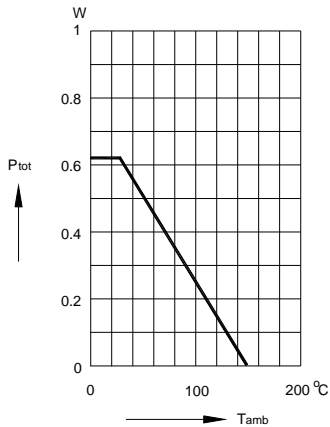
Parameter	Symbol	Min.	Typ.	Max.	Unit	
DC Current Gain at $V_{CE} = 1\text{ V}$, $I_C = 100\text{ mA}$ at $V_{CE} = 1\text{ V}$, $I_C = 350\text{ mA}$	Current Gain Group B	h_{FE}	70	-	120	-
	C	h_{FE}	120	-	200	-
	D	h_{FE}	160	-	300	-
	E	h_{FE}	300	-	380	-
		h_{FE}	60	-	-	-
Collector Base Cutoff Current at $V_{CB} = 35\text{ V}$	I_{CBO}	-	-	100	nA	
Collector Base Breakdown Voltage at $I_C = 10\text{ }\mu\text{A}$	$V_{(BR)CBO}$	40	-	-	V	
Collector Emitter Breakdown Voltage at $I_C = 2\text{ mA}$	$V_{(BR)CEO}$	25	-	-	V	
Emitter Base Breakdown Voltage at $I_E = 100\text{ }\mu\text{A}$	$V_{(BR)EBO}$	6	-	-	V	
Collector Emitter Saturation Voltage at $I_C = 500\text{ mA}$, $I_B = 50\text{ mA}$	$V_{CE(sat)}$	-	-	0.5	V	
Base Emitter Saturation Voltage at $I_C = 500\text{ mA}$, $I_B = 50\text{ mA}$	$V_{BE(sat)}$	-	-	1.2	V	
Gain Bandwidth Product at $V_{CE} = 5\text{ V}$, $I_C = 10\text{ mA}$, $f = 50\text{ MHz}$	f_T	-	100	-	MHz	
Collector Base Capacitance at $V_{CB} = 10\text{ V}$, $f = 1\text{ MHz}$	C_{ob}	-	12	-	pF	



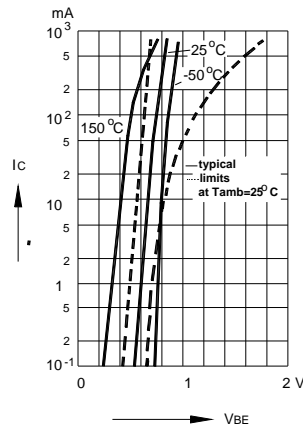
SEMTECH ELECTRONICS LTD.



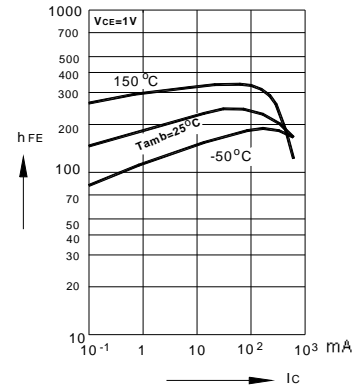
Admissible power dissipation versus ambient temperature
Valid provided that leads are kept at ambient temperature at a distance of 2 mm from case



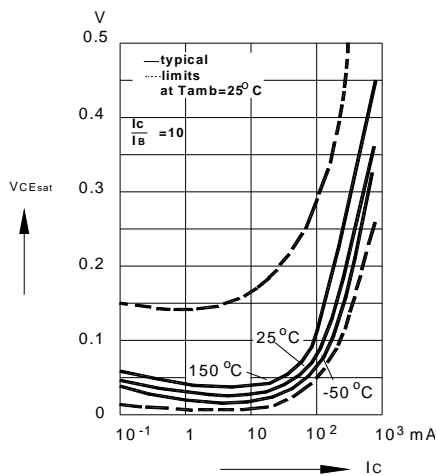
Collector current versus base emitter voltage



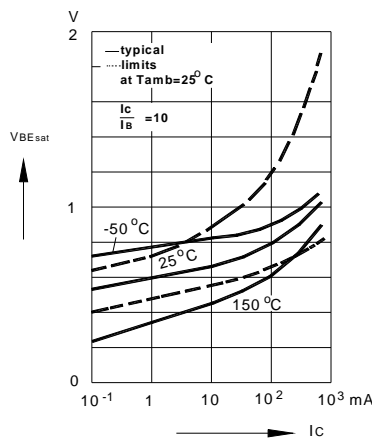
DC current gain versus collector current



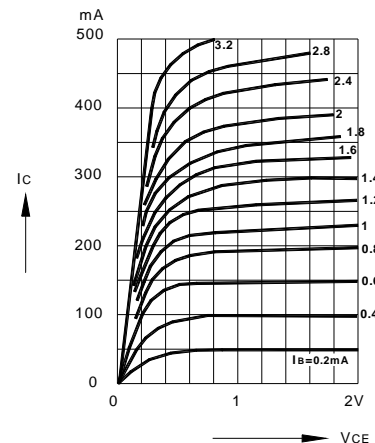
Collector saturation voltage versus collector current



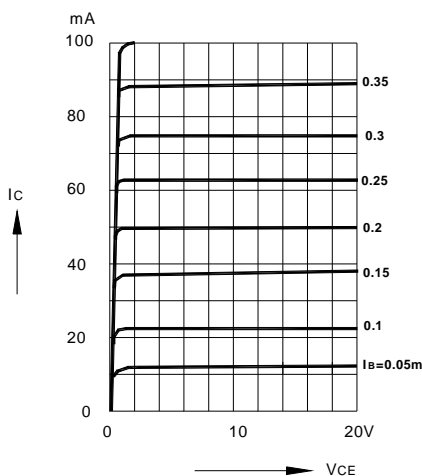
Base saturation voltage versus collector current



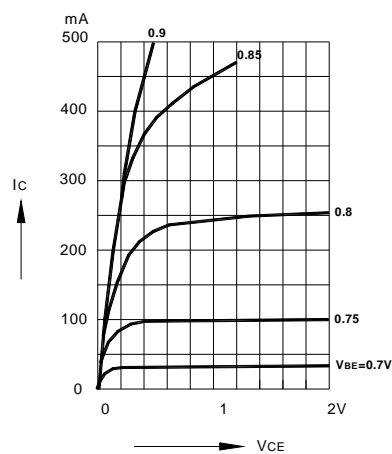
Common emitter collector characteristics



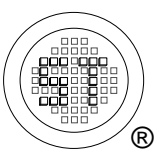
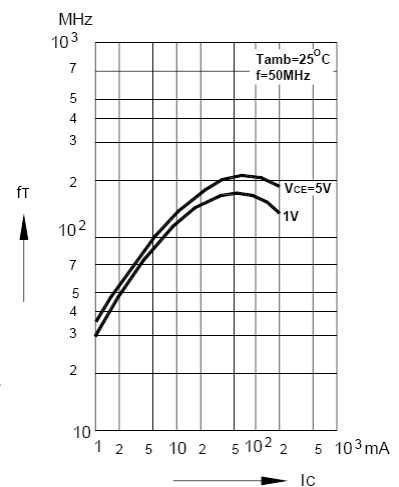
Common emitter collector characteristics



Common emitter collector characteristics



Gain bandwidth product versus collector current



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