



MCH6545

 — PNP / NPN Epitaxial Planar Silicon Transistor

Push-Pull Circuit Applications

Applications

- MOSFET gate drivers, relay drivers, lamp drivers, motor drivers.

Features

- Composite type with a PNP transistor and an NPN transistor contained in one package facilitating high-density mounting.
- Ultrasmall package allows applied sets to be made small and thin.

Specifications () : PNP

Absolute Maximum Ratings at Ta=25°C

Parameter	Symbol	Conditions	Ratings	Unit
Collector-to-Base Voltage	V _{CB0}		(-50)60	V
Collector-to-Emitter Voltage	V _{CEO}		(-)50	V
Emitter-to-Base Voltage	V _{EBO}		(-)5	V
Collector Current	I _C		(-)500	mA
Collector Current (Pulse)	I _{CP}		(-)1.0	A
Collector Dissipation	P _C	Mounted on a ceramic board (600mm ² X0.8m)	0.5	W
Total Power Dissipation	P _T	Mounted on a ceramic board (600mm ² X0.8m)	0.55	W
Junction Temperature	T _J		150	°C
Storage Temperature	T _{stg}		-55 to +150	°C

Electrical Characteristics at Ta=25°C

Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Collector Cutoff Current	I _{CB0}	V _{CB} =(-)40V, I _E =0A			(-)100	nA
Emitter Cutoff Current	I _{EBO}	V _{EB} =(-)4V, I _C =0A			(-)100	nA
DC Current Gain	h _{FE}	V _{CE} =(-)2V, I _C =(-)10mA	(200)300		(500)700	
Gain-Bandwidth Product	f _T	V _{CE} =(-)10V, I _C =(-)50mA		(690)500		MHz
Output Capacitance	C _{ob}	V _{CB} =(-)10V, f=1MHz		(3.8)2.8		pF
Collector-to-Emitter Saturation Voltage	V _{CE(sat)}	I _C =(-)100mA, I _B =(-)10mA		(-60)50	(-120)100	mV
Base-to-Emitter Saturation Voltage	V _{BE(sat)}	I _C =(-)100mA, I _B =(-)10mA		(-)0.9	(-)1.2	V
Collector-to-Base Breakdown Voltage	V _{(BR)CBO}	I _C =(-)10μA, I _E =0A	(-50)60			V
Collector-to-Emitter Breakdown Voltage	V _{(BR)CEO}	I _C =(-)1mA, R _{BE} =∞	(-)50			V
Emitter-to-Base Breakdown Voltage	V _{(BR)EBO}	I _E =(-)10μA, I _C =0A	(-)5			V

Marking : ET

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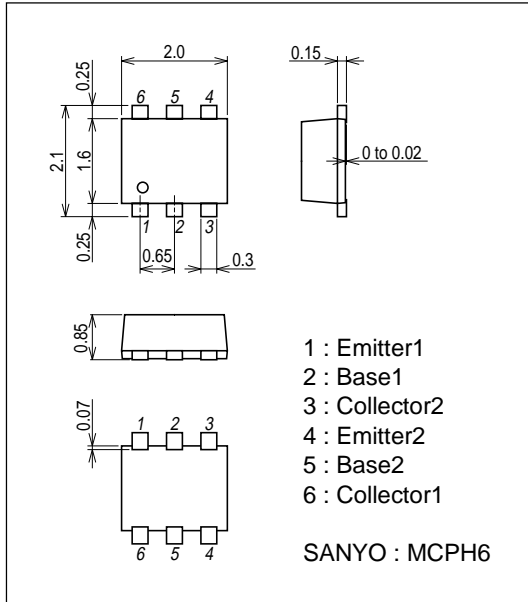
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Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Turn-On Time	t_{on}	See specified Test Circuit.		(30)30		ns
Storage Time	t_{stg}	See specified Test Circuit.		(170)340		ns
Fall Time	t_f	See specified Test Circuit.		(30)55		ns

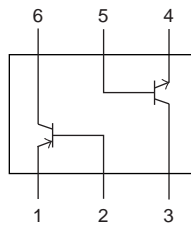
Package Dimensions

unit : mm

7022A-011

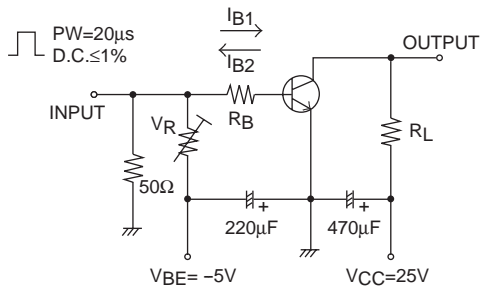


Electrical Connection

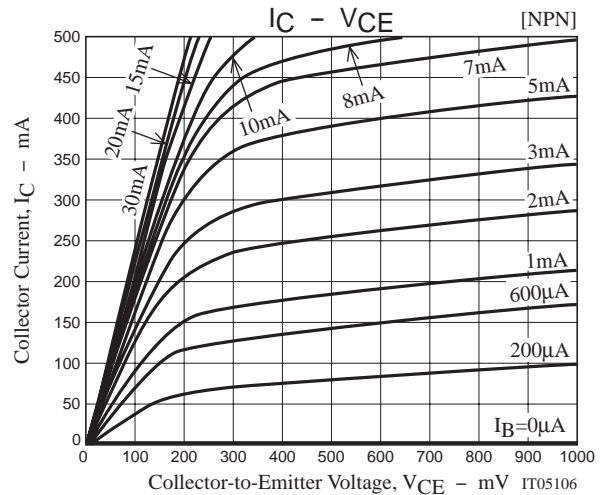
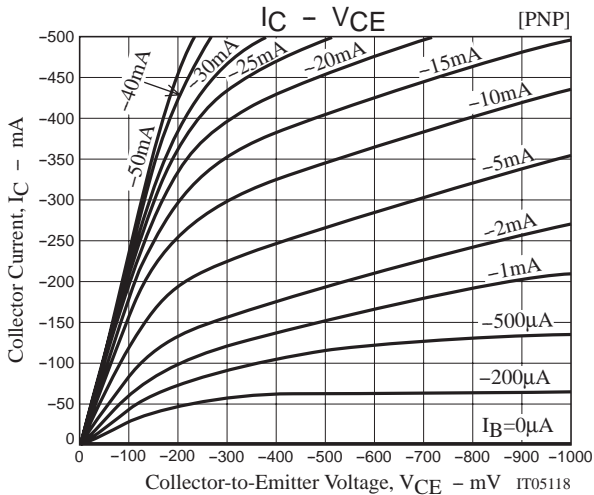


- 1 : Emitter1
- 2 : Base1
- 3 : Collector2
- 4 : Emitter2
- 5 : Base2
- 6 : Collector1

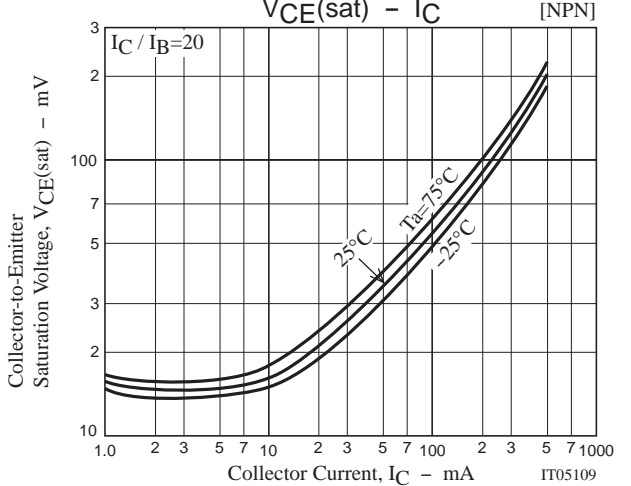
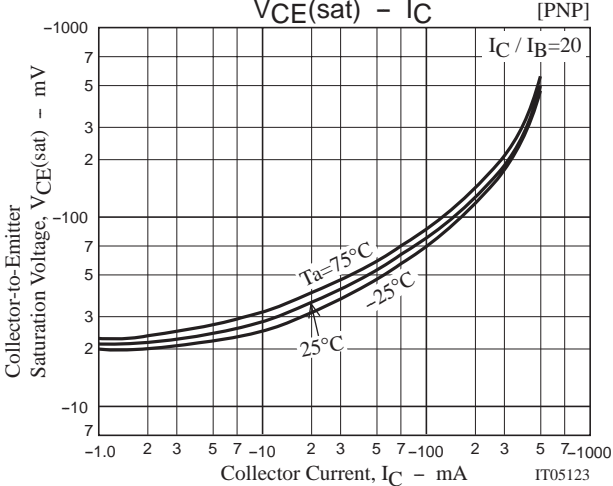
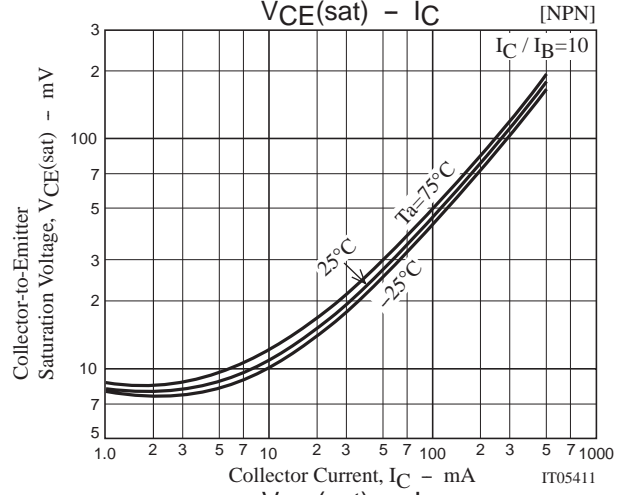
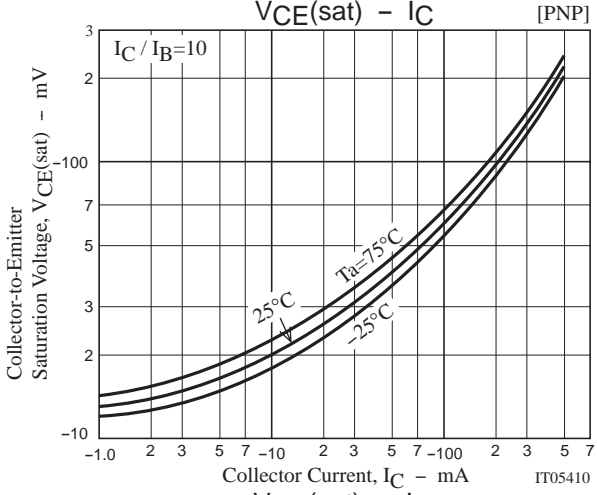
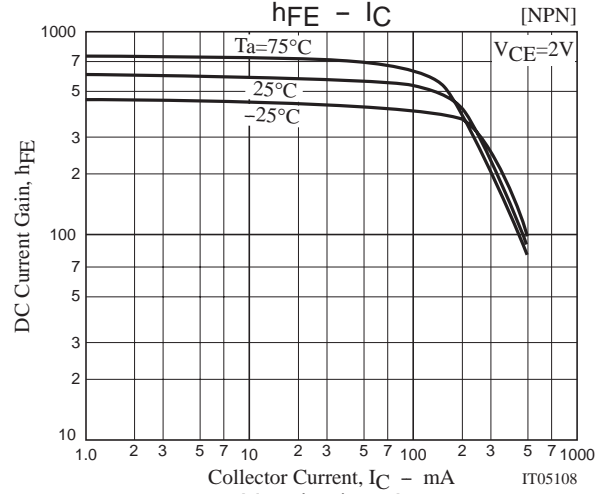
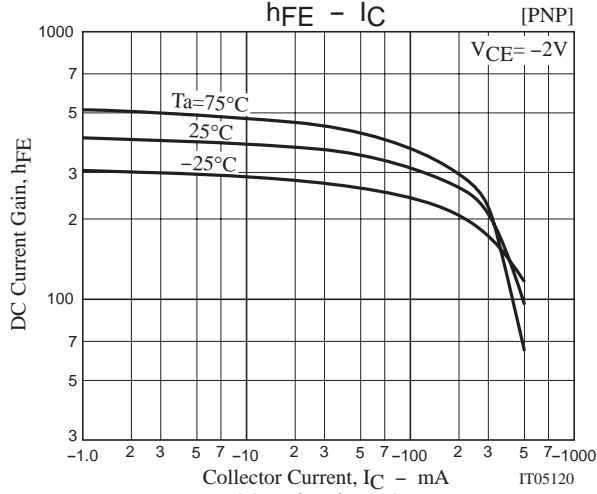
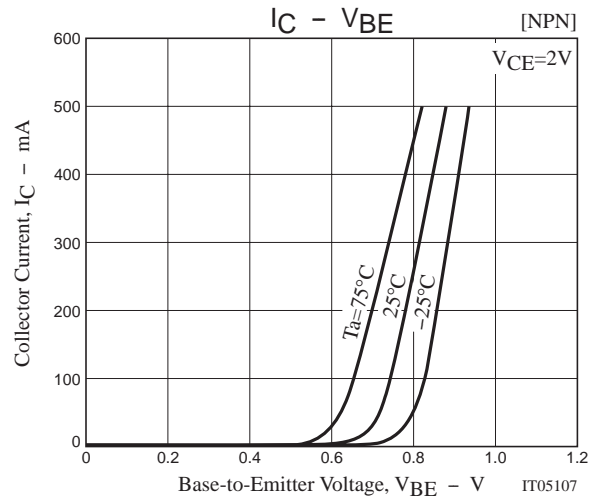
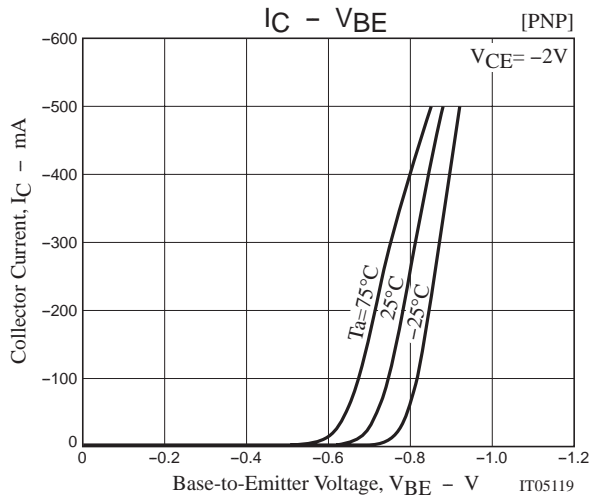
Switching Time Test Circuit



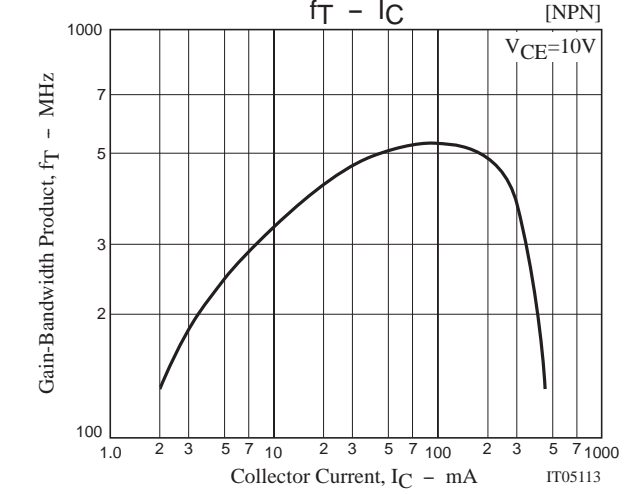
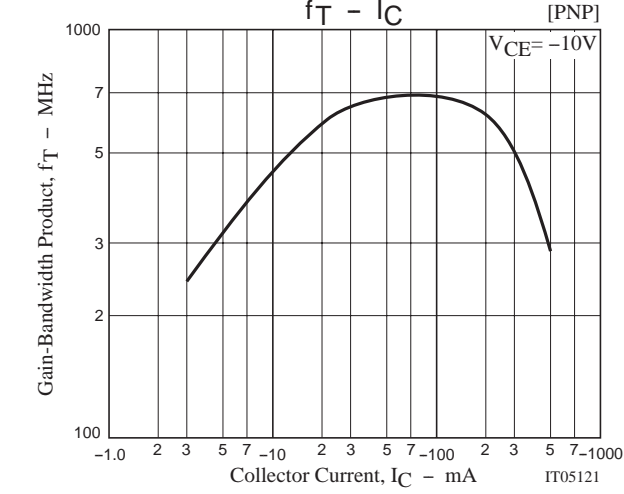
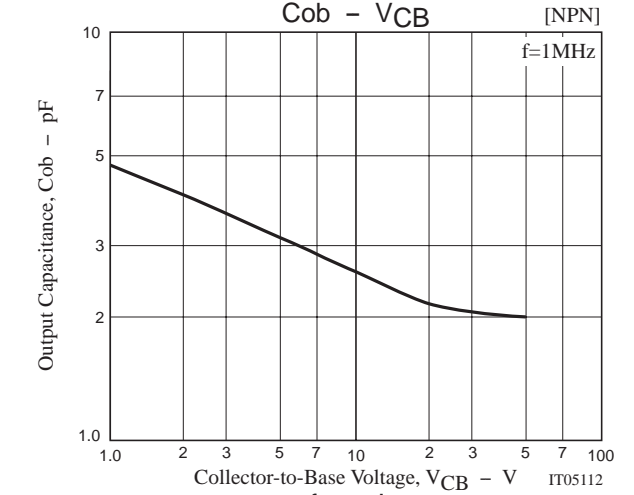
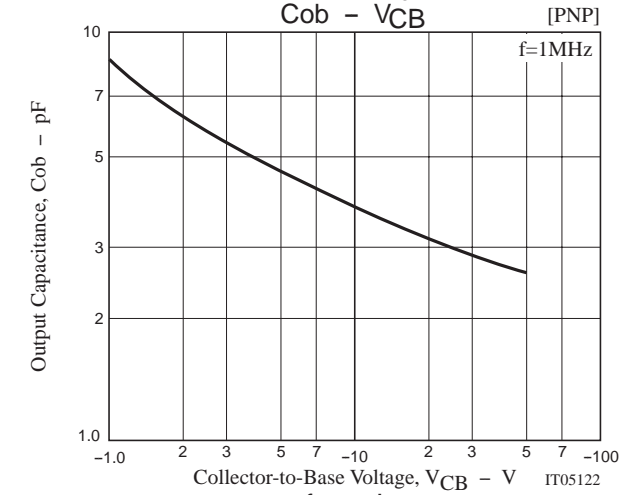
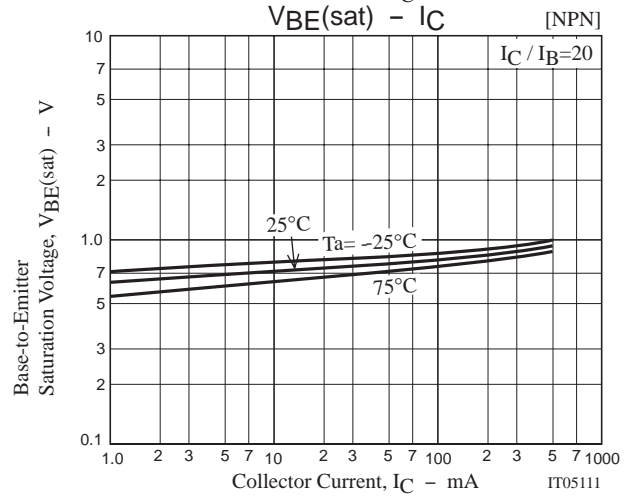
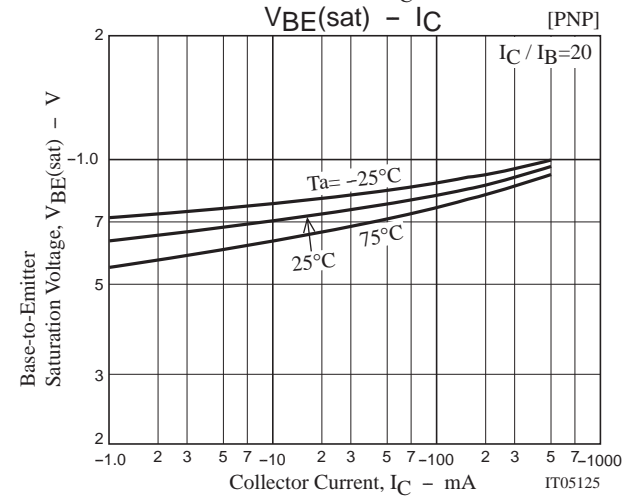
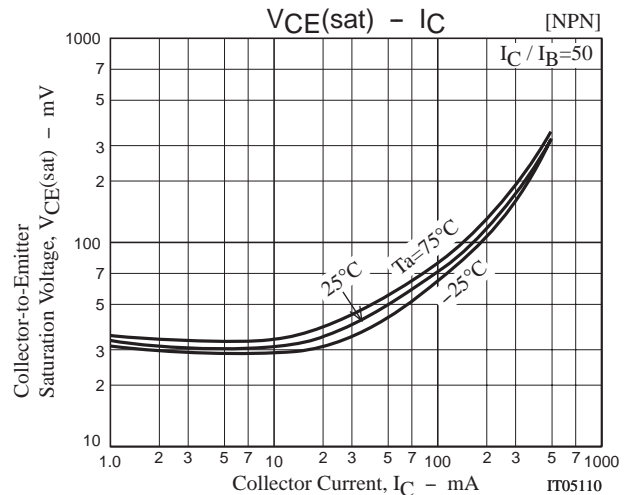
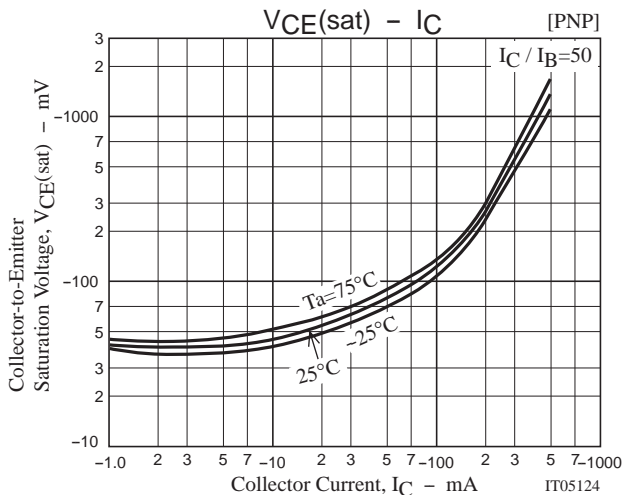
$I_C = 20I_{B1} = -20I_{B2} = 200mA$
 For PNP, the polarity is reversed.



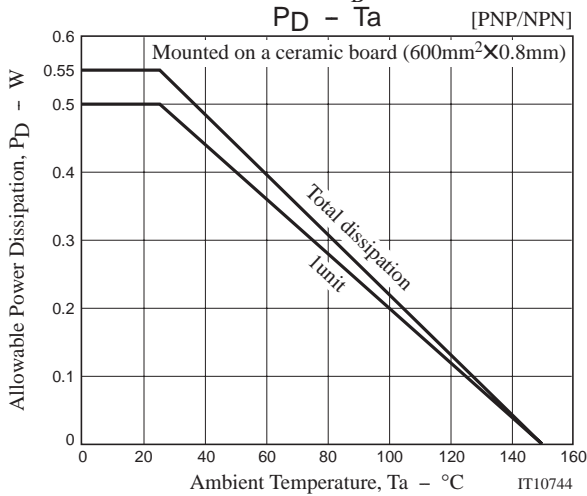
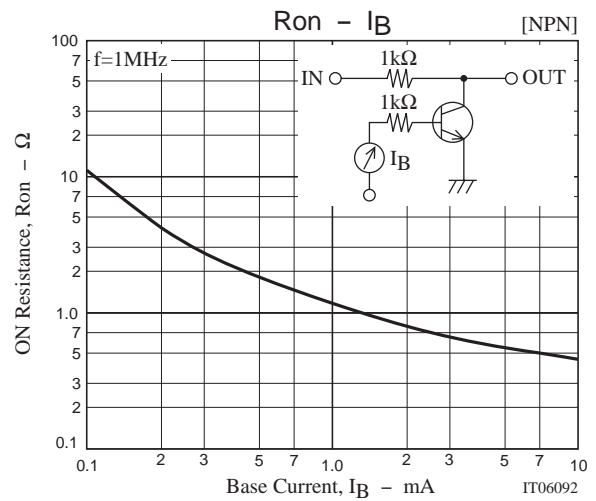
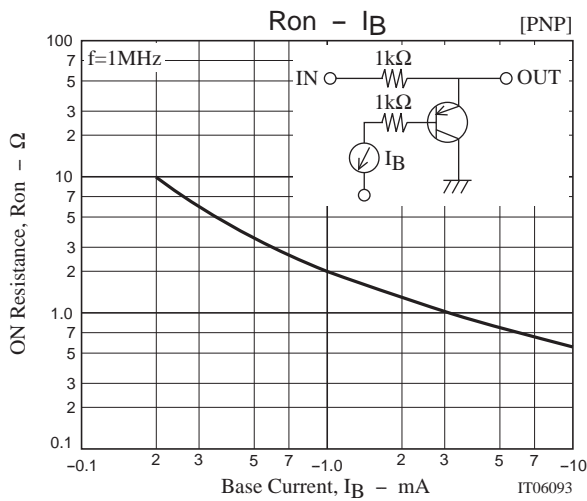
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