



TO-92 Plastic-Encapsulate Transistors

PH2369 TRANSISTOR (NPN)

FEATURES

Power dissipation

MAXIMUM RATINGS ($T_A=25^{\circ}\text{C}$ unless otherwise noted)

Symbol	Parameter	Value	Units
V_{CBO}	Collector-Base Voltage	40	V
V_{CEO}	Collector-Emitter Voltage	15	V
V_{EBO}	Emitter-Base Voltage	4.5	V
I_C	Collector Current –Continuous	0.2	A
P_C	Collector Power Dissipation	500	mW
T_J	Junction Temperature	150	$^{\circ}\text{C}$
T_{stg}	Storage Temperature	-55-150	$^{\circ}\text{C}$

TO-92

1. COLLECTOR

2. BASE

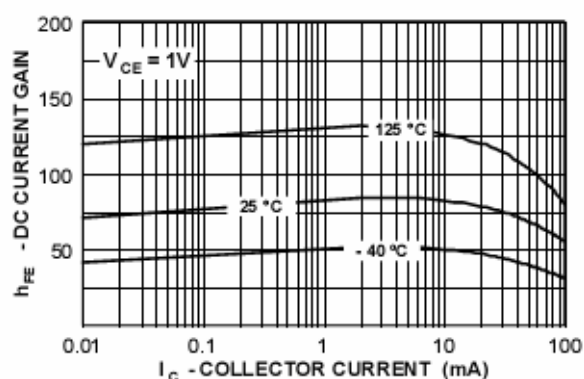
3. EMITTER



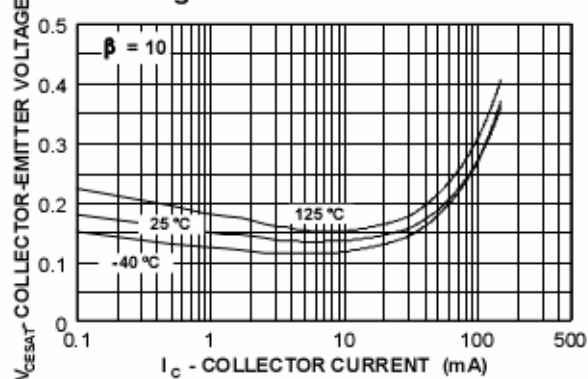
ELECTRICAL CHARACTERISTICS ($T_{amb}=25^{\circ}\text{C}$ unless otherwise specified)

Parameter	Symbol	Test conditions	MIN	TYP	MAX	UNIT
Collector-base breakdown voltage	$V_{(BR)CBO}$	$I_C = 100\mu\text{A}$, $I_E = 0$	40			V
Collector-emitter breakdown voltage	$V_{(BR)CEO}$	$I_C = 10\text{mA}$, $I_B = 0$	15			V
Emitter-base breakdown voltage	$V_{(BR)EBO}$	$I_E = 10\mu\text{A}$, $I_C = 0$	4.5			V
Collector cut-off current	I_{CBO}	$V_{CB} = 20\text{V}$, $I_E = 0$			0.4	μA
Emitter cut-off current	I_{EBO}	$V_{EB} = 4\text{V}$, $I_C = 0$			0.1	μA
DC current gain	h_{FE1}	$V_{CE} = 1\text{V}$, $I_C = 10\text{mA}$	40		120	
	h_{FE2}	$V_{CE} = 2\text{V}$, $I_C = 100\text{mA}$	20			
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C = 10\text{mA}$, $I_B = 1\text{mA}$			0.25	V
Base-emitter saturation voltage	$V_{BE(sat)}$	$I_C = 10\text{mA}$, $I_B = 1\text{mA}$	0.7		0.85	V
Transition frequency	f_T	$V_{CE} = 10\text{V}$, $I_C = 10\text{mA}$ $f = 100\text{MHz}$	500			MHz
Collector capacitance	C_c	$V_{CB} = 5\text{V}$, $I_E = 0$, $f = 1\text{MHz}$			4	pF
Emitter capacitance	C_e	$V_{EB} = 1\text{V}$, $I_E = 0$, $f = 1\text{MHz}$			4.5	pF
Turn-on time	t_{on}	$V_{CC} = 3\text{V}$, $I_C = 10\text{mA}$, $I_{B1} = 3\text{mA}$			10	nS
Turn-off time	t_{off}				20	nS

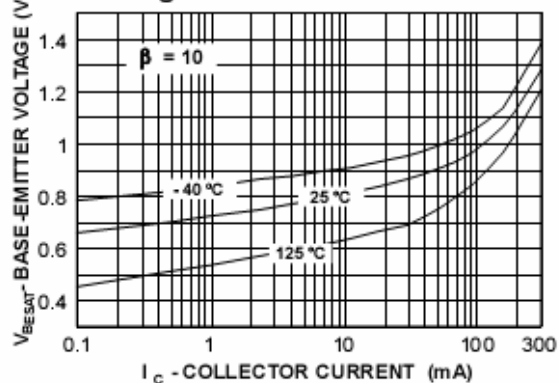
DC Current Gain vs Collector Current



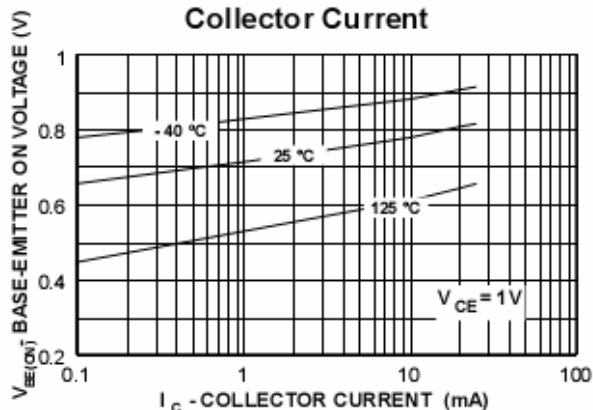
Collector-Emitter Saturation Voltage vs Collector Current



Base-Emitter Saturation Voltage vs Collector Current



Base-Emitter ON Voltage vs Collector Current



Collector-Cutoff Current vs Ambient Temperature

