

Plastic-Encapsulate Transistors

TRANSISTOR (NPN)

FEATURES

BCW66 is subdivided into three groups F,G and H according to DC current gain

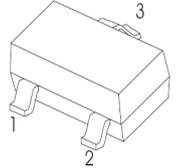
Marking : EF / EG/ EH

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

Symbol	Parameter	Value	Unit
V_{CBO}	Collector-Base Voltage	75	V
V_{CEO}	Collector-Emitter Voltage	45	V
V_{EBO}	Emitter-Base Voltage	5	V
I_C	Collector Current	800	mA
P_C	Collector Power Dissipation	200	mW
$R_{\theta JA}$	Thermal Resistance From Junction To Ambient	625	$^\circ\text{C/W}$
T_j	Junction Temperature	150	$^\circ\text{C}$
T_{stg}	Storage Temperature	-55~+150	$^\circ\text{C}$

SOT-23

1. BASE
2. EMITTER
3. COLLECTOR



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

Parameter	Symbol	Test conditions	Min	Typ	Max	Unit
Collector-base breakdown voltage	$V_{(BR)CBO}$	$I_C = 10 \mu\text{A}, I_E = 0$	75			V
Collector-emitter breakdown voltage	$V_{(BR)CEO}$	$I_C = 10\text{mA}, I_B = 0$	45			V
Emitter-base breakdown voltage	$V_{(BR)EBO}$	$I_E = 10 \mu\text{A}, I_C = 0$	5			V
Collector cut-off current	I_{CBO}	$V_{CB} = 45\text{V}, I_E = 0$			0.02	μA
Collector cut-off current	I_{EBO}	$V_{EB} = 4\text{V}, I_C = 0$			0.02	μA
DC current gain	h_{FE1}	$V_{CE} = 10\text{V}, I_C = 0.1\text{mA}$	F G H	35 50 80		
	h_{FE2}	$V_{CE} = 1\text{V}, I_C = 10\text{mA}$	F G H	75 110 180		
	h_{FE3}	$V_{CE} = 1\text{V}, I_C = 100\text{mA}$	F G H	100 160 250		250 400 630
	h_{FE4}	$V_{CE} = 2\text{V}, I_C = 500\text{mA}$	F G H	35 60 100		
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C = 100\text{mA}, I_B = 10\text{mA}$			0.3	V
		$I_C = 500\text{mA}, I_B = 50\text{mA}$			0.7	V
Base-emitter saturation voltage	$V_{BE(sat)}$	$I_C = 500\text{mA}, I_B = 50\text{mA}$			2	V
Transition frequency	f_T	$V_{CE} = 10\text{V}, I_C = 20\text{mA}, f = 100\text{MHz}$	100			MHz
Output capacitance	C_{ob}	$V_{CB} = 10\text{V}, I_E = 0, f = 1\text{MHz}$			12	pF
Input capacitance	C_{ib}	$V_{EB} = 0.5\text{V}, I_E = 0, f = 1\text{MHz}$			80	pF
Noise figure	NF	$V_{CE} = 5\text{V}, I_C = 0.2\text{mA}, f = 1\text{KHz}, R_s = 1\text{K}\Omega, BW = 200\text{Hz}$			10	dB

Typical Characteristics
