



DATA SHEET

SEMICONDUCTOR

SS8050

TO-92 Plastic-Encapsulate Transistors



FEATURES

TRANSISTOR (NPN)

Power dissipation

$P_{CM} : 1\text{ W}$ ($T_A=25^\circ\text{C}$)

$: 2\text{ W}$ ($T_C=25^\circ\text{C}$)

TO-92

1. EMITTER
2. BASE
3. COLLECTOR



1 2 3

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	25	V
V_{EBO}	Emitter-Base Voltage	5	V
I_C	Collector Current -Continuous	1500	mA
T_J, T_{stg}	Junction and Storage Temperature	-55-150	$^\circ\text{C}$

*These ratings are limiting values above which the serviceability of any semiconductor device may be impaired.

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	$V_{(BR)CEO}$	$I_C=0.1\text{mA}, I_B=0$	25			V
Emitter-base breakdown voltage	$V_{(BR)EBO}$	$I_E=100\mu\text{A}, I_C=0$	5			V
Collector cut-off current	I_{CBO}	$V_{CB}=40\text{V}, I_E=0$			0.1	μA
Emitter cut-off current	I_{CEO}	$V_{CE}=20\text{V}, I_E=0$			0.1	μA
Emitter cut-off current	I_{EBO}	$V_{EB}=5\text{V}, I_C=0$			0.1	μA
DC current gain	$h_{FE(1)}$	$V_{CE}=1\text{V}, I_C=100\text{mA}$	85		400	
	$h_{FE(2)}$	$V_{CE}=1\text{V}, I_C=800\text{mA}$	40			
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C=800\text{mA}, I_B=80\text{mA}$			0.5	V
Base-emitter saturation voltage	$V_{BE(sat)}$	$I_C=800\text{mA}, I_B=80\text{mA}$			1.2	V
Base-emitter voltage	V_{BE}	$V_{CE}=1\text{V}, I_C=10\text{mA}$			1	V
Transition frequency	f_T	$V_{CE}=10\text{V}, I_C=50\text{mA}, f=30\text{MHz}$	100			MHz

CLASSIFICATION OF $h_{FE(2)}$

Rank	B	C	D	E
Range	85-160	120-200	160-300	300-400

DEVICE CHARACTERISTICS

SS8050

