



POWER SKY (H.K.) LTD.

TO-92 Plastic-Encapsulate Transistors

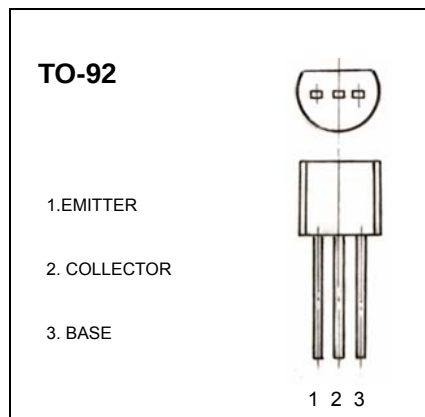
3DD13002B TRANSISTOR (NPN)

FEATURES

- power switching applications

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

Symbol	Parameter	Value	Units
V_{CBO}	Collector-Base Voltage	600	V
V_{CEO}	Collector-Emitter Voltage	400	V
V_{EBO}	Emitter-Base Voltage	6	V
I_C	Collector Current -Continuous	0.8	A
P_C	Collector Power Dissipation	0.9	W
T_J	Junction Temperature	150	$^{\circ}\text{C}$
T_{stg}	Storage Temperature	-55-150	$^{\circ}\text{C}$



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

Parameter	Symbol	Test conditions	MIN	TYP	MAX	UNIT
Collector-base breakdown voltage	$V_{(BR)CBO}$	$I_C=100\mu\text{A}, I_E=0$	600			V
Collector-emitter breakdown voltage	$V_{(BR)CEO}$	$I_C=1\text{mA}, I_B=0$	400			V
Emitter-base breakdown voltage	$V_{(BR)EBO}$	$I_E=100\mu\text{A}, I_C=0$	6			V
Collector cut-off current	I_{CBO}	$V_{CB}=610\text{V}, I_E=0$			100	μA
	I_{CEO}	$V_{CB}=405\text{V}, I_E=0$			100	μA
Emitter cut-off current	I_{EBO}	$V_{EB}=6\text{V}, I_C=0$			100	μA
Dc current gain	h_{FE1}	$V_{CE}=10\text{V}, I_C=200\text{mA}$	9		40	
	h_{FE2}	$V_{CE}=10\text{V}, I_C=0.25\text{mA}$	5			
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C=200\text{mA}, I_B=40\text{mA}$			0.5	V
Base-emitter saturation voltage	$V_{BE(sat)}$	$I_C=200\text{mA}, I_B=40\text{mA}$			1.1	V
Transition frequency	f_T	$V_{CE}=10\text{V}, I_C=100\text{mA}$ $f=1\text{MHz}$	5			MHz
Fall time	t_f	$I_C=1\text{A}, I_{B1}=-I_{B2}=0.2\text{A}$ $V_{CC}=100\text{V}$			0.5	μs
Storage time	t_s				2.5	μs

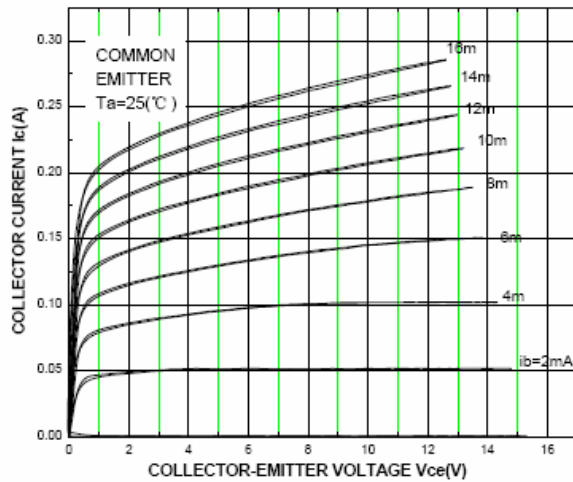
CLASSIFICATION OF h_{FE1}

Range	9-15	15-20	20-25	25-30	30-35	35-40
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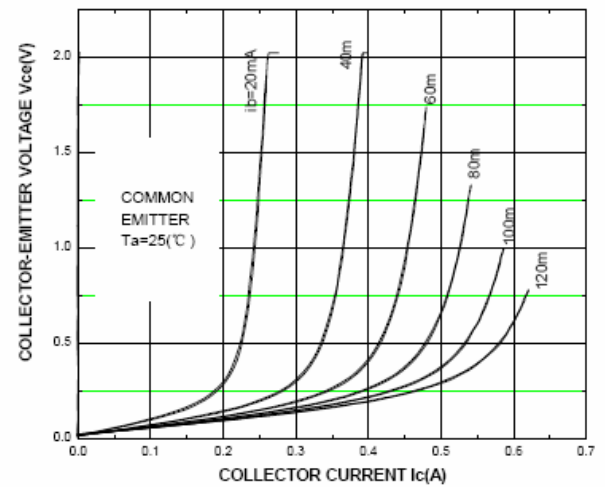
Typical characteristics

3DD13002B

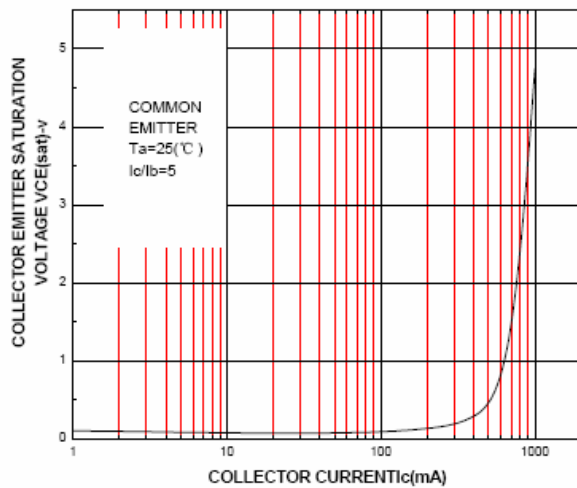
I_c - V_{ce}



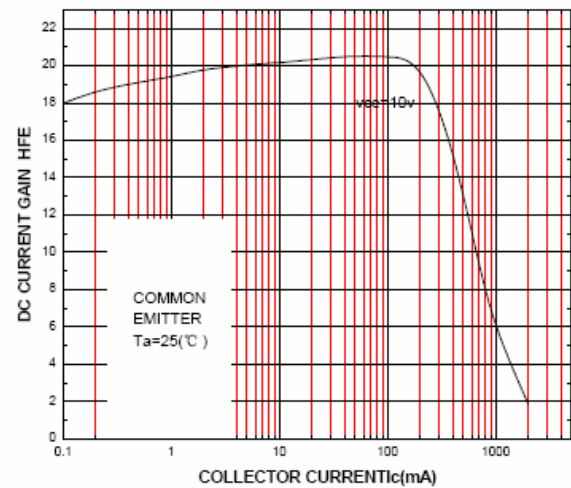
V_{ce} - I_c



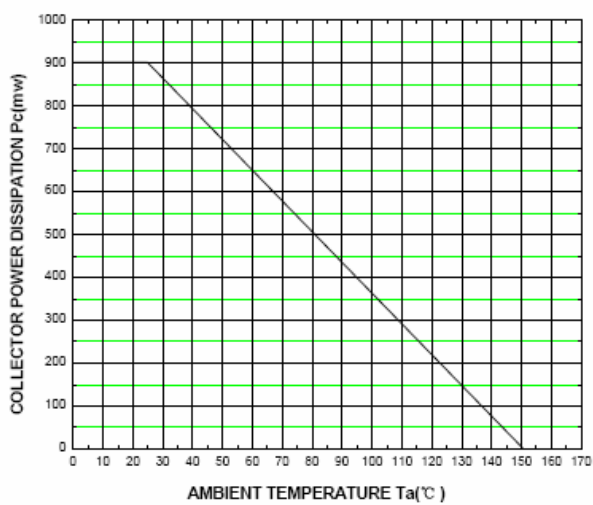
V_{cesat} - I_c



h_{FE} - I_c



P_c - T_a



C - V_R

