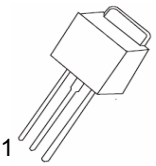
POWER SKY (H.K.) LTD.

TO-251 Plastic-Encapsulate Transistors

2SB1261-Z TRANSISTOR (PNP)

TO-251



1. BASE
2. COLLECTOR
3. EMITTER

FEATURES

- High h_{FE} $h_{FE=}$100 to 400
- Low $v_{CE(sat)}$ $v_{CE(sat)}$ ≤0.3V

MAXIMUM RATINGS (T_A=25℃ unless otherwise noted)

Symbol	Parameter	Value	Units
V_{CBO}	Collector-Base Voltage	-60	V
V_{CEO}	Collector-Emitter Voltage	-60	V
V_{EBO}	Emitter-Base Voltage	-7	V
I_C	Collector Current -Continuous	-3	A
P_D	Collector Power Dissipation	2	W
T_J	Junction Temperature	150	℃
T_{stg}	Storage Temperature	-55-150	℃

ELECTRICAL CHARACTERISTICS (Tamb=25℃ unless otherwise specified)

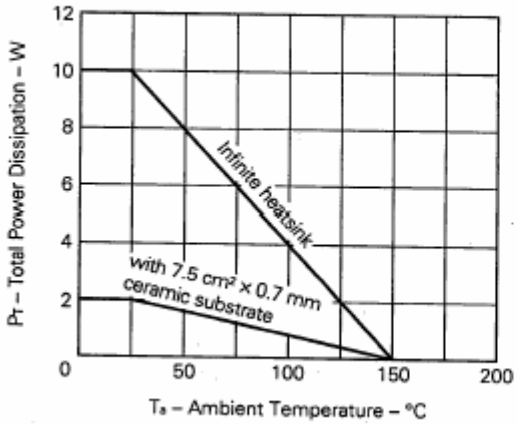
Parameter		Symbol	Test conditions	MIN	TYP	MAX	UNIT
Collector-base breakdown voltage		$V_{(BR)CBO}$	I_C=-100μA, I_E=0	-60			V
Collector-emitter breakdown voltage		$V_{(BR)CEO}$	I_C =-1mA, I_B=0	-60			V
Emitter-base breakdown voltage		$V_{(BR)EBO}$	I_E=-100μA, I_C=0	-7			V
Collector cut-off current		I_{CBO}	V_{CB}=-60V, I_E=0			-10	μA
Emitter cut-off current		I_{EBO}	V_{EB}=-7V, I_C=0			-10	μA
DC current gain		$h_{FE(1)}$	V_{CE}=-2V, I_C=-200mA	60			
		$h_{FE(2)}$	V_{CE}=-2V, I_C=-600mA	100		400	
		$h_{FE(3)}$	V_{CE}=-2V, I_C=-2A	50			
Collector-emitter saturation voltage		$V_{CE(sat)}$	I_C=-1.5A, I_B=-150mA			-0.3	V
Base-emitter saturation voltage		$V_{BE(sat)}$	I_C=-1.5A, I_B=-150mA			-1.2	V
Transition frequency		f_T	V_{CE}=-5V, I_C=-1.5A		50		MHz
Collector output capacitance		C_{ob}	V_{CB}=-10V, I_E=0, f=1MHz		40		pF
Switching Time	Turn on Time	t_{on}	V_{CC}=-10V, I_C=-1A, I_{B1}=-I_{B2}=-0.1A, R_L=10Ω		0.5		μs
	Storage Time	t_{stg}			2.0		
	Fall Time	t_f			0.5		

CLASSIFICATION OF $h_{FE(1)}$

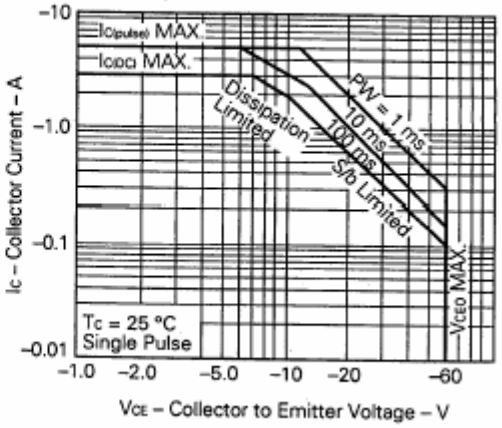
Rank	M	L	K
Range	100-200	160-320	200-400

Typical Characteristics

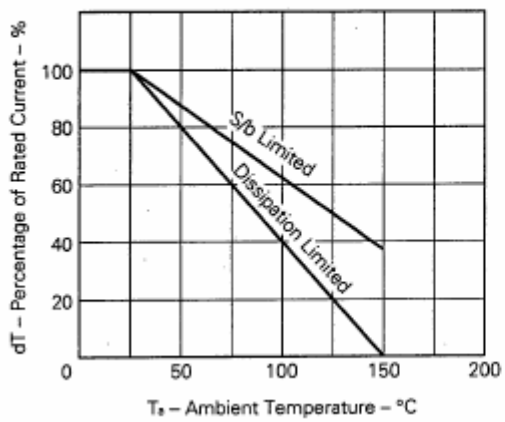
TOTAL POWER DISSIPATION vs. AMBIENT TEMPERATURE



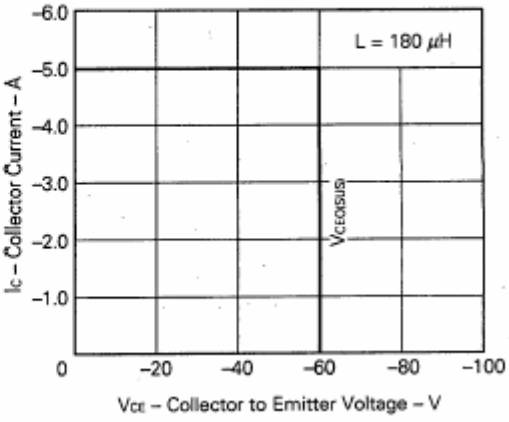
FORWARD BIAS SAFE OPERATING AREA



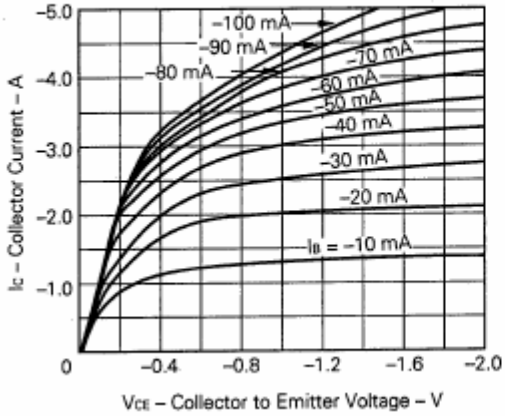
DERATING CURVE OF SAFE OPERATING AREA



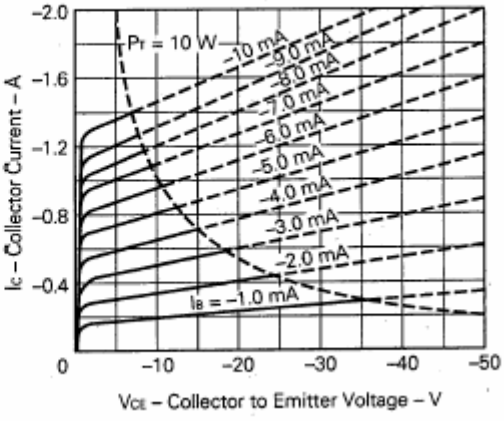
RESERVE BIAS SAFE OPERAING AREA



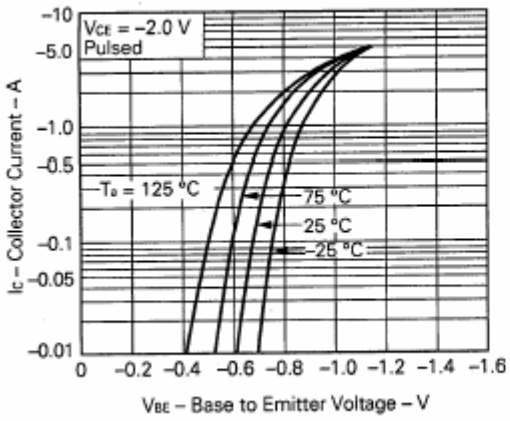
COLLECTOR CURRENT vs. COLLECTOR TO EMITTER VOLTAGE



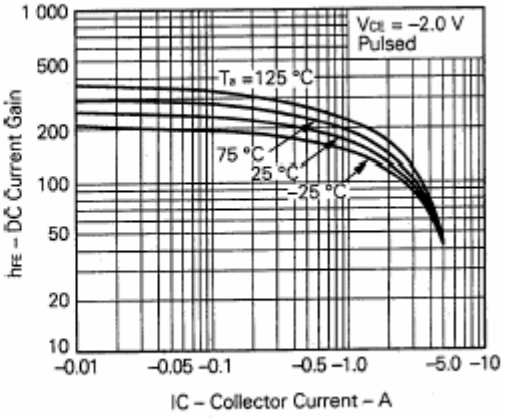
COLLECTOR CURRENT vs. COLLECTOR TO EMITTER VOLTAGE



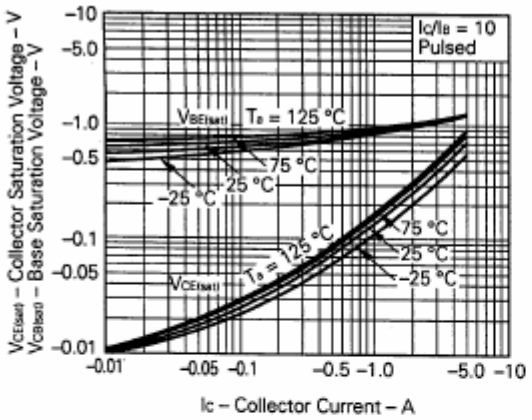
COLLECTOR CURRENT vs.
BASE TO EMITTER VOLTAGE



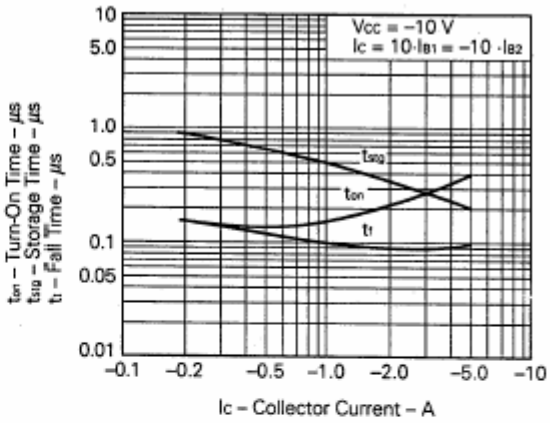
DC CURRENT GAIN vs.
COLLECTOR CURRENT



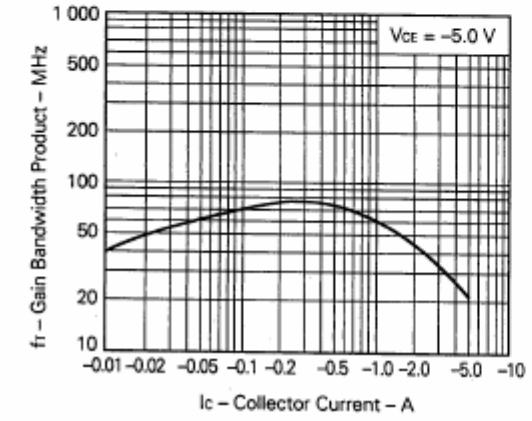
BASE AND COLLECTOR SATURATION
VOLTAGE vs. COLLECTOR CURRENT



FALL, STORAGE AND TURN-ON TIME vs.
COLLECTOR CURRENT



GAIN BANDWIDTH PRODUCT vs.
COLLECTOR CURRENT



OUTPUT CAPACITANCE vs.
COLLECTOR TO BASE VOLTAGE