

Power Transistors



# 2SB930, 2SB930A

Silicon PNP epitaxial planar type

For power amplification

Complementary to 2SD1253 and 2SD1253A

### Features

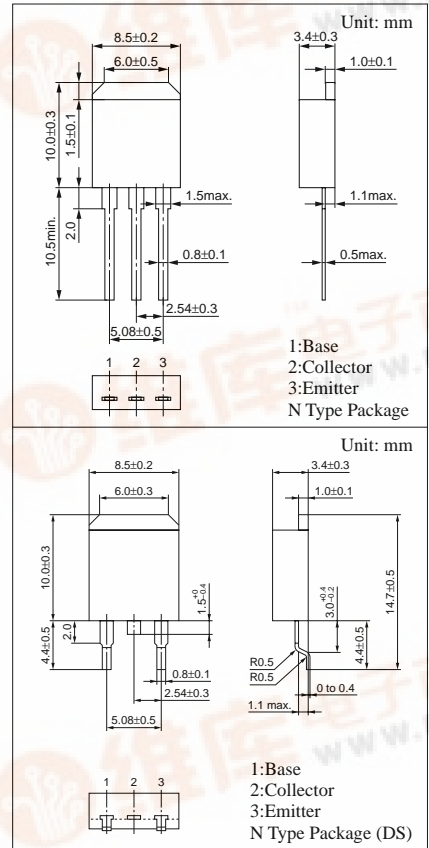
- High forward current transfer ratio  $h_{FE}$  which has satisfactory linearity
- Low collector to emitter saturation voltage  $V_{CE(sat)}$
- N type package enabling direct soldering of the radiating fin to the printed circuit board, etc. of small electronic equipment.

### Absolute Maximum Ratings ( $T_C=25^\circ C$ )

Parameter	Symbol	Rated	Unit
Collector to base voltage	$V_{CBO}$	-60	V
Collector to emitter voltage	$V_{CEO}$	-60	V
Emitter to base voltage	$V_{EBO}$	-5	V
Peak collector current	$I_{CP}$	-8	A
Collector current	$I_C$	-4	A
Collector power dissipation	$P_C$	40	W
		1.3	W
Junction temperature	$T_j$	150	$^\circ C$
Storage temperature	$T_{stg}$	-55 to +150	$^\circ C$

### Electrical Characteristics ( $T_C=25^\circ C$ )

Parameter	Symbol	Conditions	min	typ	max	Unit
Collector cutoff current	$I_{CES}$	$V_{CE} = -60V, V_{BE} = 0$			-400	$\mu A$
		$V_{CE} = -80V, V_{BE} = 0$			-400	$\mu A$
Collector cutoff current	$I_{CEO}$	$V_{CE} = -30V, I_B = 0$			-700	$\mu A$
		$V_{CE} = -60V, I_B = 0$			-700	$\mu A$
Emitter cutoff current	$I_{EBO}$	$V_{EB} = -5V, I_C = 0$			-1	mA
Collector to emitter voltage	$V_{CEO}$	$I_C = -30mA, I_B = 0$	-60		-80	V
Forward current transfer ratio	$h_{FE1}$	$V_{CE} = -4V, I_C = -1A$	70		250	
	$h_{FE2}$	$V_{CE} = -4V, I_C = -3A$	15			
Base to emitter voltage	$V_{BE}$	$V_{CE} = -4V, I_C = -3A$			-2	V
Collector to emitter saturation voltage	$V_{CE(sat)}$	$I_C = -4A, I_B = -0.4A$			-1.5	V
Transition frequency	$f_T$	$V_{CE} = -10V, I_C = -0.1A, f = 1MHz$		20		MHz
Turn-on time	$t_{on}$	$I_C = -4A, I_{B1} = -0.4A, I_{B2} = 0.4A$		0.2		$\mu s$
Storage time	$t_{stg}$			0.5		$\mu s$
Fall time	$t_f$			0.2		$\mu s$

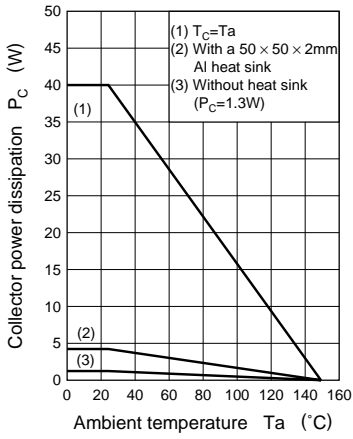


PDF Rank Classification

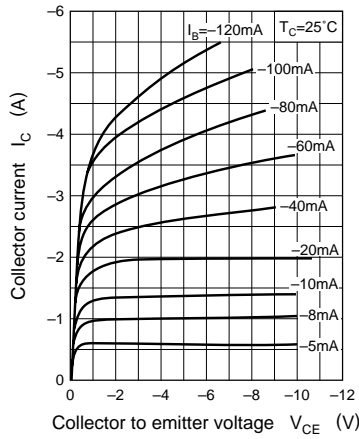
Rank 1 Q P

$h_{FE1}$  70 to 150 120 to 250

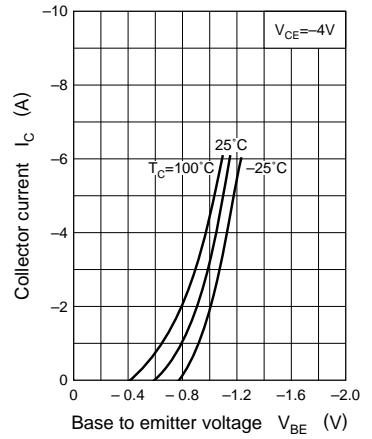
$P_C - T_a$



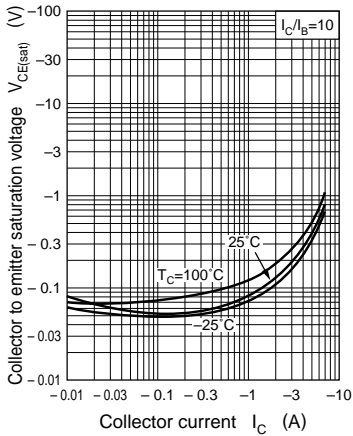
$I_C - V_{CE}$



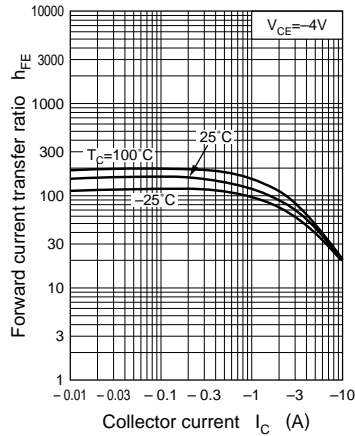
$I_C - V_{BE}$



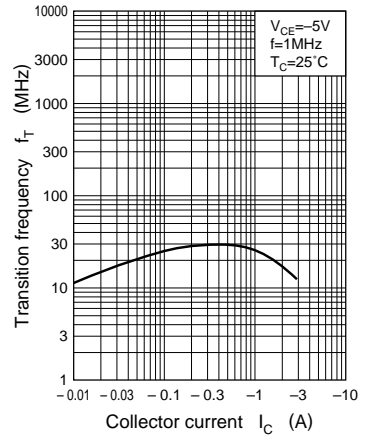
$V_{CE(sat)} - I_C$



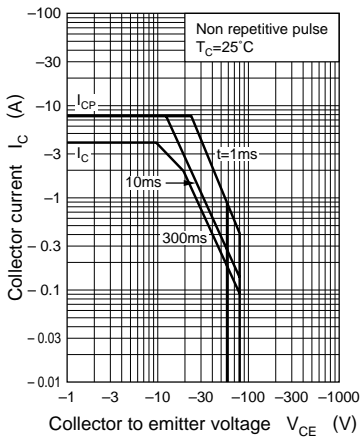
$h_{FE} - I_C$



$f_T - I_C$



Area of safe operation (ASO)



$R_{th(t)} - t$

