


NPN Epitaxial Planar Silicon Transistors

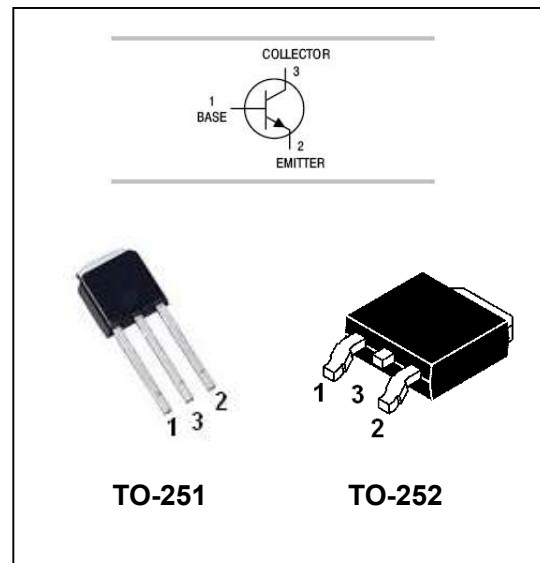
2SD1802

FEATURES

- Adoption of FBET,MBIT processes.
- Large current capacity and wide ASO.  Lead-free
- Low collector-to-emitter saturation voltage.
- Fast switching speed.
- Small and slim package making it easy to
Make 2SB1802-used sets smaller.

APPLICATIONS

- High-Current Switching Applications.
- Voltage regulators,relay drivers,lamp drivers,
Electrical equipment.



MAXIMUM RATING operating temperature range applies unless otherwise specified

Symbol	Parameter	Value	Units
V_{CBO}	Collector-Base Volage	60	V
V_{CEO}	Collector-Emitter Voltage	50	V
V_{EBO}	Emitter-Base Voltage	6	V
I_C	Collector Current	3	A
I_{CP}	Collector Power Dissipation	6	A
P_C	Collector Power Dissipation	1	W
T_j, T_{stg}	Junction and Storage temperature range	-55 to +150	°C

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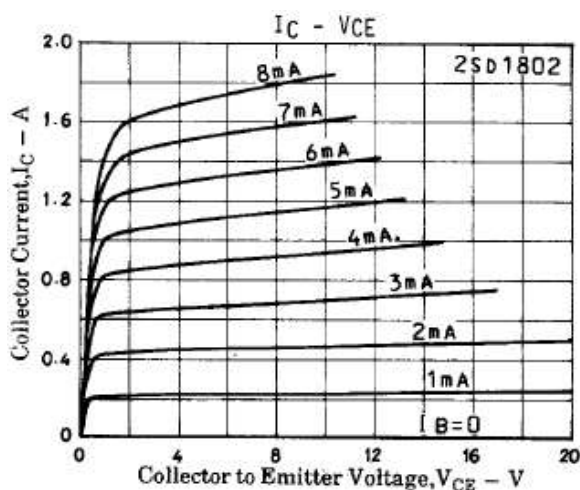
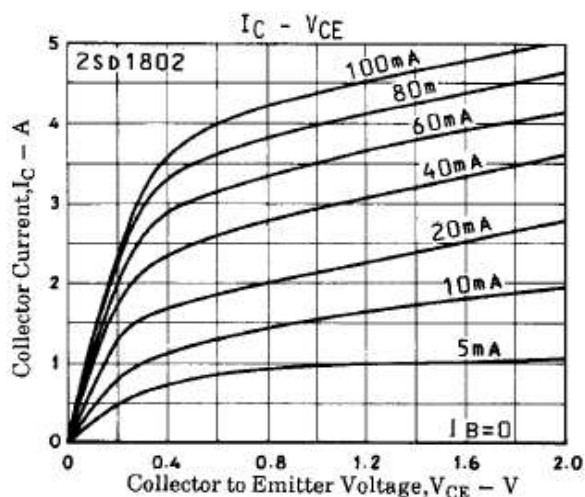
ELECTRICAL CHARACTERISTICS @ Ta=25°C unless otherwise specified

Parameter	Symbol	Test conditions	MIN	TYP	MAX	UNIT
Collector-base breakdown voltage	V_{CB0}	$I_C = -10\mu A, I_E = 0$	60			V
Collector-emitter breakdown voltage	V_{CEO}	$I_C = 1mA, I_B = 0$	50			V
Emitter-base breakdown voltage	V_{EBO}	$I_E = 10\mu A, I_C = 0$	6			V
Collector cut-off current	I_{CBO}	$V_{CB} = 40V, I_E = 0$			1	μA
Emitter cut-off current	I_{EBO}	$V_{EBO} = 4V, I_C = 0$			1	μA
DC current gain	h_{FE}	$V_{CE} = 2V, I_C = 100mA$ $V_{CE} = 2V, I_C = 3A$	100 35		560	
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C = 2A, I_B = 0.1A$		0.19	0.5	V
Base-emitter saturation voltage	$V_{BE(sat)}$	$I_C = 2A, I_B = 0.1A$		0.94	1.2	V
Transition frequency	f_T	$V_{CE} = 10V, I_E = 50mA$		150		MHz
Collector output capacitance	C_{ob}	$V_{CB} = 10V, f = 1MHz$		25		pF
Turn-on Time	t_{on}			70		ns
Storage Time	t_{stg}			650		ns
Fall Time	t_r			35		ns

CLASSIFICATION OF $h_{FE(1)}$

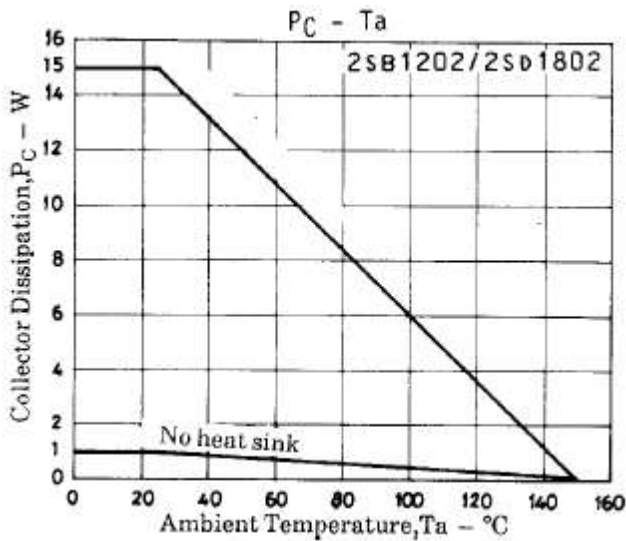
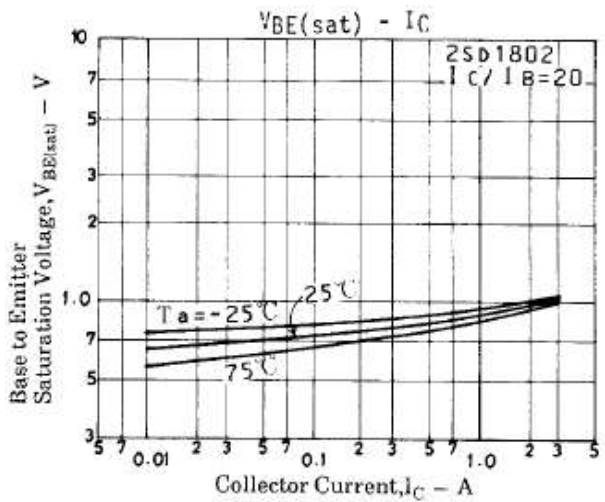
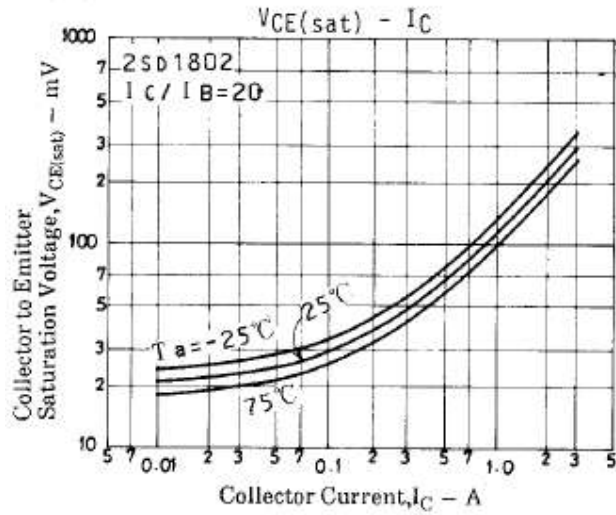
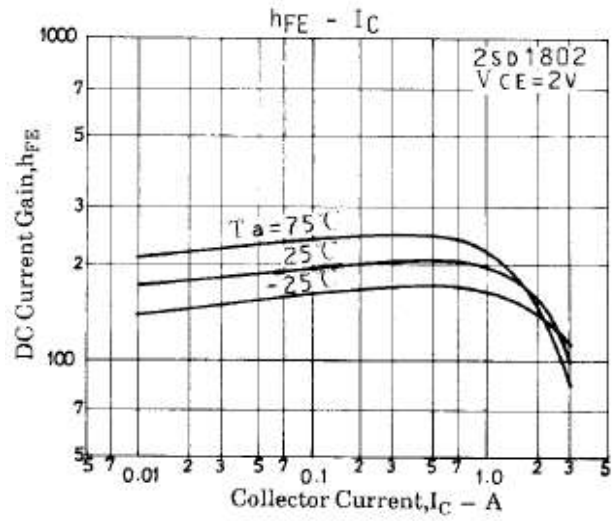
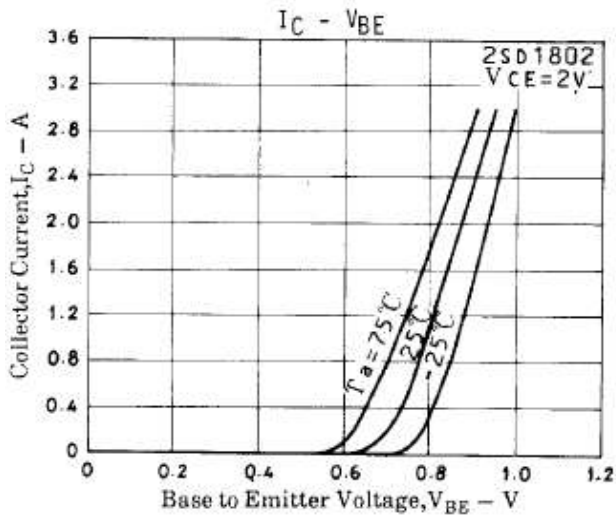
Rank	R	S	T	U
Range	100-200	140-280	200-400	280-560

TYPICAL CHARACTERISTICS @ Ta=25°C unless otherwise specified



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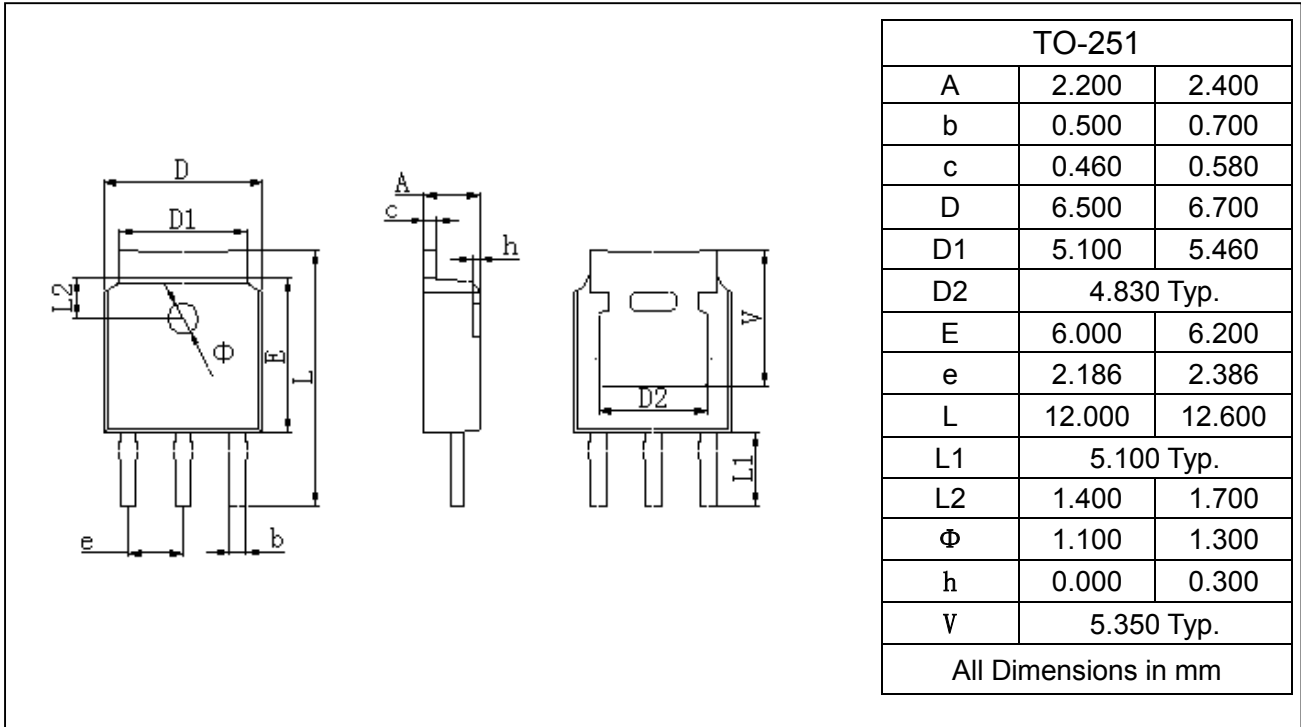
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PACKAGE OUTLINE

Plastic surface mounted package

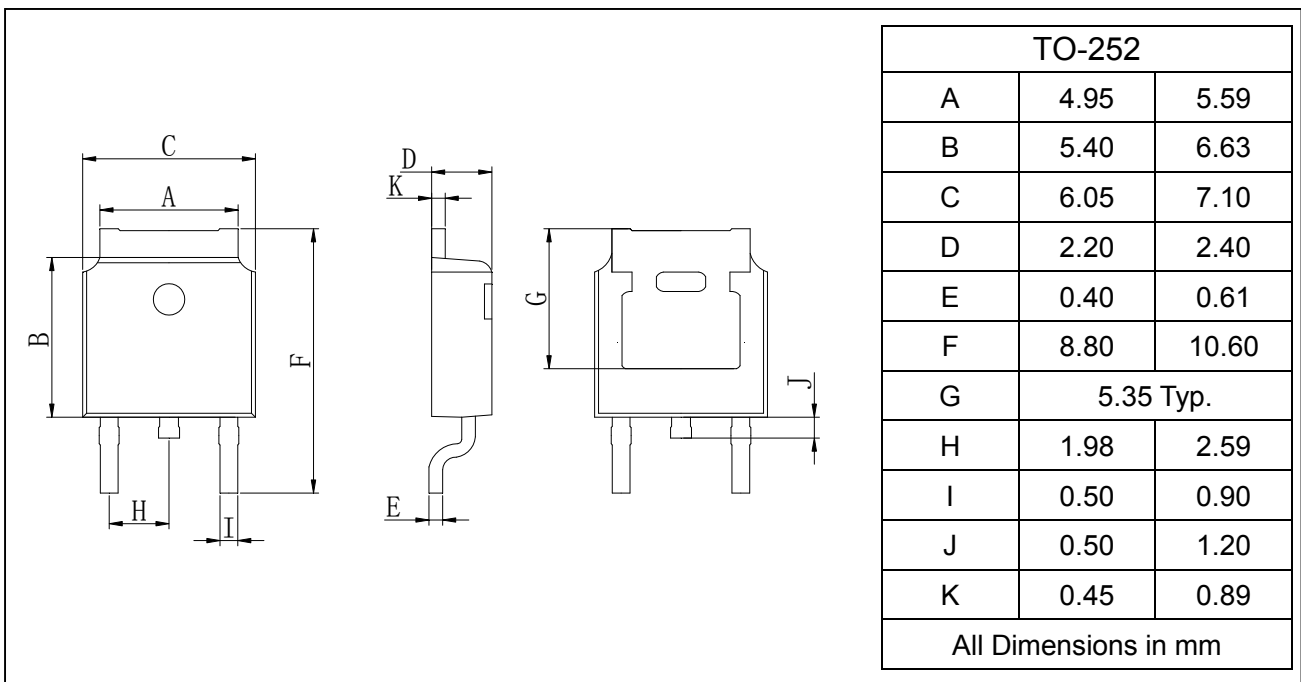
TO-251



PACKAGE OUTLINE

Plastic surface mounted package

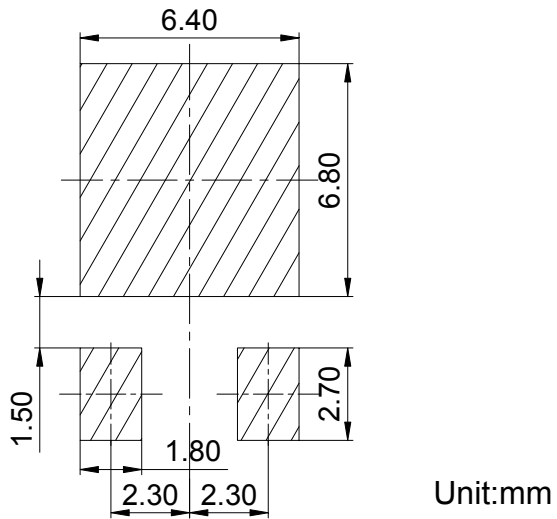
TO-252



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2SD1802

SOLDERING FOOTPRINT



PACKAGE INFORMATION

Device	Package	Shipping
2SD1802	TO-251/252	80PCS/Tube
	TO-252	2500PCS/Tape&Reel