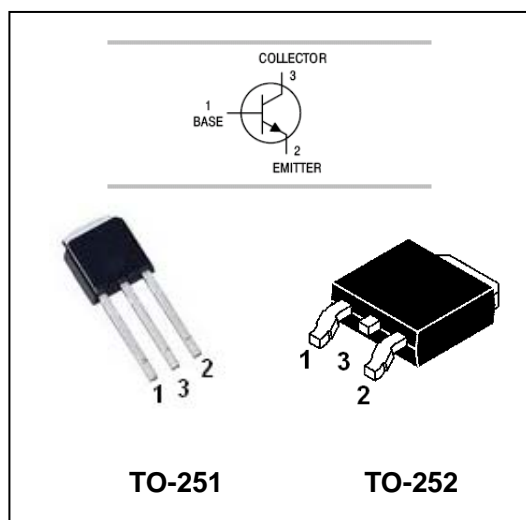


NPN Epitaxial Planar Silicon Transistors

2SD1803

FEATURES

- Low collector-to-emitter saturation voltage.
- High current and high f_T .
- Excellent linearity of h_{FE} .
- Fast switching time.



APPLICATIONS

- High-Current Switching Applications.

MAXIMUM RATING operating temperature range applies unless otherwise specified

Symbol	Parameter	Value	Units
V_{CBO}	Collector-Base Voltage	60	V
V_{CEO}	Collector-Emitter Voltage	50	V
V_{EBO}	Emitter-Base Voltage	6	V
I_C	Collector Current	5	A
I_{CM}		8	
P_C	Collector Power Dissipation	20	W
	$T_c=25^\circ\text{C}$ $T_a=25^\circ\text{C}$	1	
T_j, T_{stg}	Junction and Storage temperature range	-40 to +150	$^\circ\text{C}$



NPN Epitaxial Planar Silicon Transistors

2SD1803

ELECTRICAL CHARACTERISTICS@ Ta=25°C unless otherwise specified

Parameter	Symbol	Test conditions	MIN	TYP	MAX	UNIT
Collector-base breakdown voltage	V _{CB0}	I _C =-10uA, 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 =10uA, I _C =0	6			V
Collector cut-off current	I _{CB0}	V _{CB} =40V, I _E =0			1	uA
Emitter cut-off current	I _{EBO}	V _{EBO} =4V, I _C =0			1	uA
DC current gain	h _{FE1} h _{FE2}	V _{CE} =2V, I _C =0.5A V _{CE} =2V, I _C =4A	70 35		400	
Collector-emitter saturation voltage	V _{CE(sat)}	I _C =3A, I _B =0.15A		0.22	0.4	V
Base-emitter saturation voltage	V _{BE(sat)}	I _C =3A, I _B =0.15A		0.95	1.3	V
Transition frequency	f _T	V _{CE} =5V, I _E =1A		180		MHz
Collector output capacitance	C _{ob}	V _{CB} =10V, f=1MHz		40		pF
Turn-on Time	t _{on}			50		ns
Storage Time	t _{stg}			500		ns
Fall Time	t _r			20		ns

CLASSIFICATION OF h_{FE1}

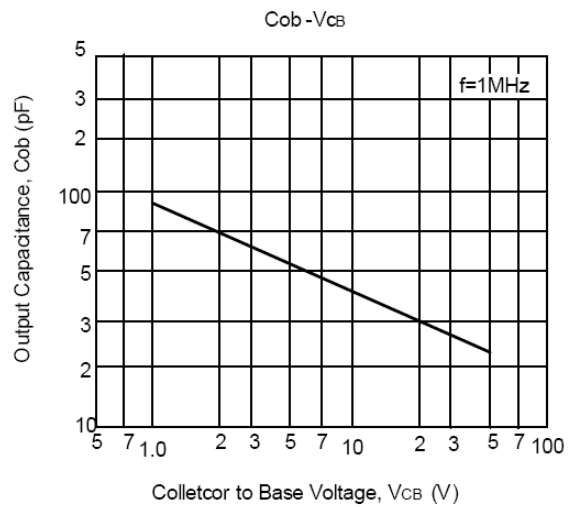
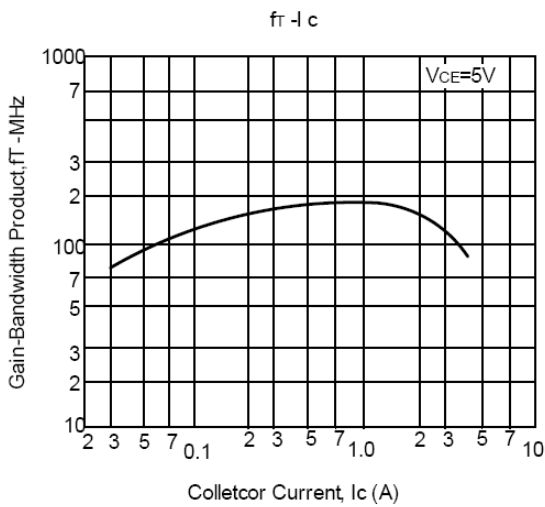
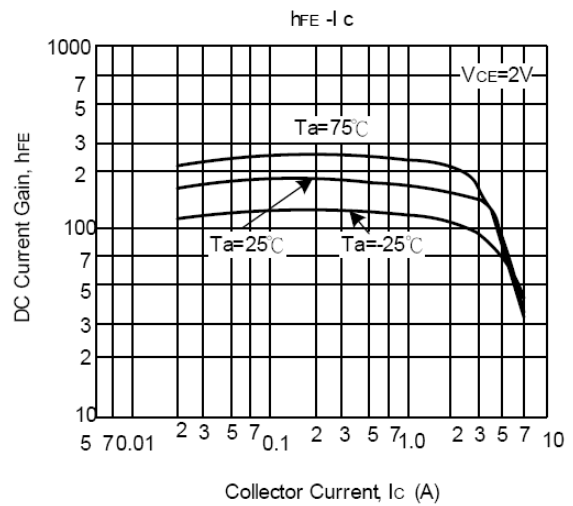
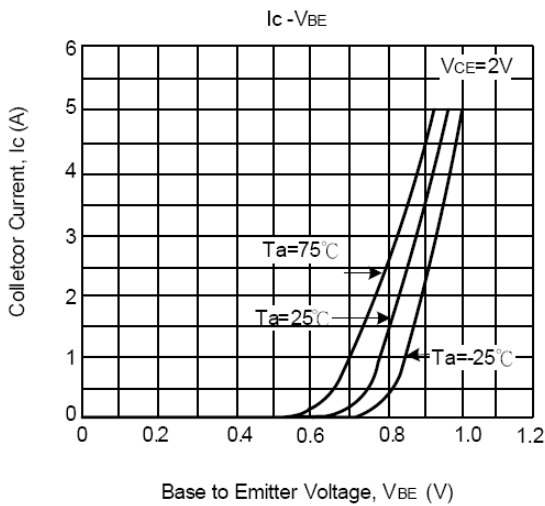
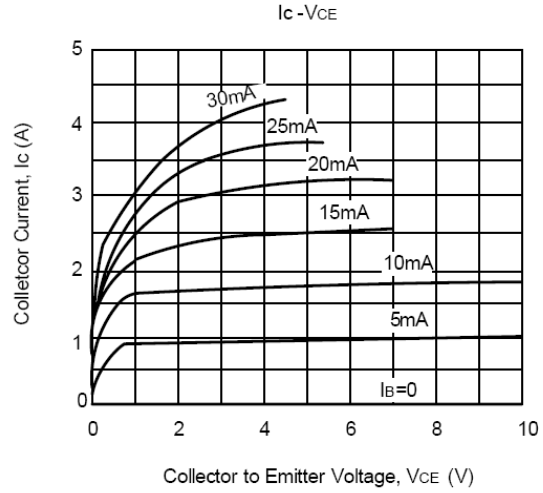
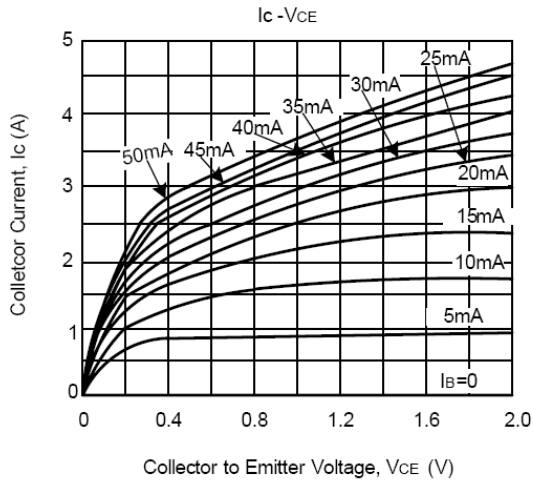
Rank	Q	R	S	T
Range	70-140	100-200	140-280	200-400



NPN Epitaxial Planar Silicon Transistors

2SD1803

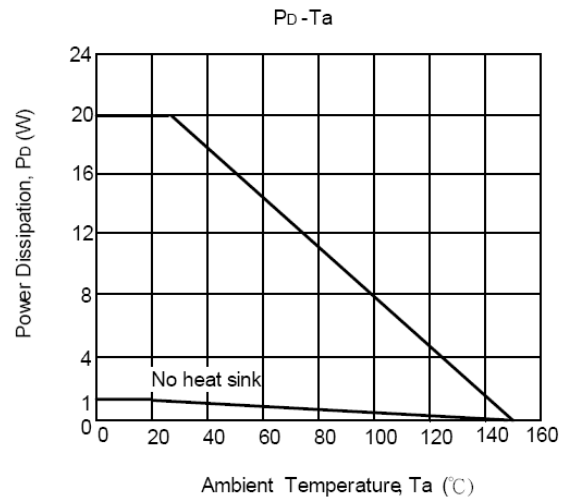
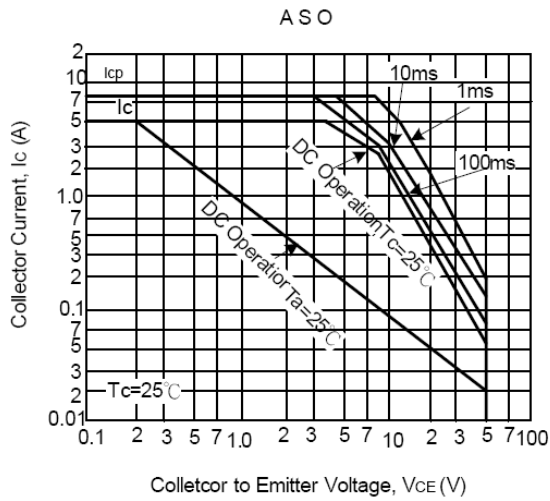
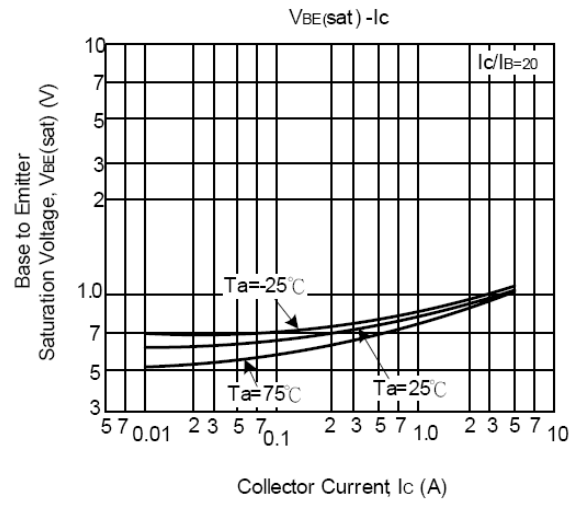
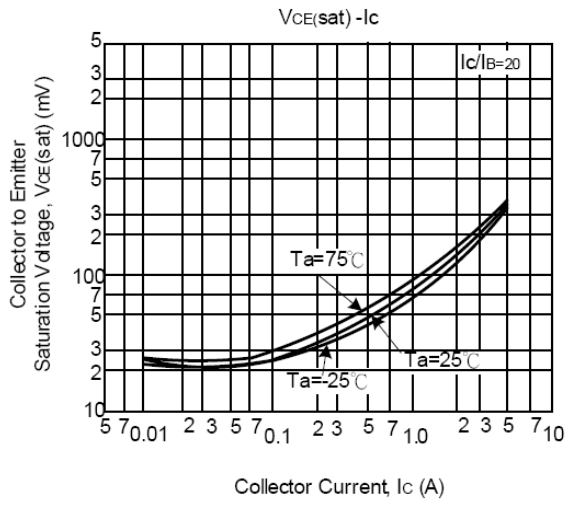
TYPICAL CHARACTERISTICS @ Ta=25°C unless otherwise specified





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2SD1803



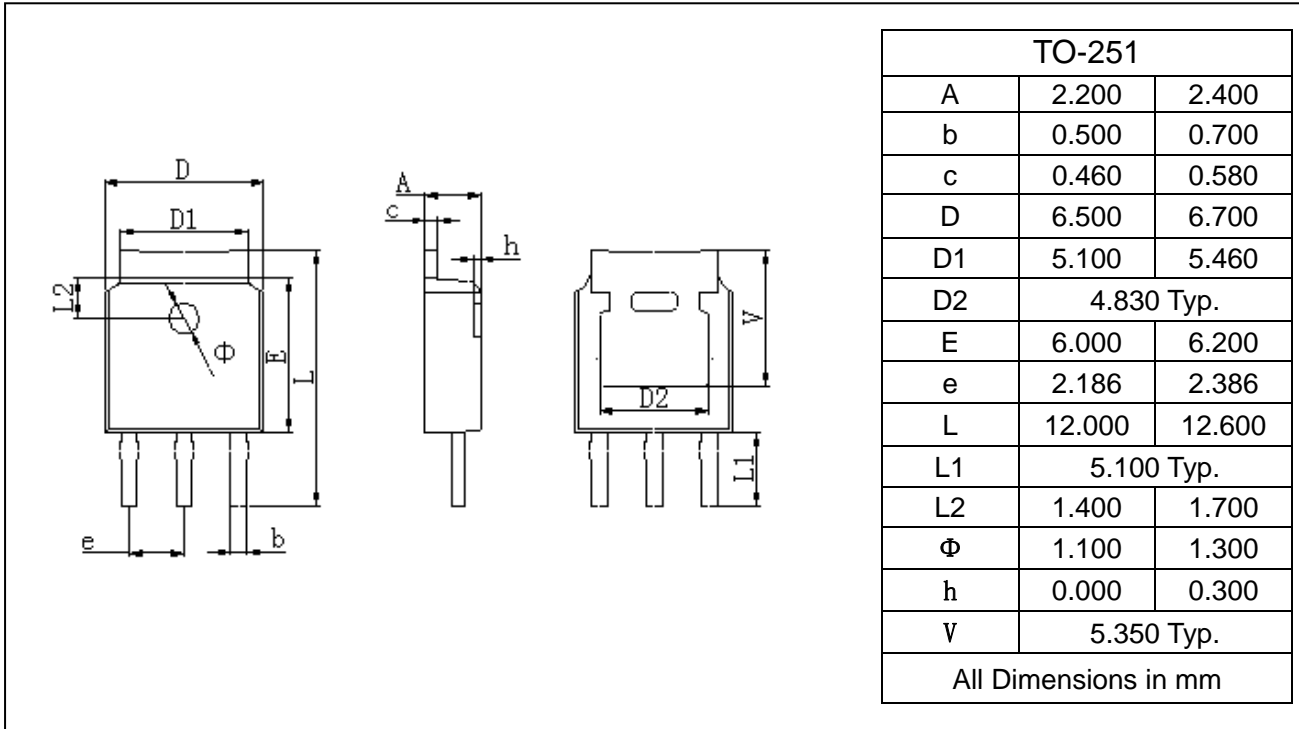
NPN Epitaxial Planar Silicon Transistors

2SD1803

PACKAGE OUTLINE

Plastic surface mounted package

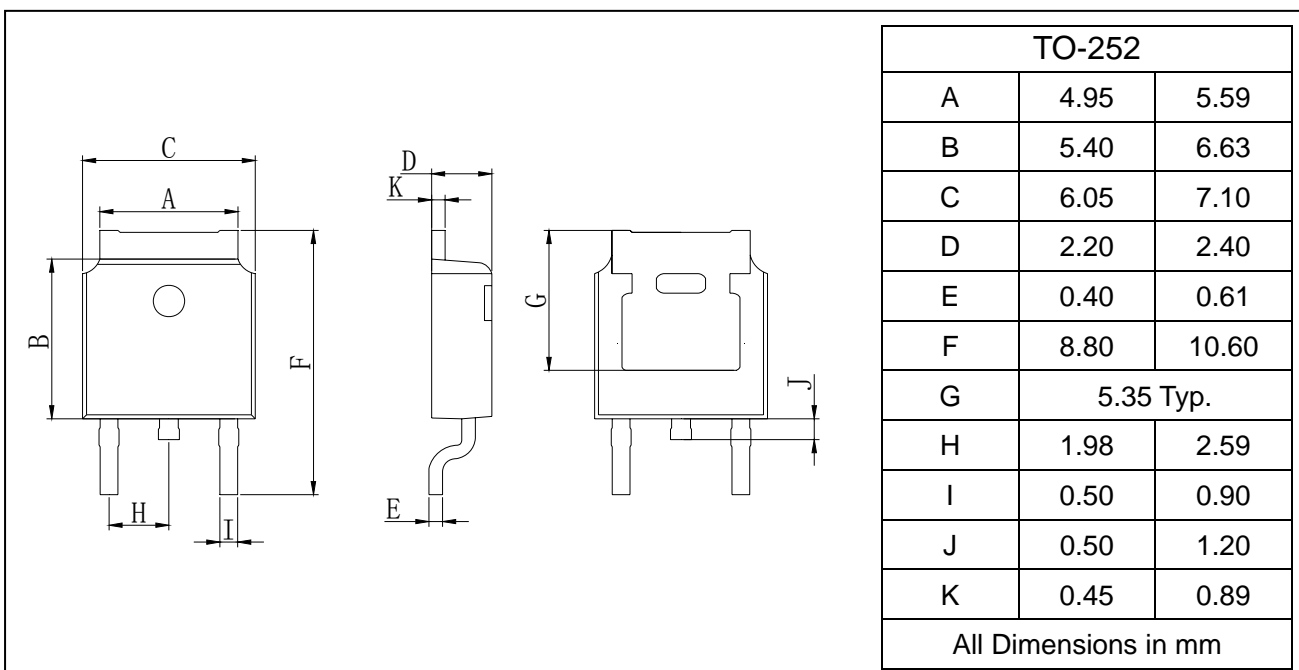
TO-251



PACKAGE OUTLINE

Plastic surface mounted package

TO-252

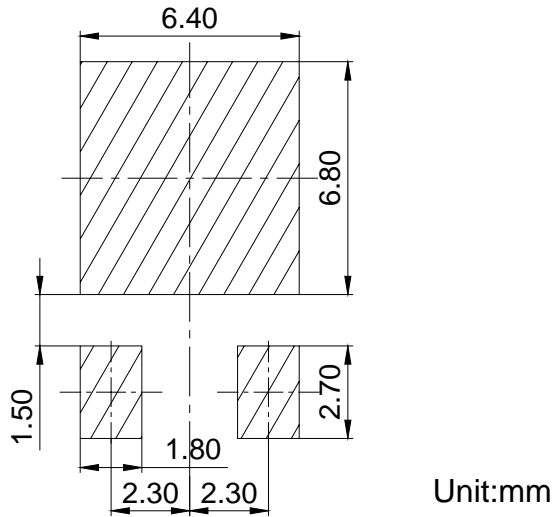




NPN Epitaxial Planar Silicon Transistors

2SD1803

SOLDERING FOOTPRINT



PACKAGE INFORMATION

Device	Package	Shipping
2SD1803	TO-251/252	80PCS/Tube
	TO-252	2500PCS/Tape&Reel