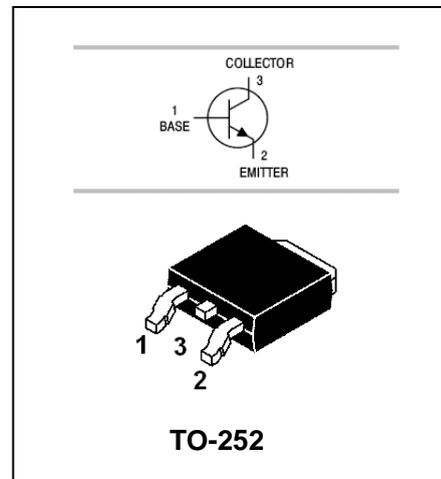


NPN Epitaxial Planar Silicon Transistors

2SD1899

FEATURES

- High h_{FE} $h_{FE}=100$ to 400.
- Low $V_{CE(sat)}$ $V_{CE(sat)} \leq 0.3V$.



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	60	V
V_{EBO}	Emitter-Base Voltage	7	V
I_C	Collector Current	3	A
I_{CP}	Collector Power Dissipation	5	A
I_B	Base current	0.5	A
P_C	Collector Power Dissipation	1	W
T_j, T_{stg}	Junction and Storage temperature range	-55 to +150	°C



NPN Epitaxial Planar Silicon Transistors

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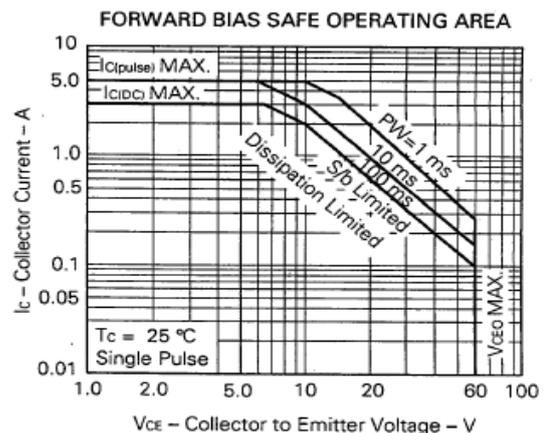
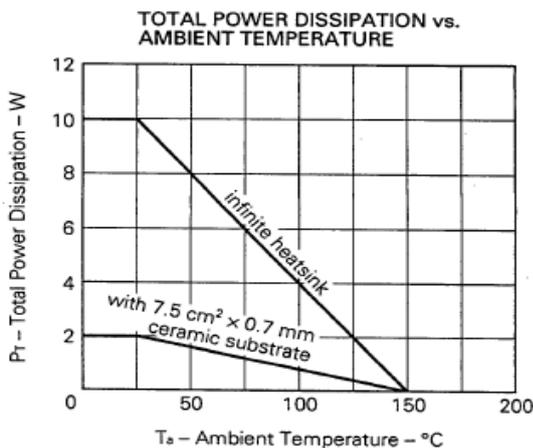
ELECTRICAL CHARACTERISTICS @ Ta=25°C unless otherwise specified

Parameter	Symbol	Test conditions	MIN	TYP	MAX	UNIT
Collector-base breakdown voltage	V _{CB0}	I _C =10uA, I _E =0	60			V
Collector-emitter breakdown voltage	V _{CEO}	I _C =1mA, I _B =0	60			V
Emitter-base breakdown voltage	V _{EBO}	I _E =10uA, I _C =0	7			V
Collector cut-off current	I _{CB0}	V _{CB} =60V, I _E =0			10	uA
Emitter cut-off current	I _{EBO}	V _{EBO} =7V, I _C =0			10	uA
DC current gain	h _{FE}	V _{CE} =2V, I _C =0.2A	60			
		V _{CE} =2V, I _C =0.6A	100		400	
		V _{CE} =2V, I _C =2.0A	50			
Collector-emitter saturation voltage	V _{CE(sat)}	I _C =1.5A, I _B =0.15A		0.14	0.25	V
Base-emitter saturation voltage	V _{BE(sat)}	I _C =1.5A, I _B =0.15A		0.93	1.2	V
Transition frequency	f _T	V _{CE} =5V, I _E =-1.5A		120		MHz
Collector output capacitance	C _{ob}	V _{CB} =10V, f=1MHz		30		pF
Turn-on Time	t _{on}	I _C =1A, V _{CC} =10V R _L =10Ω, I _{B1} =-I _{B2} =0.1A		0.15	0.5	us
Storage Time	t _{stg}			0.75	2.0	us
Fall Time	t _f			0.2	0.5	us

CLASSIFICATION OF h_{FE(1)}

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

TYPICAL CHARACTERISTICS @ Ta=25°C unless otherwise specified

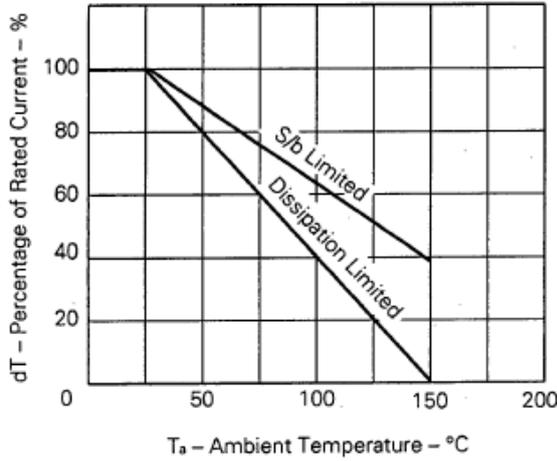




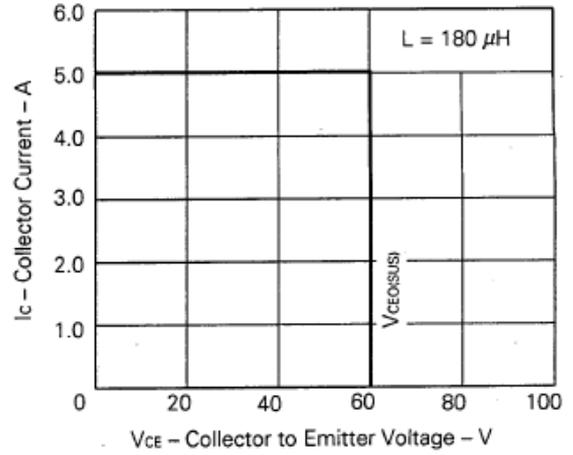
NPN Epitaxial Planar Silicon Transistors

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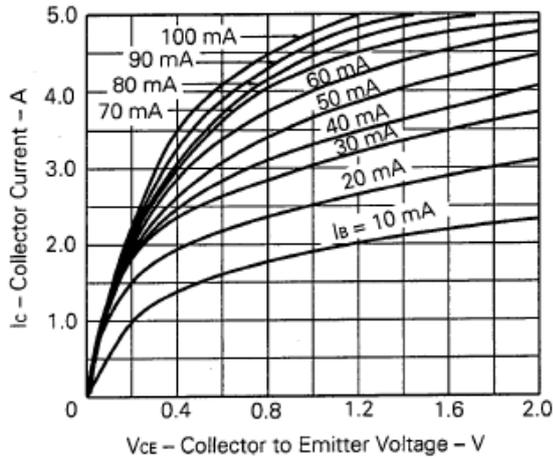
DERATING CURVE OF SAFE OPERATING AREA



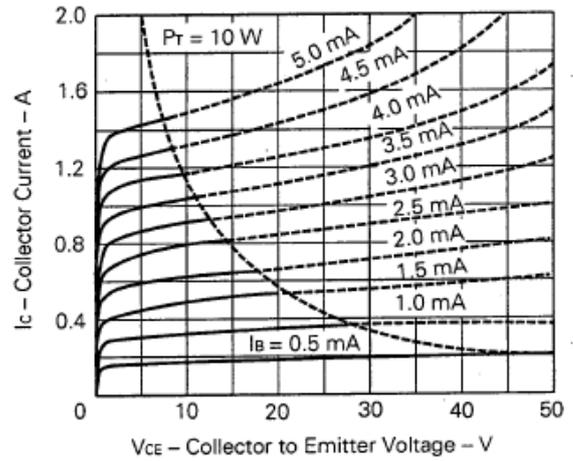
REVERSE BIAS SAFE OPERATING AREA



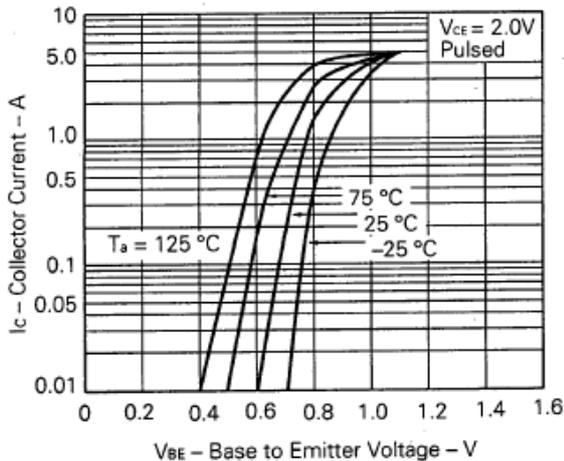
COLLECTOR CURRENT vs. COLLECTOR TO EMITTER VOLTAGE



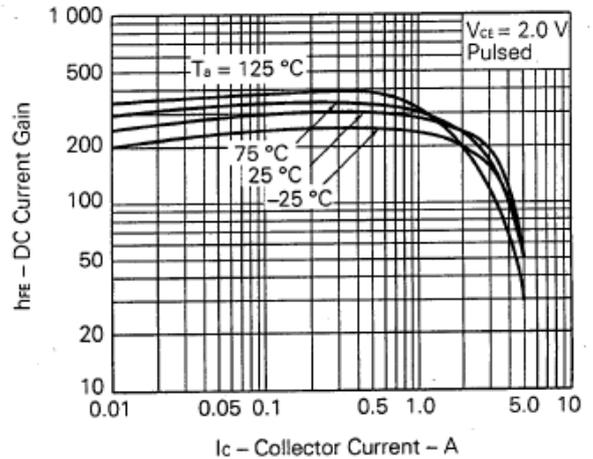
COLLECTOR CURRENT vs. COLLECTOR TO EMITTER VOLTAGE



COLLECTOR CURRENT vs. BASE TO EMITTER VOLTAGE



DC CURRENT GAIN vs. COLLECTOR CURRENT





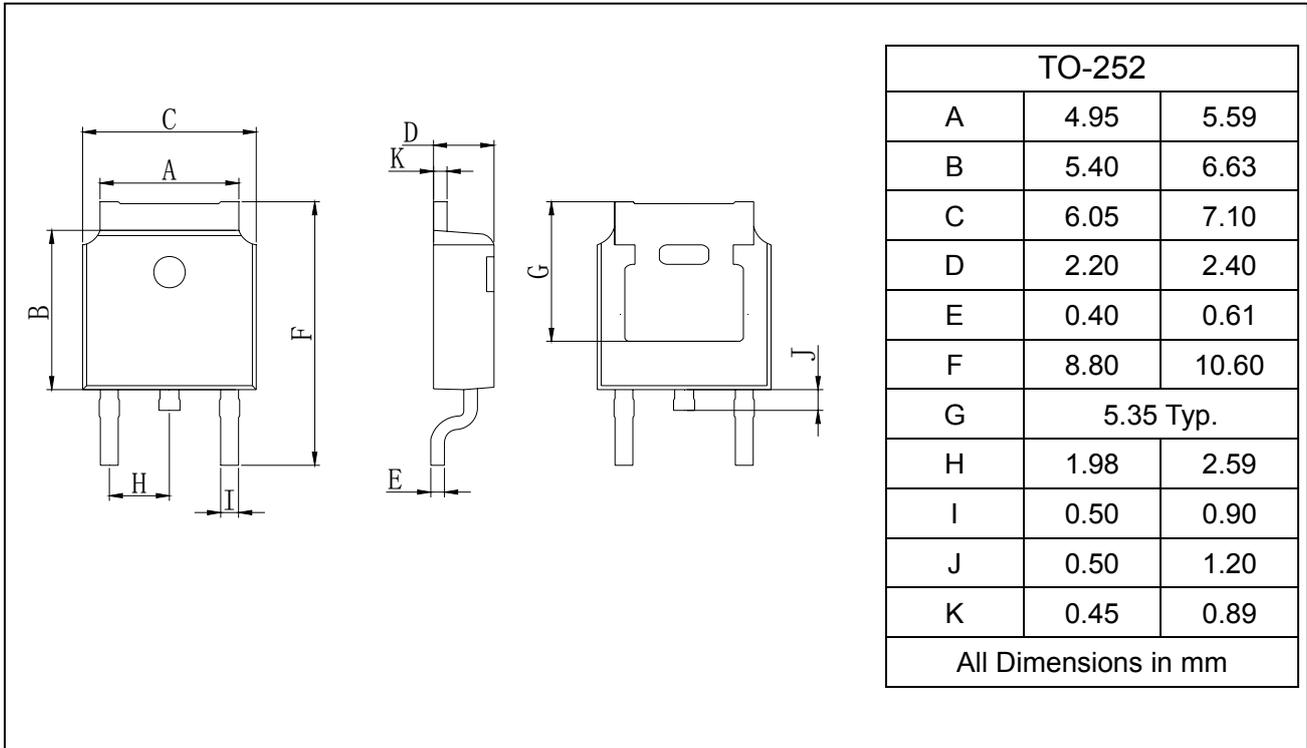
NPN Epitaxial Planar Silicon Transistors

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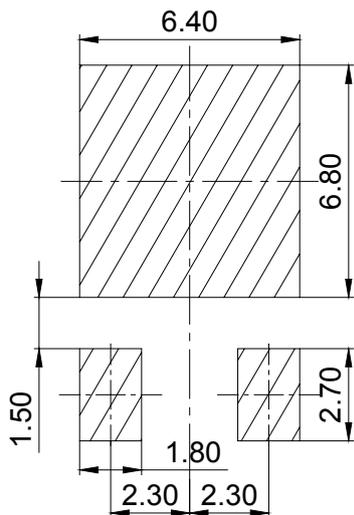
PACKAGE OUTLINE

Plastic surface mounted package

TO-252



SOLDERING FOOTPRINT



Unit:mm



NPN Epitaxial Planar Silicon Transistors

2SD1899

PACKAGE INFORMATION

Device	Package	Shipping
2SD1899	TO-252	80PCS/Tube
		2500PCS/Tape&Reel