



2SB1739 / 2SD2720 — Compact Motor Driver Applications

PNP / NPN Epitaxial Planar Silicon Transistors

Features

- Low saturation voltage.
- Contains diode between collector and emitter.
- Contains bias resistance between base and emitter.
- Large current capacity.

Specifications () : 2SB1739

Absolute Maximum Ratings at Ta=25°C

Parameter	Symbol	Conditions	Ratings	Unit
Collector-to-Base Voltage	V _{CBO}		(-)40	V
Collector-to-Emitter Voltage	V _{CEO}		(-)30	V
Emitter-to-Base Voltage	V _{EBO}		(-)6	V
Collector Current	I _C		(-)3	A
Collector Current (Pulse)	I _{CP}		(-)5	A
Collector Dissipation	P _C		1	W
		T _C =25°C	15	W
Junction Temperature	T _J		150	°C
Storage Temperature	T _{stg}		-55 to +150	°C

Electrical Characteristics at Ta=25°C

Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Collector Cutoff Current	I _{CBO}	V _{CB} =(-)30V, I _E =0A			(-)1.0	μA
DC Current Gain	h _{FE1}	V _{CE} =(-)2V, I _C =(-)0.5A	70			
	h _{FE2}	V _{CE} =(-)2V, I _C =(-)2A	50			
Gain-Bandwidth Product	f _T	V _{CE} =(-)2V, I _C =(-)0.5A		100		MHz
Output Capacitance	C _{ob}	V _{CB} =(-)10V, f=1MHz		(55)40		pF
Collector-to-Emitter Saturation Voltage	V _{CE(sat)}	I _C =(-)2A, I _B =(-)100mA		(-0.28)0.23	(-0.6)0.5	V
Base-to-Emitter Saturation Voltage	V _{BE(sat)}	I _C =(-)2A, I _B =(-)100mA			(-)1.5	V
Collector-to-Base Breakdown Voltage	V _{(BR)CBO}	I _C =(-)10μA, I _E =0A	(-)40			V
Collector-to-Emitter Breakdown Voltage	V _{(BR)CEO1}	I _C =(-)10μA, R _{BE} =∞	(-)40			V
	V _{(BR)CEO2}	I _C =(-)10mA, R _{BE} =∞	(-)30			V
Diode Forward Voltage	V _F	I _F =(-)0.5A			(-)1.5	V
Base-to-Emitter Resistance	R _{BE}			0.8		kΩ

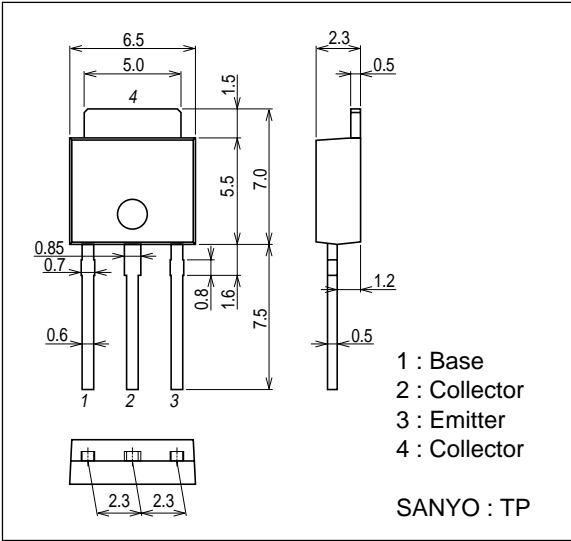
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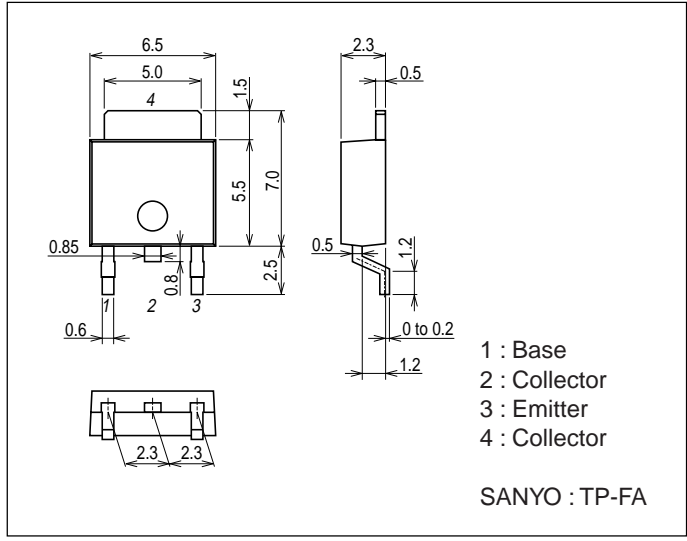
Package Dimensions

unit : mm (typ)
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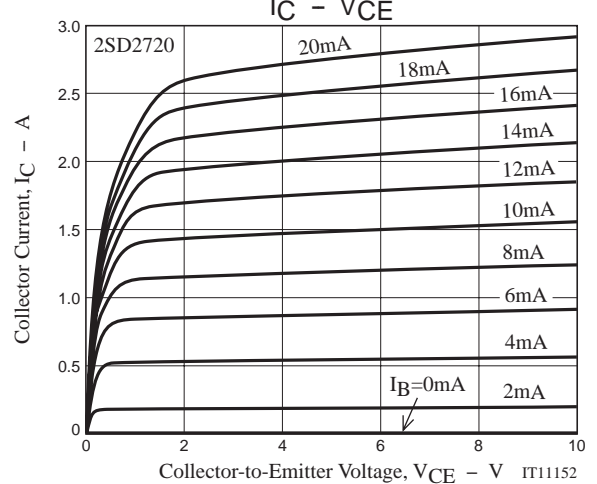
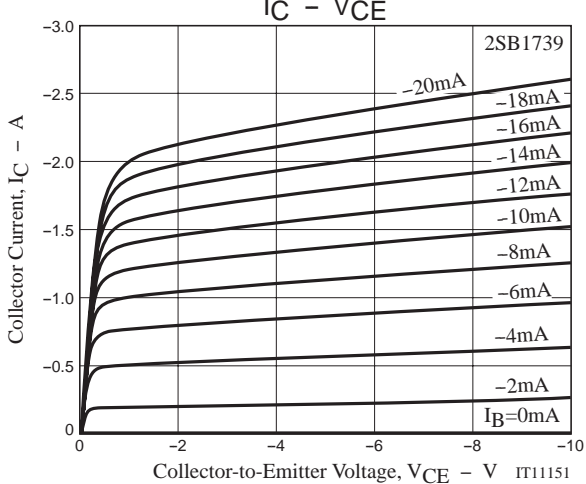
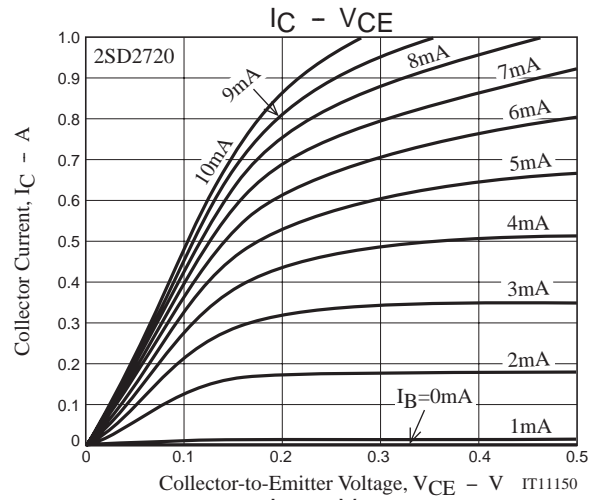
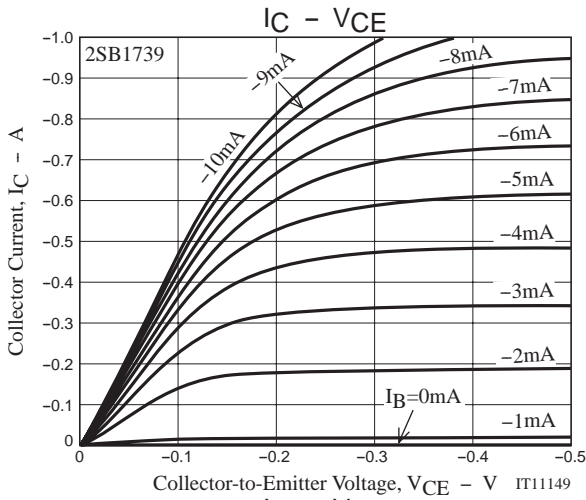
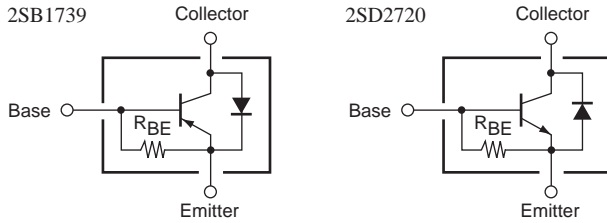


Package Dimensions

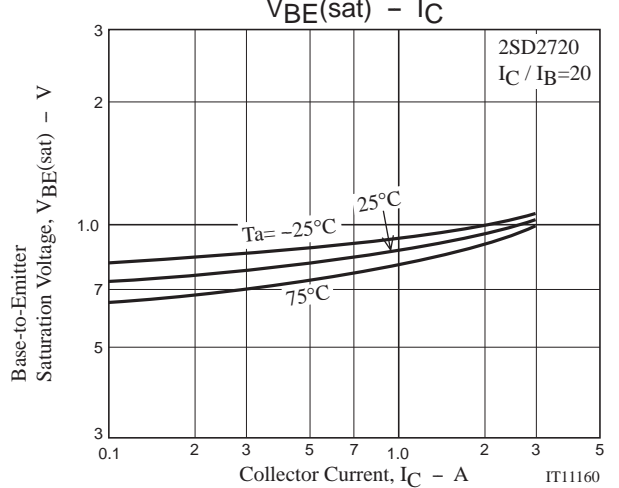
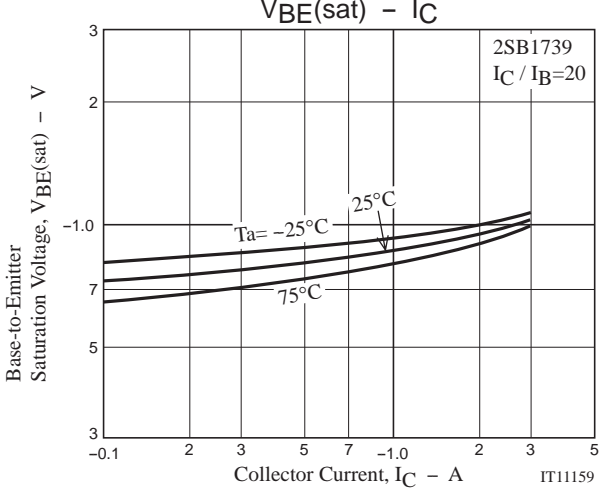
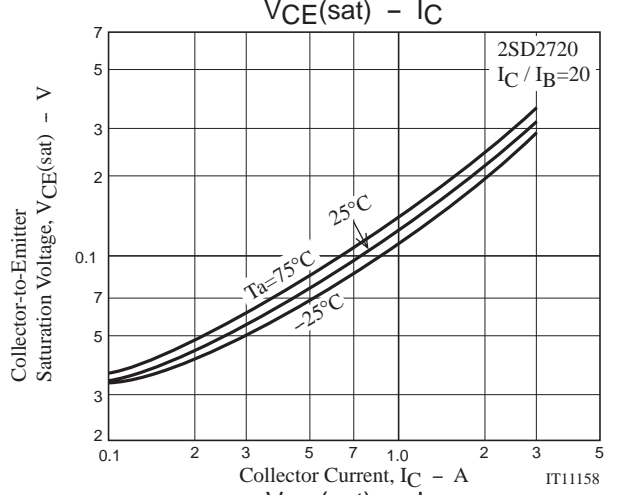
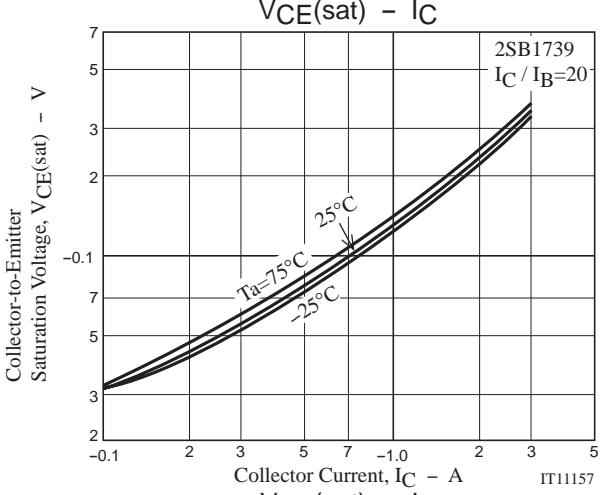
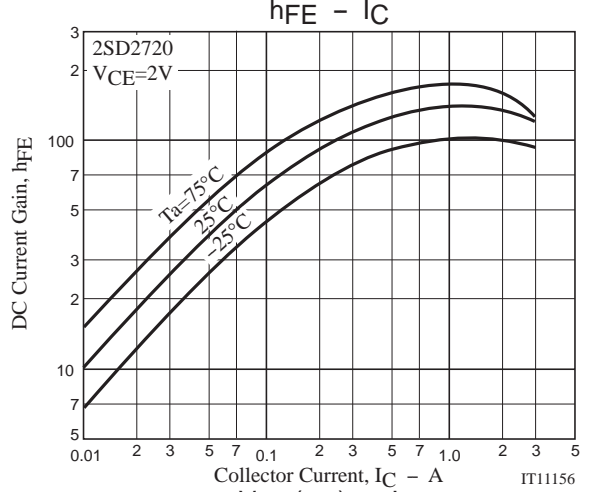
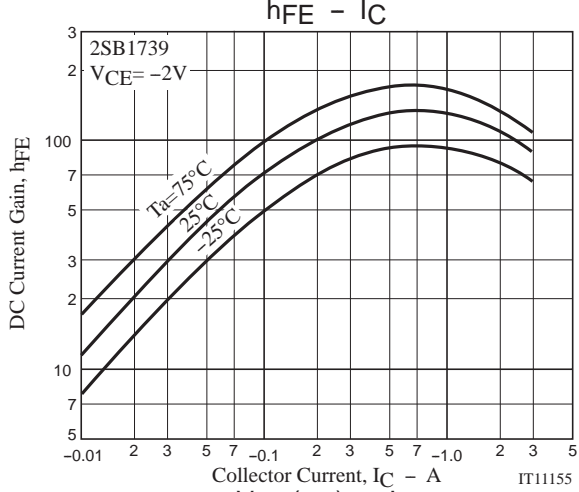
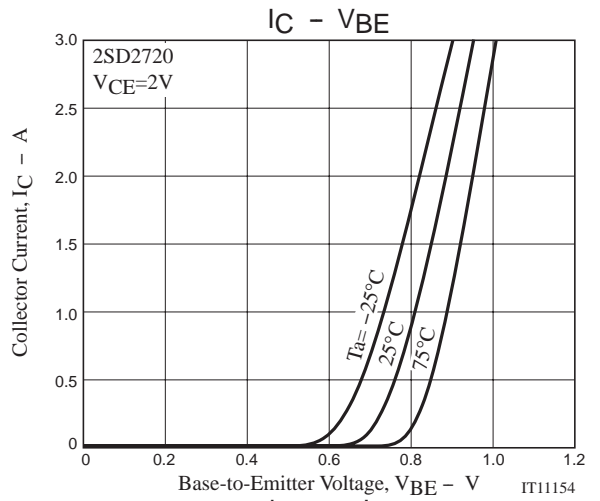
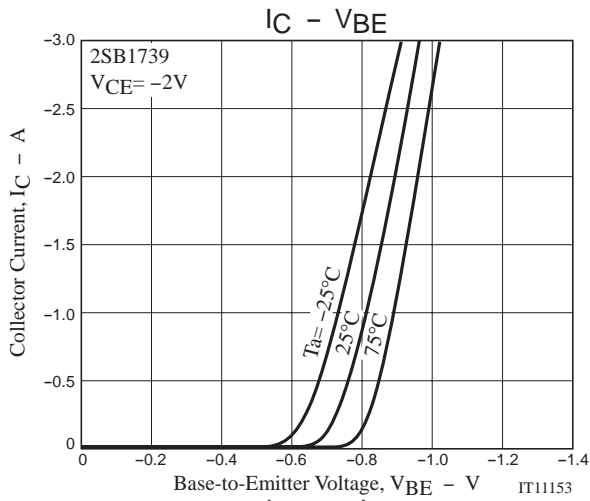
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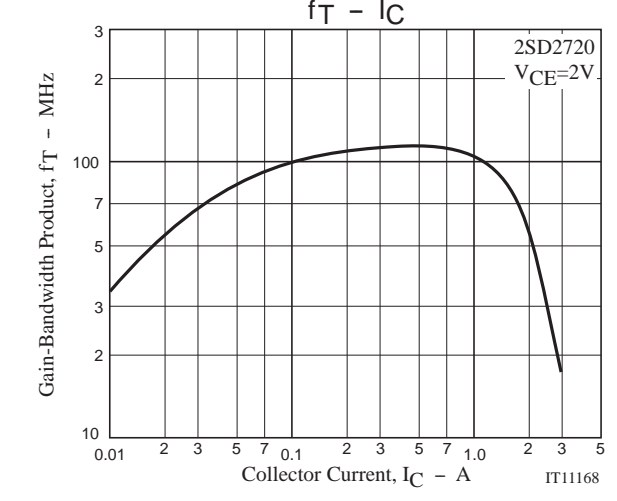
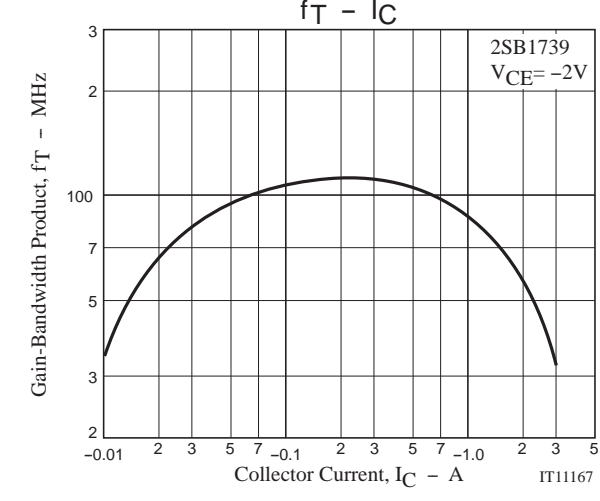
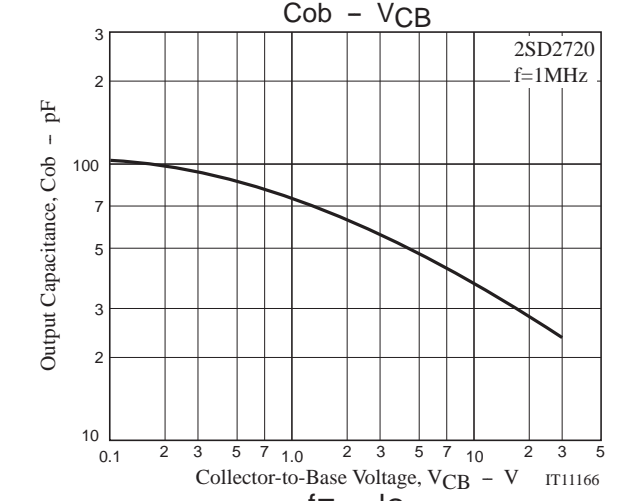
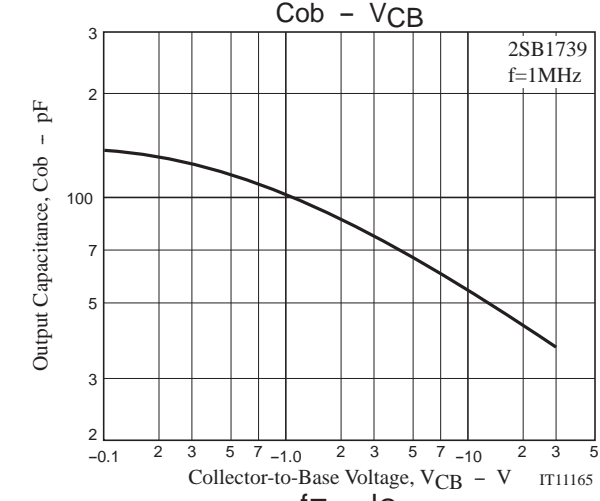
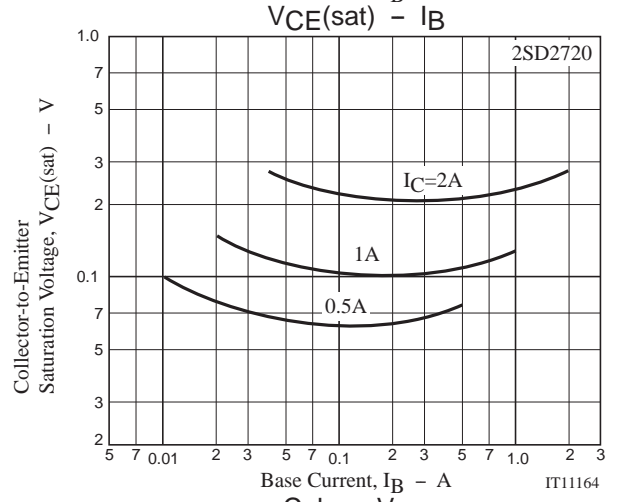
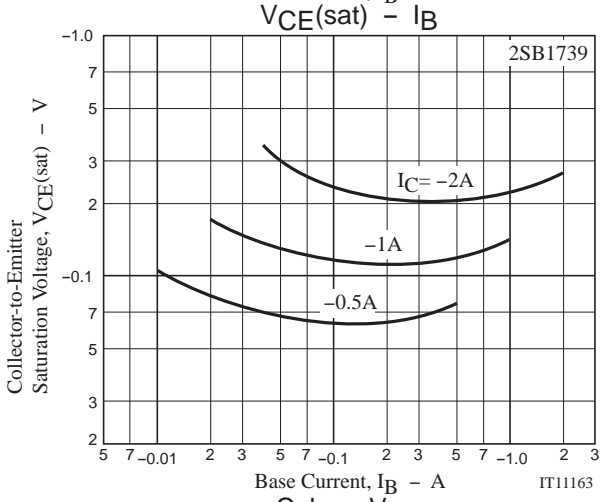
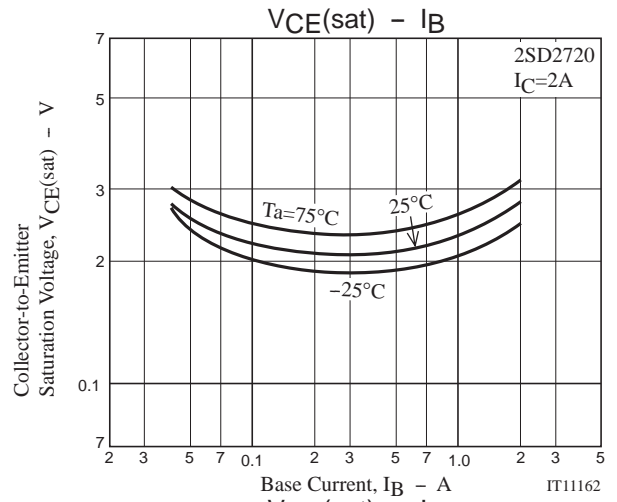
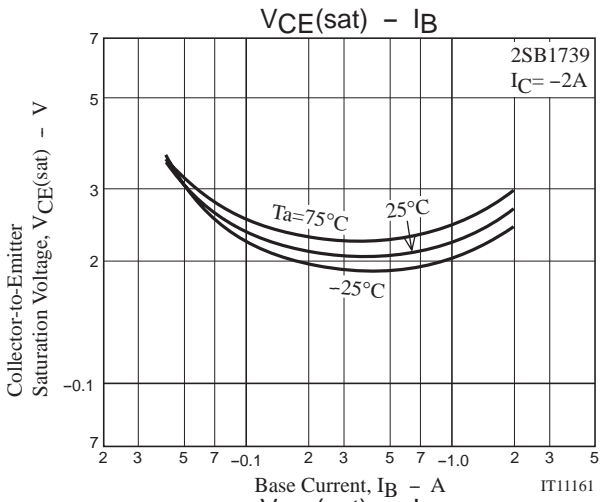
Electrical Connection



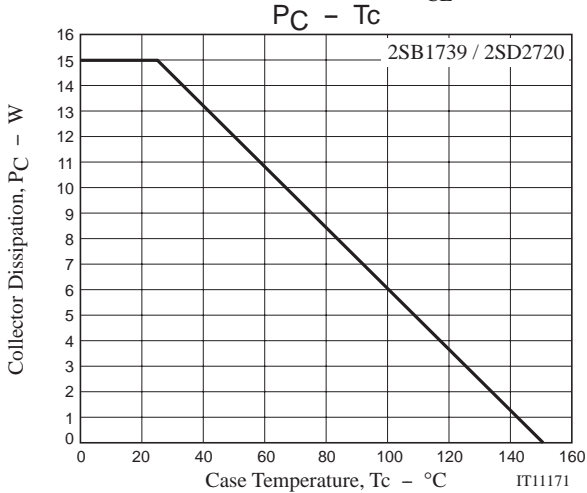
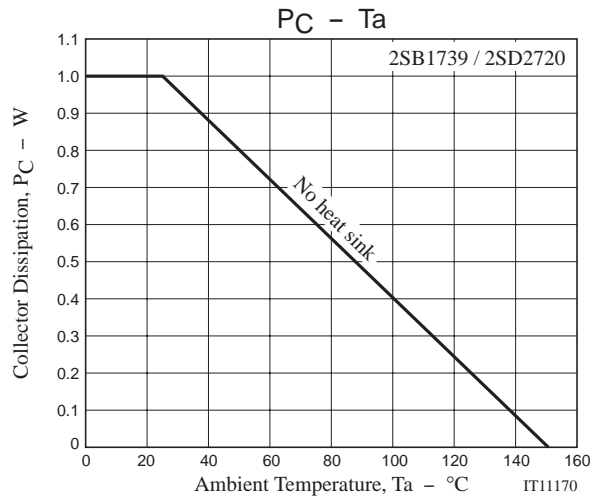
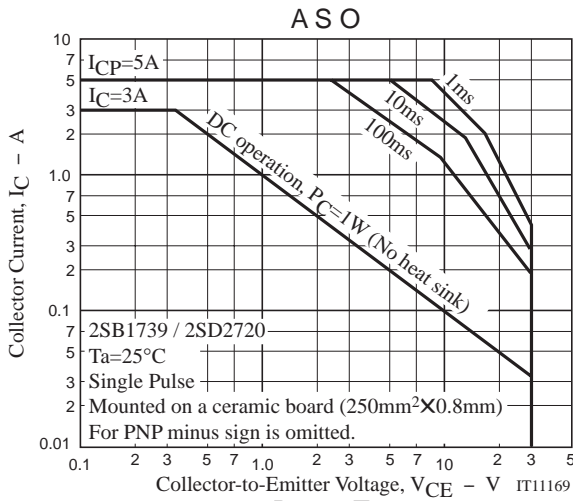
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