



2SB865/2SD1153

Drivers Applications

Applications

- Relay drivers, hammer drivers, lamp drivers, motor drivers.

Features

- High DC current gain (4000 or more).
- Large current capacity and wide ASO.
- Low saturation voltage.

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Specifications

Absolute Maximum Ratings at $T_a = 25^\circ\text{C}$

Parameter	Symbol	Conditions	Ratings	Unit
Collector-to-Base Voltage	V_{CB0}		(-)80	V
Collector-to-Emitter Voltage	V_{CE0}		(-)50	V
Emitter-to-Base Voltage	V_{EB0}		(-)10	V
Collector Current	I_C		(-)1.5	A
Collector Current (Pulse)	I_{CP}		(-)3	A
Collector Dissipation	P_C		900	mW
Junction Temperature	T_J		150	$^\circ\text{C}$
Storage Temperature	T_{stg}		-55 to +150	$^\circ\text{C}$

Electrical Characteristics at $T_a = 25^\circ\text{C}$

Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Collector Cutoff Current	I_{CBO}	$V_{CB}=(-)40\text{V}, I_E=0$			(-)0.1	μA
Emitter Cutoff Current	I_{EBO}	$V_{EB}=(-)8\text{V}, I_C=0$			(-)0.1	μA
DC Current Gain	h_{FE1}	$V_{CE}=(-)2\text{V}, I_C=(-)500\text{mA}$	4000			
	h_{FE2}	$V_{CE}=(-)2\text{V}, I_C=(-)10\text{mA}$	3000			
Gain-Bandwidth Product	f_T	$V_{CE}=(-)10\text{V}, I_C=(-)50\text{mA}$		120		MHz
Collector-to-Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C=(-)500\text{mA}, I_B=(-)0.5\text{mA}$		(-)0.9	(-)1.5	V
Base-to-Emitter Saturation Voltage	$V_{BE(sat)}$	$I_C=(-)500\text{mA}, I_B=(-)0.5\text{mA}$		(-)1.5	(-)2.0	V
Collector-to-Base Breakdown Voltage	$V_{(BR)CBO}$	$I_C=(-)10\mu\text{A}, I_E=0$	(-)80			V
Collector-to-Emitter Breakdown Voltage	$V_{(BR)CEO}$	$I_C=(-)1\text{mA}, R_{BE}=\infty$	(-)50			V
Emitter-to-Base Breakdown Voltage	$V_{(BR)EBO}$	$I_E=(-)10\mu\text{A}, I_C=0$	(-)10			V

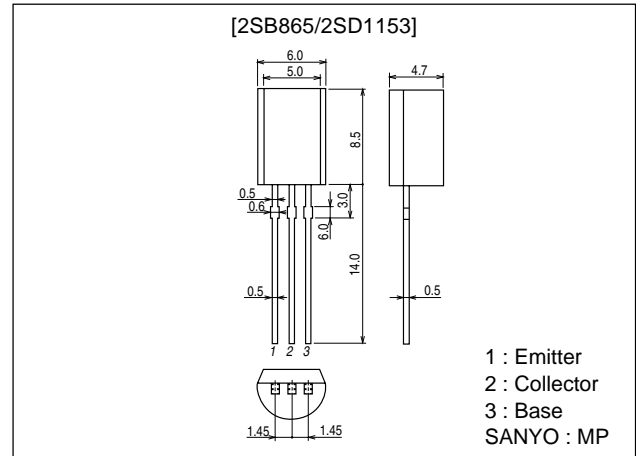
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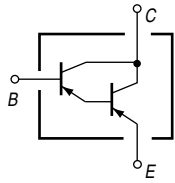
Package Dimensions

unit:mm

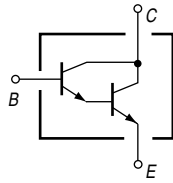
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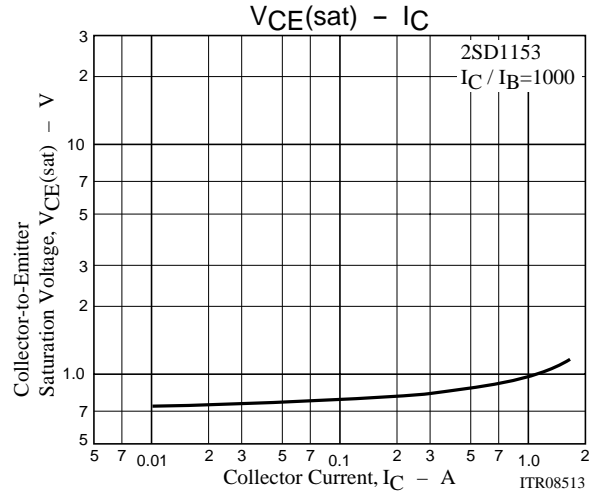
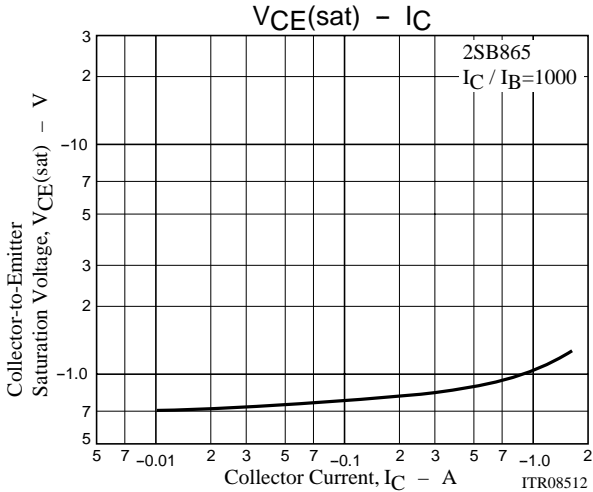
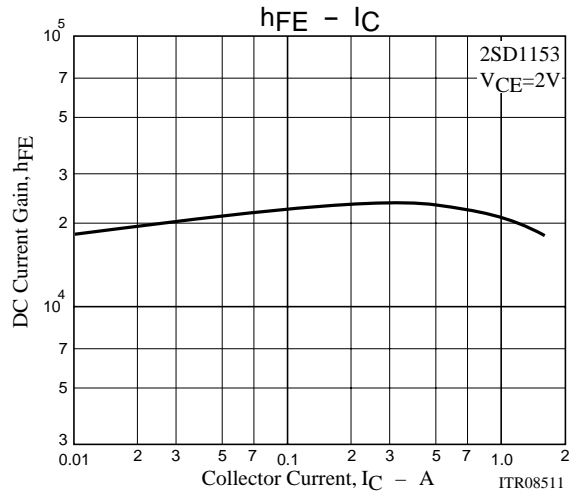
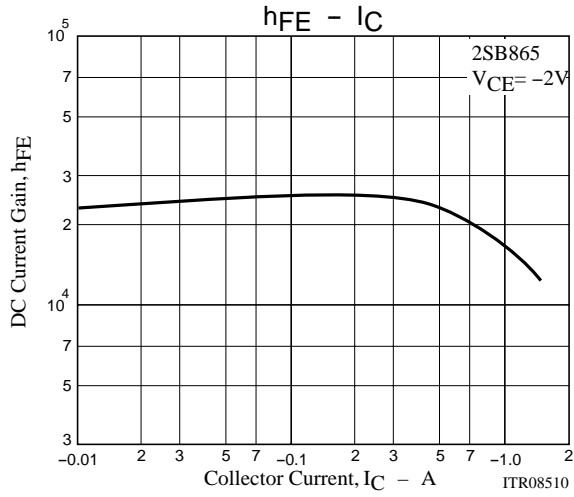
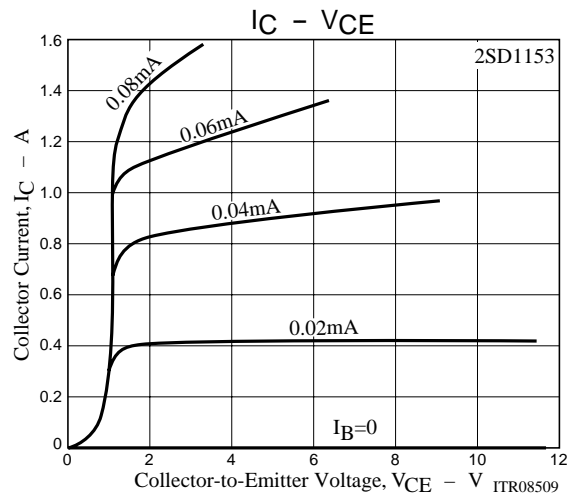
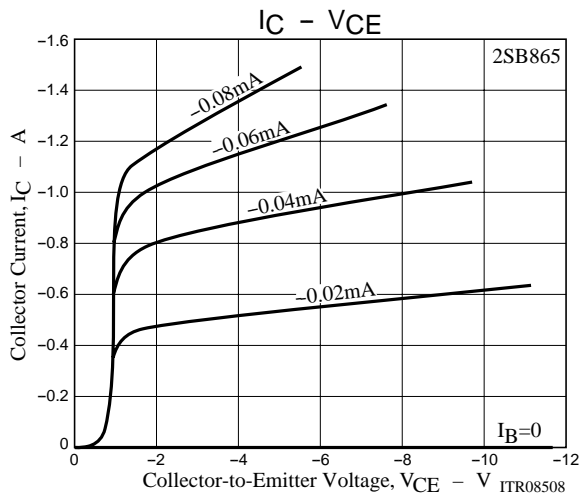
Electrical Connection



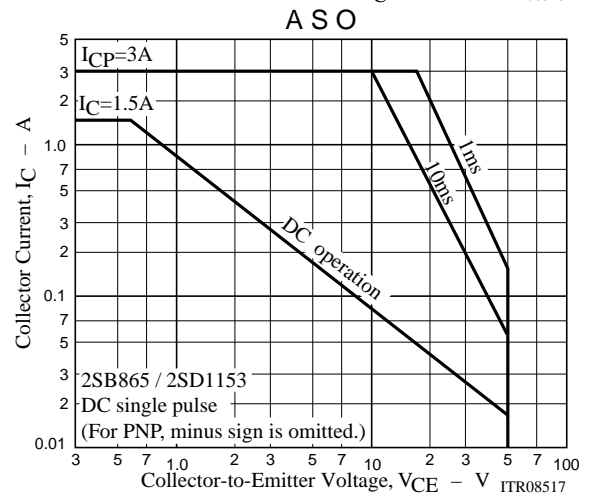
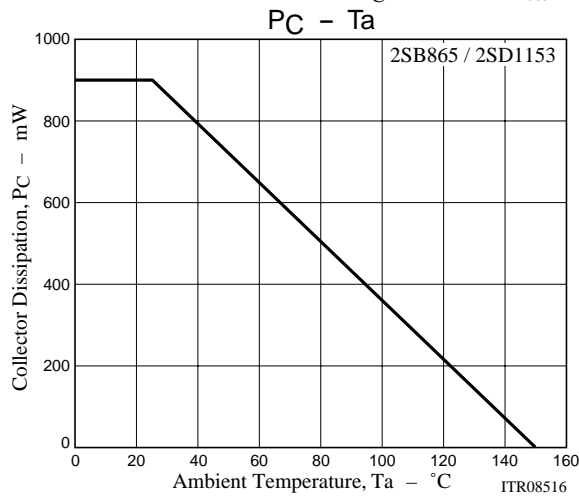
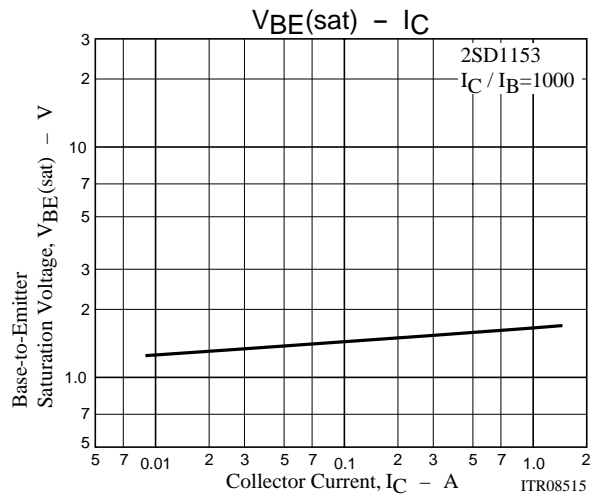
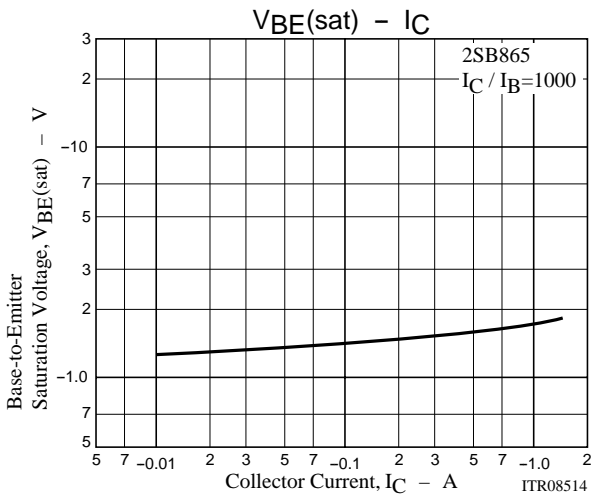
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