



# 2SA1259/2SC3145

## 60V/5A for High-Speed Drivers Applications

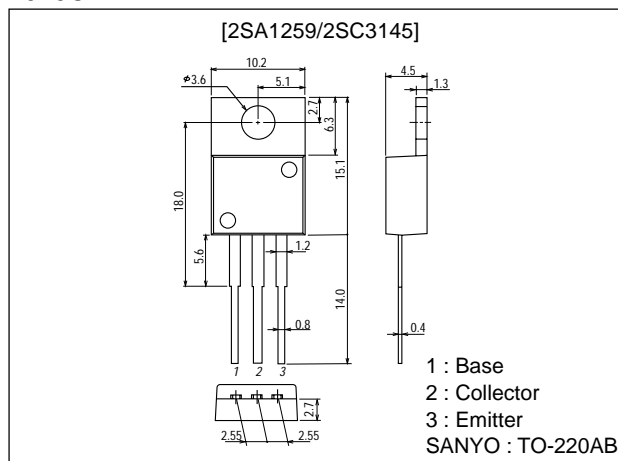
### Features

- High  $f_T$ .
- High switching speed.
- Wide ASO.

### Package Dimensions

unit:mm

2010C



( ) : 2SA1259

### Specifications

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

Parameter	Symbol	Conditions	Ratings	Unit
Collector-to-Base Voltage	$V_{CB0}$		(-)70	V
Collector-to-Emitter Voltage	$V_{CEO}$		(-)60	V
Emitter-to-Base Voltage	$V_{EBO}$		(-)5	V
Collector Current	$I_C$		(-)5	A
Collector Current Pulse	$I_{CP}$		(-)8	A
Collector Dissipation	$P_C$		1.75	W
		$T_c=25^\circ\text{C}$	30	W
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	mA
Emitter Cutoff Current	$I_{EBO}$	$V_{EB}=(-)5\text{V}, I_C=0$			(-)3	mA
DC Current Gain	$h_{FE}$	$V_{CE}=(-)2\text{V}, I_C=(-)2.5\text{A}$	2000	5000		
Gain-Bandwidth Product	$f_T$	$V_{CE}=(-)5\text{V}, I_C=(-)2.5\text{A}$		200		MHz
Collector-to-Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C=(-)2.5\text{A}, I_B=(-)5\text{mA}$		(-1.0) 0.9	(-)1.5	V
Base-to-Emitter Saturation Voltage	$V_{BE(sat)}$	$I_C=(-)2.5\text{A}, I_B=(-)5\text{mA}$			(-)2.0	V

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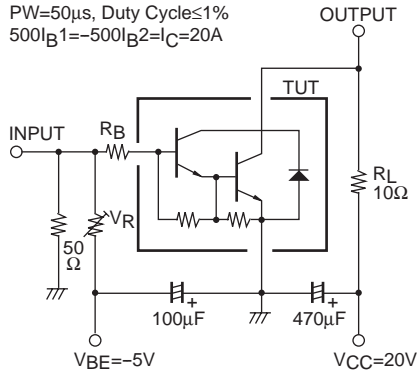
TOKYO OFFICE Tokyo Bldg., 1-10, 1 Chome, Ueno, Taito-ku, TOKYO, 110-8534 JAPAN

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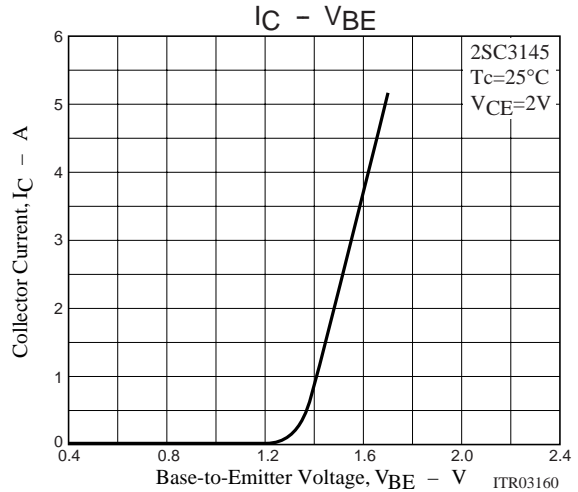
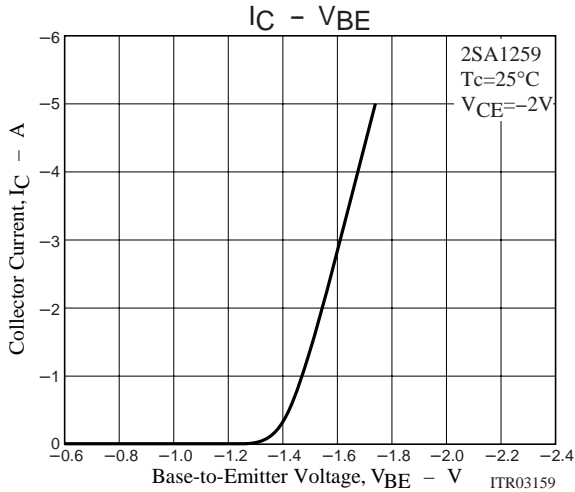
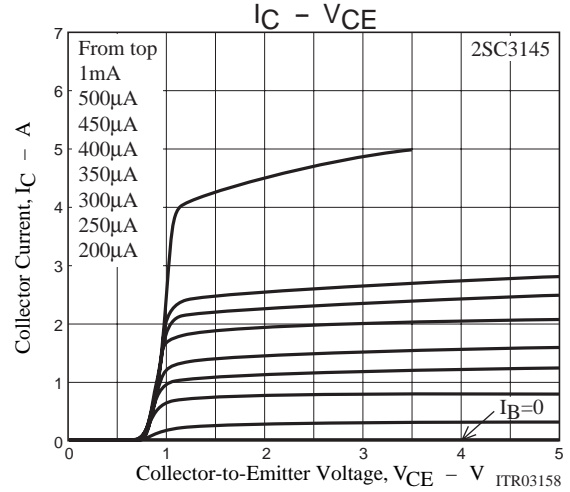
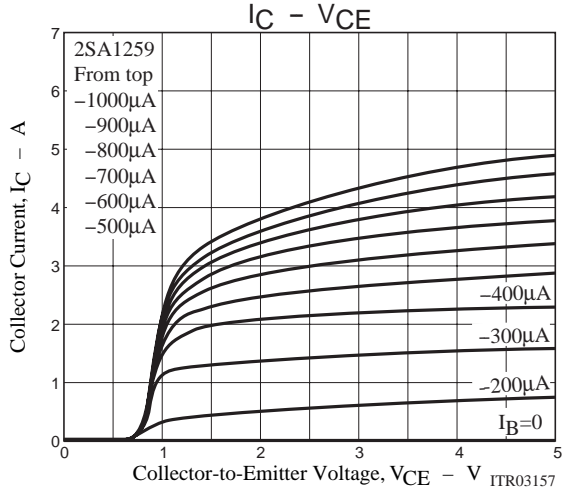
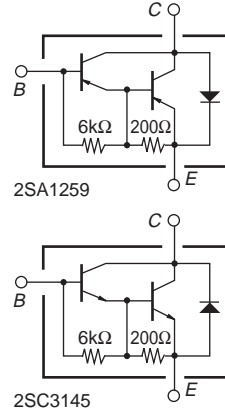
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Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Collector-to-Base Breakdown Voltage	$V_{(BR)CBO}$	$I_C=(-)5mA, I_E=0$	(-)70			V
Collector-to-Emitter Breakdown Voltage	$V_{(BR)CEO}$	$I_C=(-)50mA, R_{BE}=\infty$	(-)60			V
Rise Time	$t_{on}$	See specified Test Circuit		0.3		$\mu s$
Storage Time	$t_{stg}$	See specified Test Circuit		(1.3) 1.2		$\mu s$
Fall Time	$t_f$	See specified Test Circuit		0.2		$\mu s$

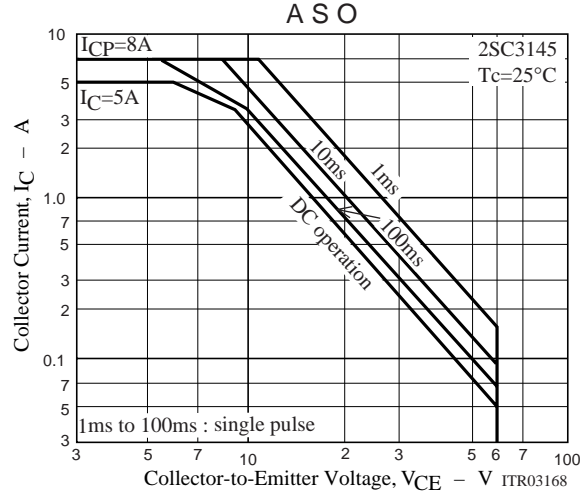
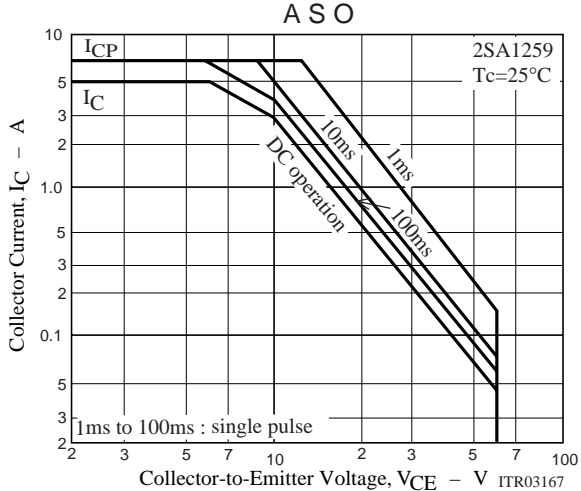
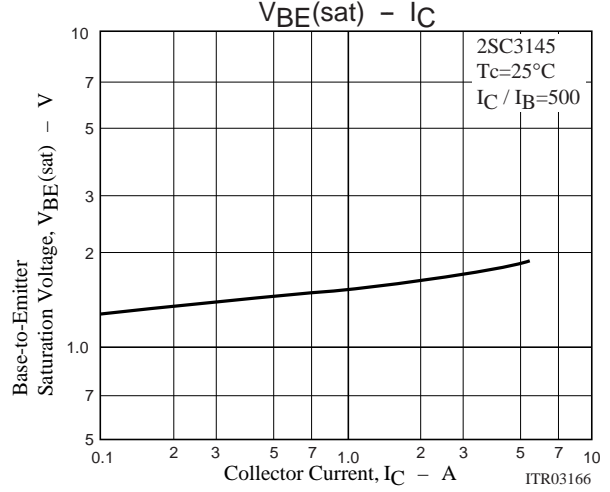
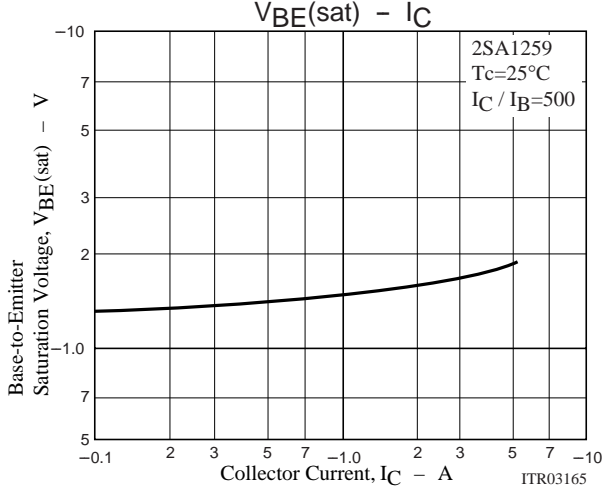
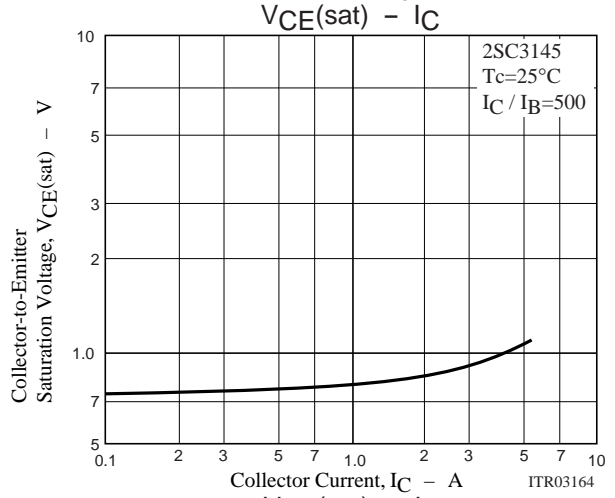
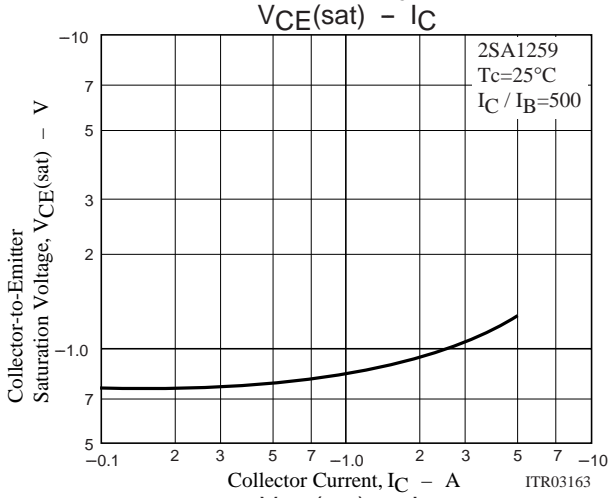
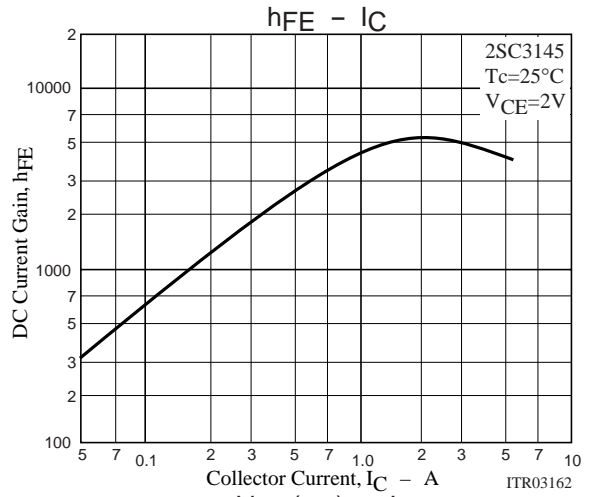
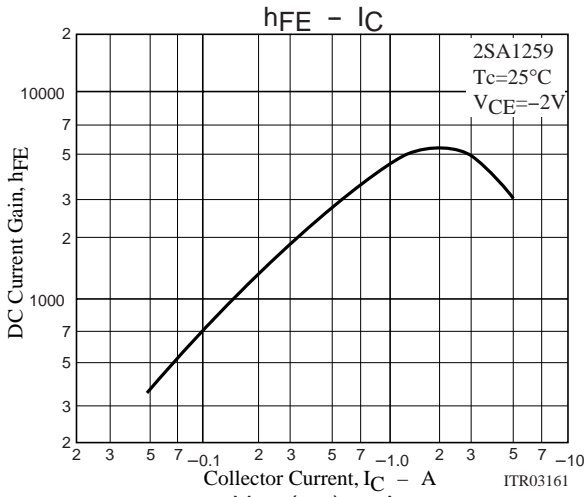
## Specified Test Circuit (for PNP, the polarity is reversed)



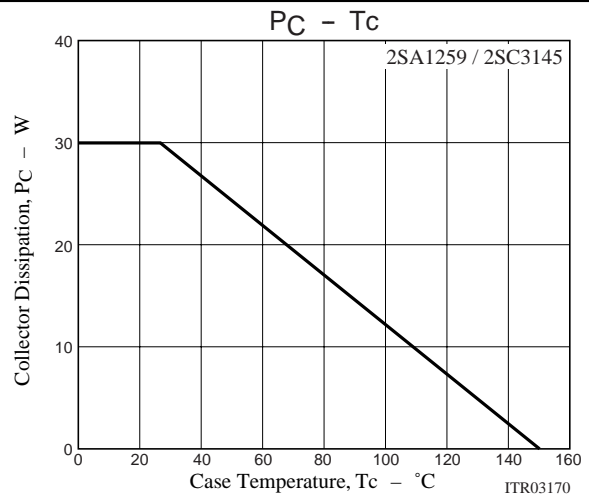
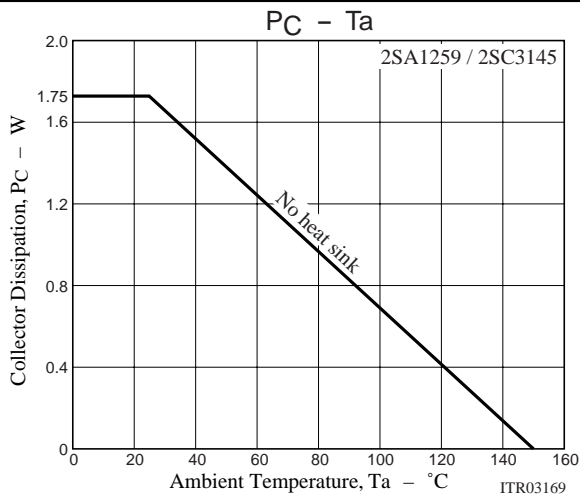
## Electrical Connection



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