

SANYO

No. 1059D

2SA1259/2SC3145

PNP/NPN Epitaxial Planar Silicon Darlington Transistor

60V/5A for High-Speed Drivers Applications**Features**

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

(): 2SA1259

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

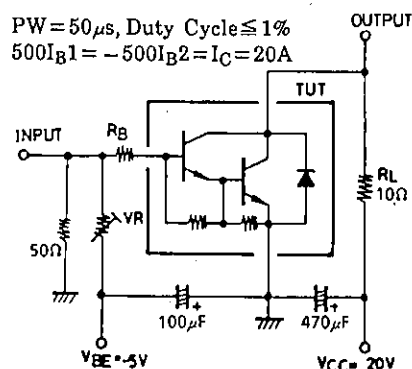
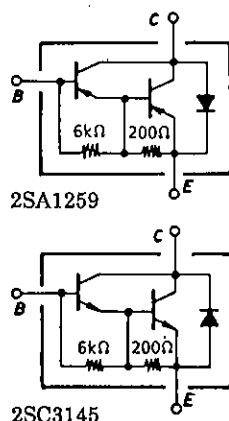
Collector-to-Base Voltage	V_{CBO}	(-)70	V
Collector-to-Emitter Voltage	V_{CEO}	(-)60	V
Emitter-to-Base Voltage	V_{EBO}	(-)5	V
Collector Current	I_C	(-)5	A
Collector Current (Pulse)	I_{CP}	(-)8	A
Collector Dissipation	P_C	1.75	W
$T_c = 25^\circ\text{C}$			
Junction Temperature	T_j	30	W
Storage Temperature	T_{stg}	150	$^\circ\text{C}$
		-55 to +150	$^\circ\text{C}$

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

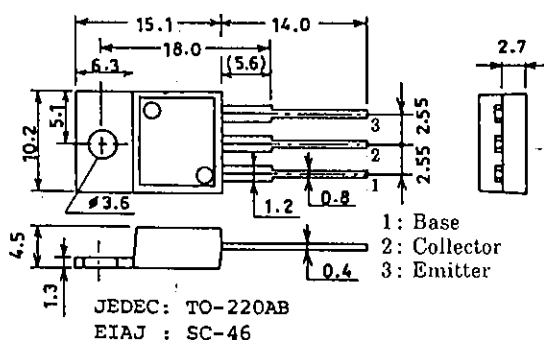
			min	typ	max	unit
Collector Cutoff Current	I_{CBO}	$V_{CB} = (-)40\text{V}, I_E = 0$			(-)0.1	mA
Emitter Cutoff Current	I_{EBO}	$V_{EB} = (-)5\text{V}, I_C = 0$			(-)3	mA
DC Current Gain	h_{FE}	$V_{CE} = (-)2\text{V}, I_C = (-)2.5\text{A}$	2000	5000		
Gain-Bandwidth Product	f_T	$V_{CE} = (-)5\text{V}, I_C = (-)2.5\text{A}$		200		MHz
C-E Saturation Voltage	$V_{CE(sat)}$	$I_C = (-)2.5\text{A}, I_B = (-)5\text{mA}$	(-)1.0	(-)1.5		V
			0.9			
B-E Saturation Voltage	$V_{BE(sat)}$	$I_C = (-)2.5\text{A}, I_B = (-)5\text{mA}$			(-)2.0	V
C-B Breakdown Voltage	$V_{(BR)CBO}$	$I_C = (-)5\text{mA}, I_E = 0$	(-)70			V
C-E Breakdown Voltage	$V_{(BR)CEO}$	$I_C = (-)50\text{mA}, R_{BE} = \infty$	(-)60			V
Rise Time	t_{on}	See specified Test Circuit.		0.3		μs
Storage Time	t_{stg}	"	(1.3)	1.2		μs
Fall Time	t_f	"		0.2		μs

Specified Test Circuit

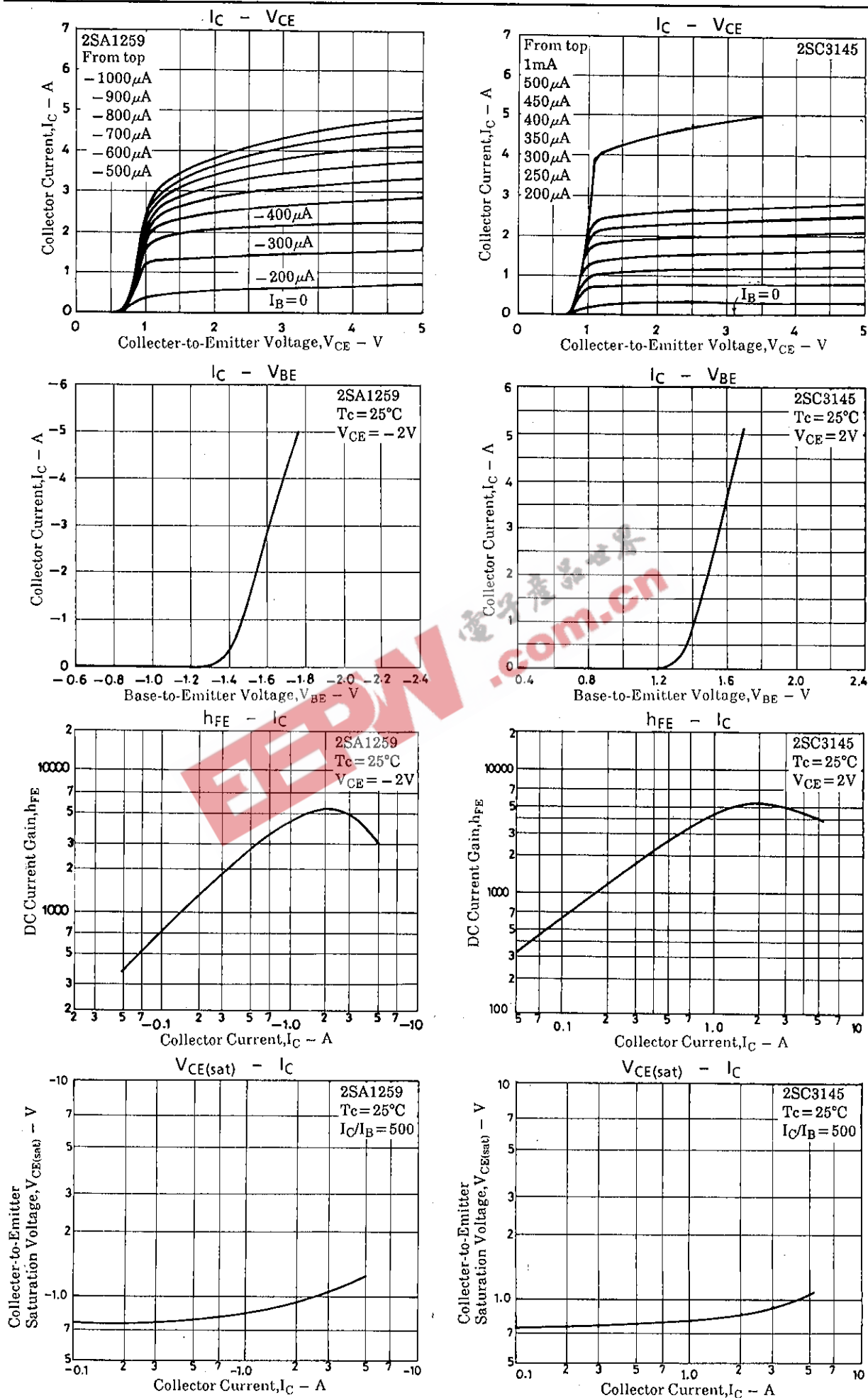
(For PNP, the polarity is reversed.)

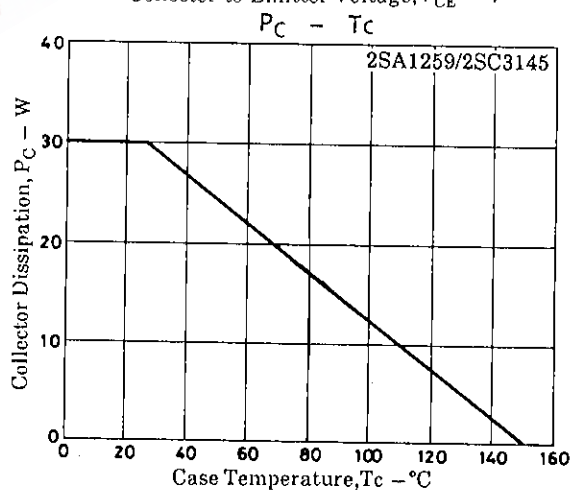
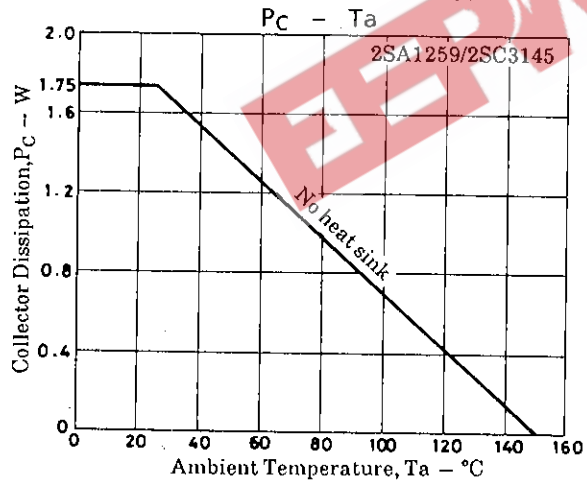
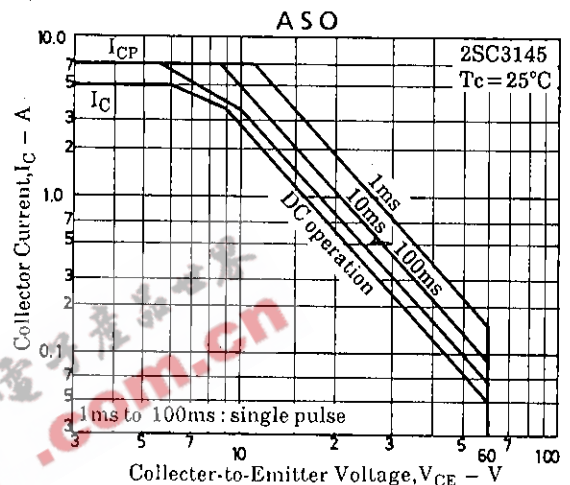
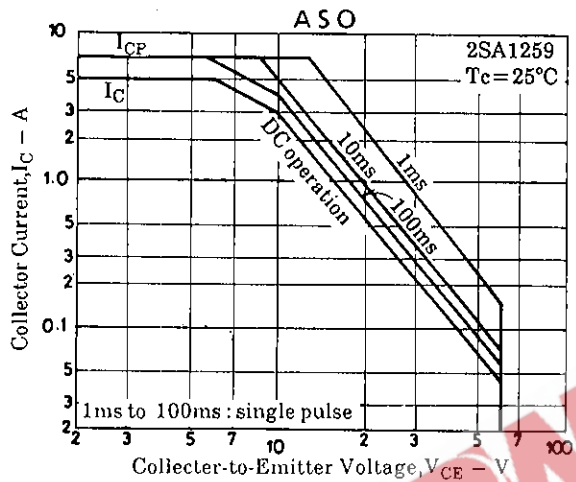
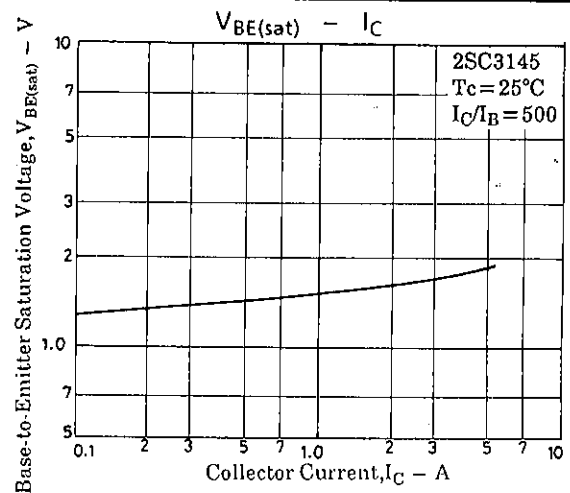
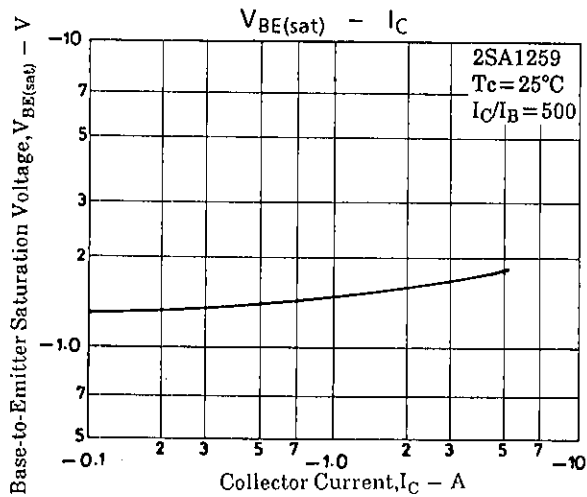
**Electrical Connection****Package Dimensions 2010C**

(unit: mm)

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