


SANYO Semiconductors

DATA SHEET

2SA1773 / 2SC4616

2SA1773 : PNP Epitaxial Planar Silicon Transistor
 2SC4616 : NPN Triple Diffused Planar Silicon Transistor
High-Voltage Driver Applications

Features

- Large current capacity ($I_C=2A$).
- High breakdown voltage ($V_{CEO} \geq 400V$).

Specifications () : 2SA1773

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

Parameter	Symbol	Conditions	Ratings	Unit
Collector-to-Base Voltage	V_{CBO}		(-)400	V
Collector-to-Emitter Voltage	V_{CEO}		(-)400	V
Emitter-to-Base Voltage	V_{EBO}		(-)5	V
Collector Current	I_C		(-)2	A
Collector Current (Pulse)	I_{CP}		(-)4	A
Collector Dissipation	P_C	$T_C=25^\circ C$	1	W
			15	W
Junction Temperature	T_j		150	$^\circ C$
Storage Temperature	T_{stg}		-55 to +150	$^\circ C$

Electrical Characteristics at $T_a=25^\circ C$

Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Collector Cutoff Current	I_{CBO}	$V_{CB}=(-)300V, I_E=0A$			(-)1.0	μA
Emitter Cutoff Current	I_{EBO}	$V_{EB}=(-)4V, I_C=0A$			(-)1.0	μA
DC Current Gain	h_{FE}	$V_{CE}=(-)10V, I_C=(-)100mA$	40*		200*	
Gain-Bandwidth Product	f_T	$V_{CE}=(-)10V, I_C=(-)100mA$		(40)60		MHz
Output Capacitance	C_{ob}	$V_{CB}=(-)30V, f=1MHz$		(25)15		pF

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* : The 2SA1773 / 2SC4616 are classified by 100mA h_{FE} as follows:

Rank	C	D	E
h_{FE}	40 to 80	60 to 120	100 to 200

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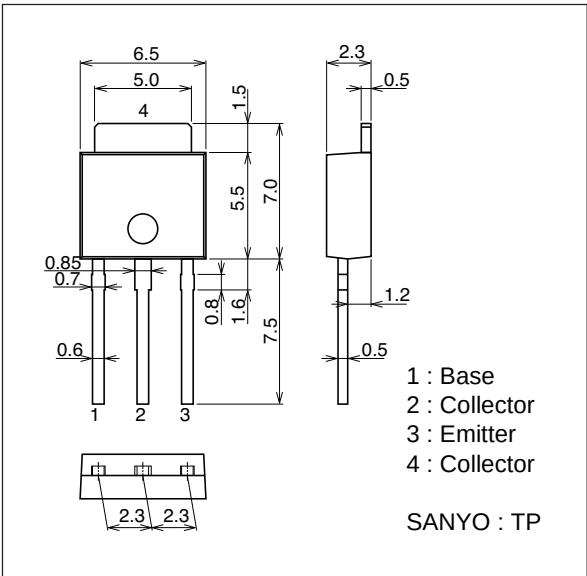
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Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Collector-to-Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C=(-)500mA, I_B=(-)50mA$			$(-)1.0$	V
Base-to-Emitter Saturation Voltage	$V_{BE(sat)}$	$I_C=(-)500mA, I_B=(-)50mA$			$(-)1.0$	V
Collector-to-Base Breakdown Voltage	$V_{(BR)CBO}$	$I_C=(-)10\mu A, I_E=0A$	$(-)400$			V
Collector-to-Emitter Breakdown Voltage	$V_{(BR)CEO}$	$I_C=(-)1mA, R_{BE}=\infty$	$(-)400$			V
Emitter-to-Base Breakdown Voltage	$V_{(BR)EBO}$	$I_E=(-)10\mu A, I_C=0A$	$(-)5$			V
Turn-ON Time	t_{on}	See specified Test Circuit.		$(0.12)0.085$		μs
Strage Time	t_{stg}	See specified Test Circuit.		$(3.0)4.0$		μs
Fall Time	t_f	See specified Test Circuit.		$(0.3)0.6$		μs

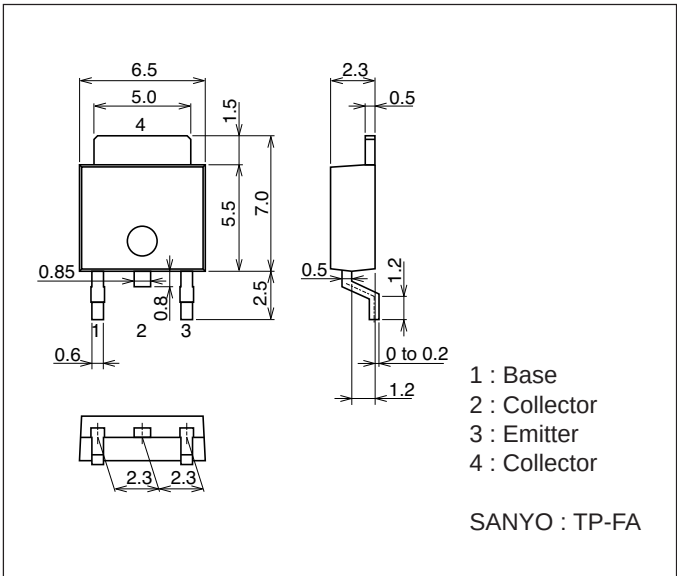
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unit : mm (typ)
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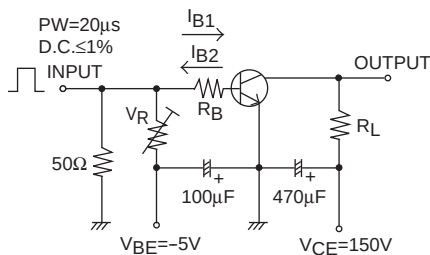


Package Dimensions

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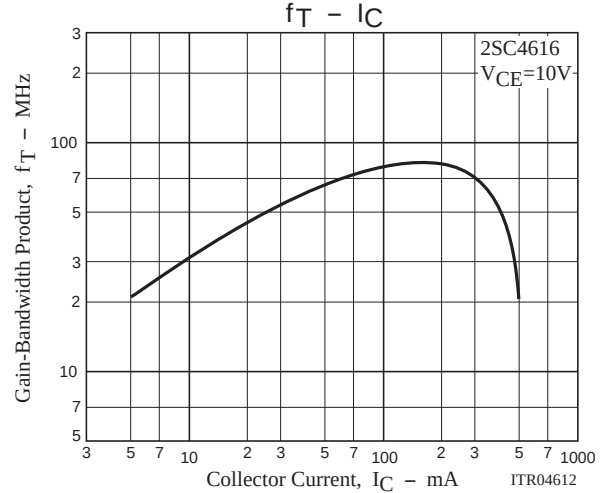
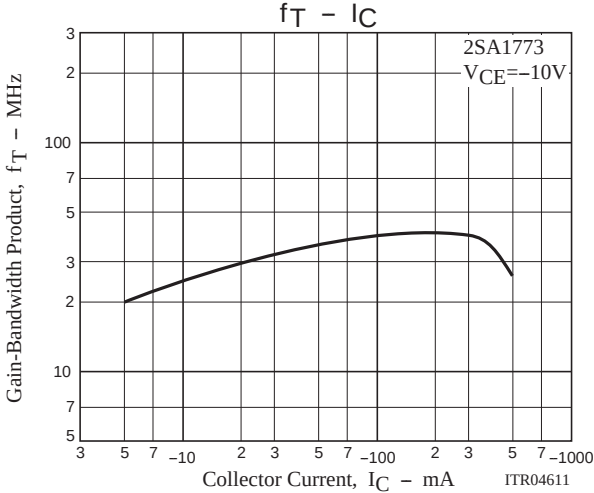
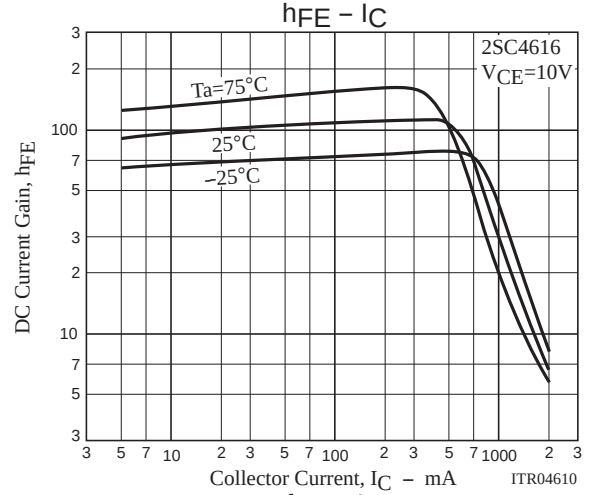
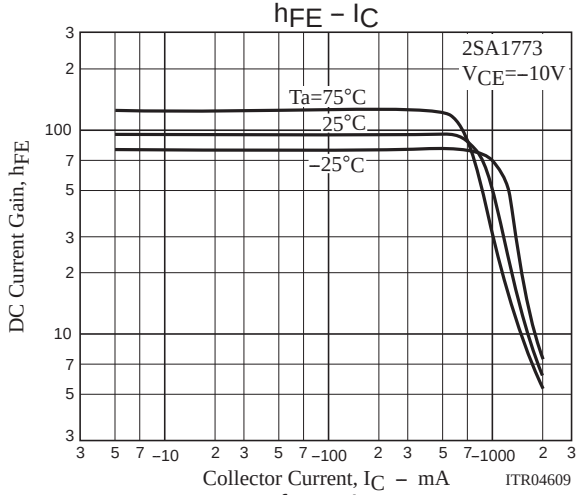
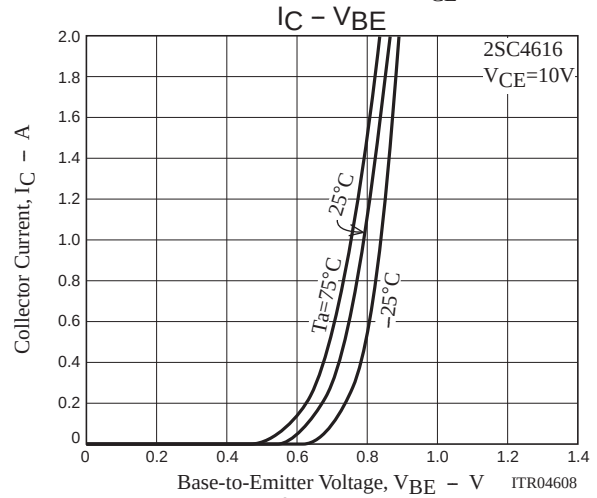
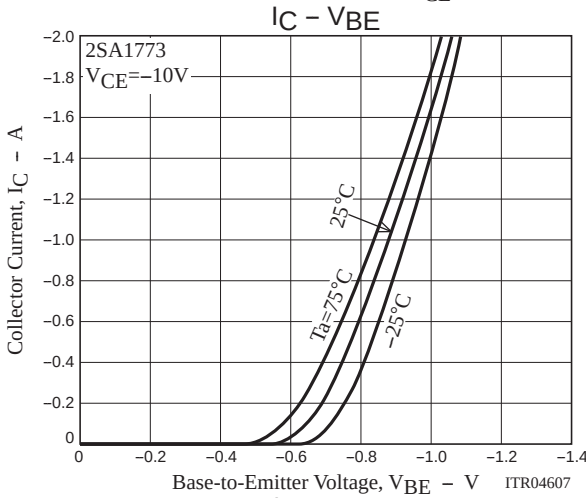
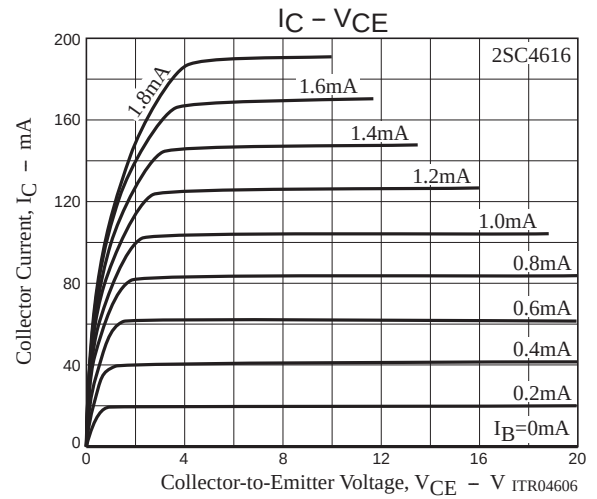
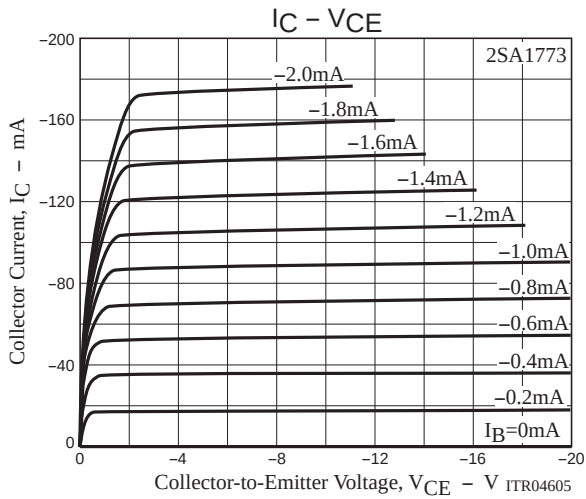


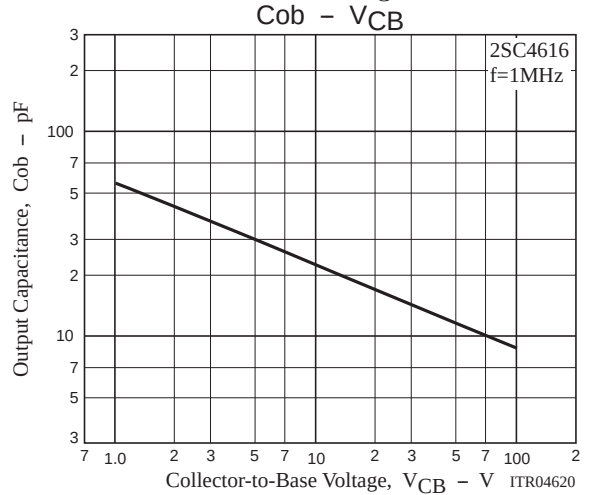
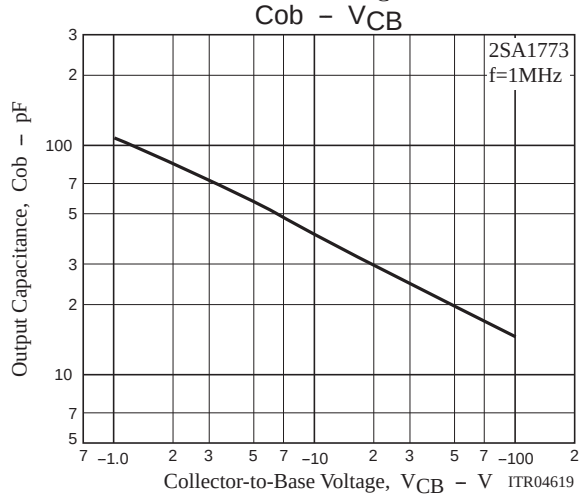
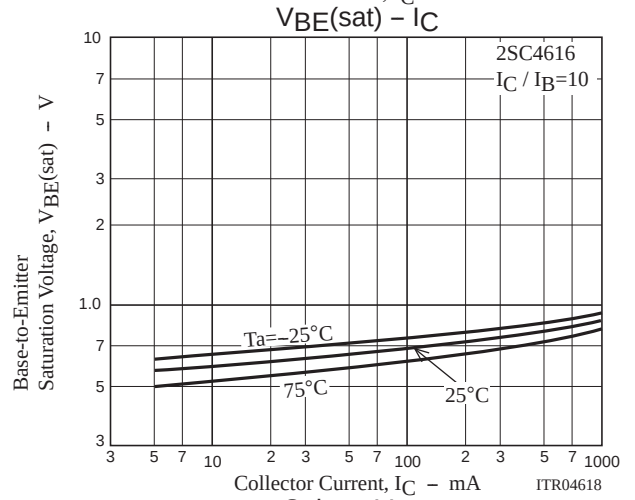
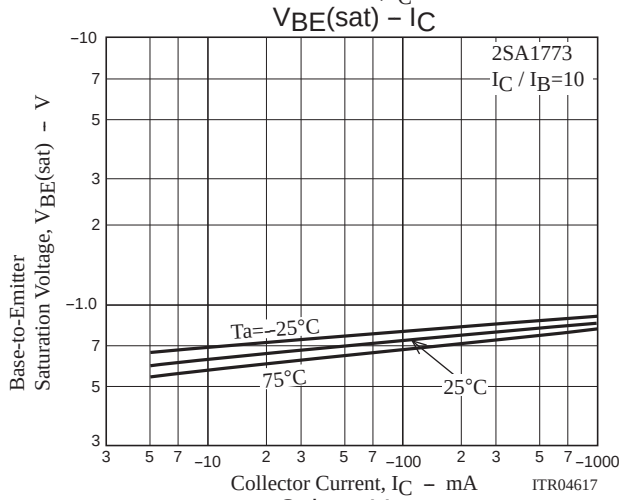
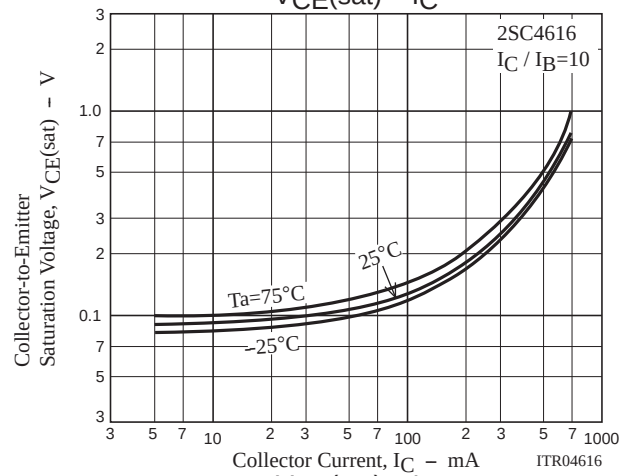
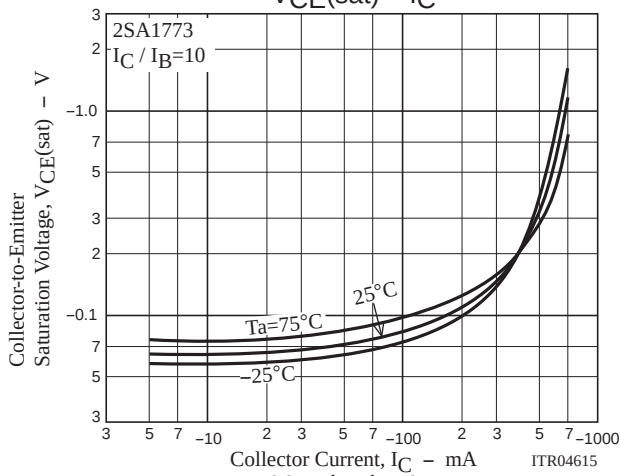
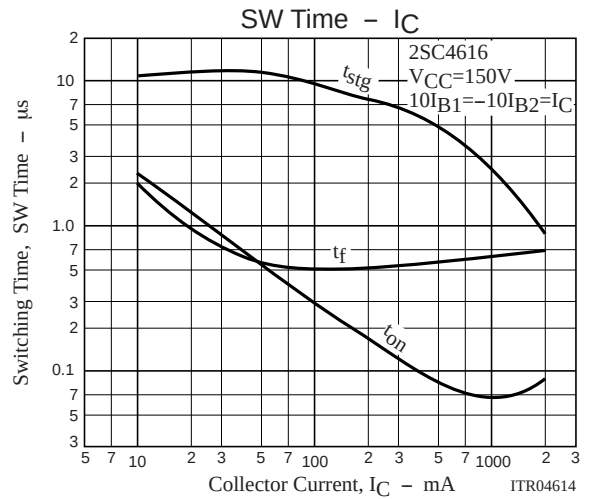
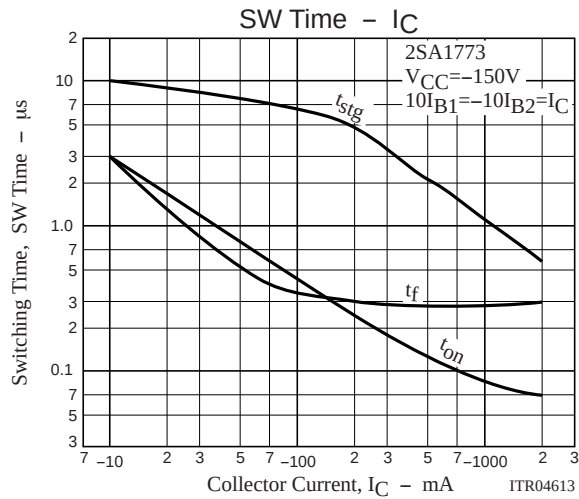
Switching Time Test Circuit

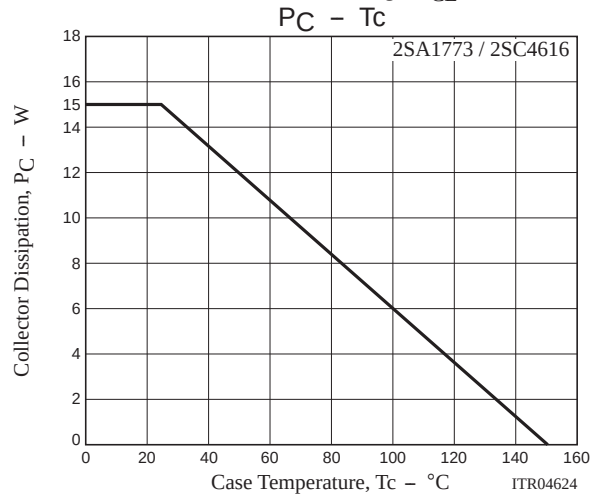
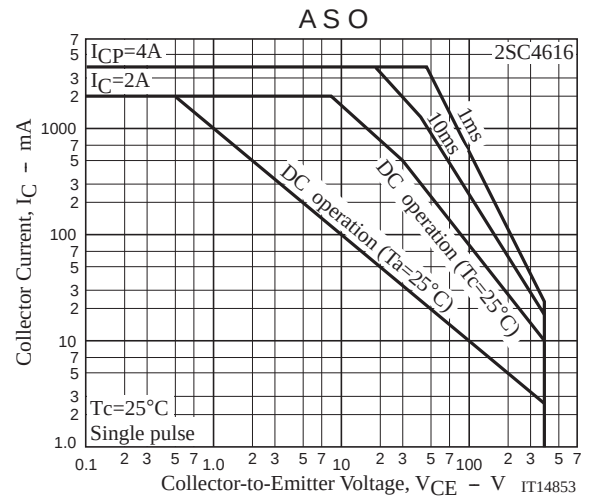
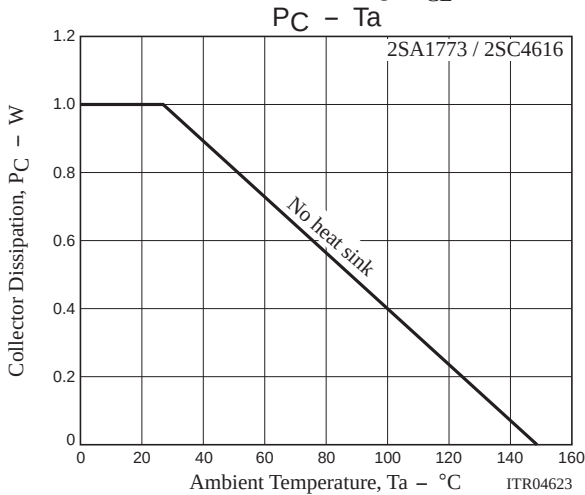
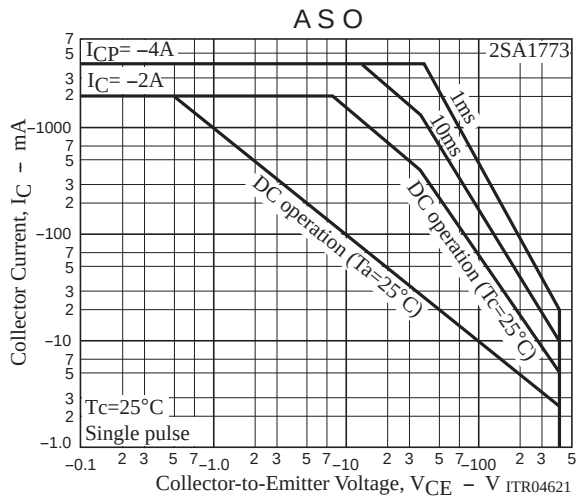


$I_C=10I_{B1}= -10I_{B2}=500mA$
 $R_L=300\Omega, R_B=20\Omega$, at $I_C=500mA$
For PNP, the polarity is reversed.

2SA1773 / 2SC4616







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