Ordering number : EN2093A

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DATA SHEET

PNP / NPN Epitaxial Planar Silicon Transistors

2SA1479 / 2SC3789 — High-Definition CRT Display Video Output Applications

Applications

- High-definition CRT display.
- Color TV chroma output, high breakdown voltage drivers.

Features

- High breakdown voltage : V_{CEO}≥300V.
- Excellent high frequency characteristic : Cre=1.8pF (typ).
- Adoption of MBIT process.
- No insulator required for mounting, which contributes to reducing the cost and the number of manufacturing processes.
- Plastic-covered heat sink facilitating high-density mounting.
- Directly interchange able with TO-126 because the package is designed based on the conventional package dimensions.

Specifications ( ) : 2SA1479

Absolute Maximum Ratings at Ta=25°C

Parameter	Symbol	Conditions	Ratings	Unit
Collector-to-Base Voltage	V_{CBO}		(–)300	V
Collector-to-Emitter Voltage	V_{CEO}		(–)300	V
Emitter-to-Base Voltage	V_{EBO}		(–)5	V
Collector Current	I_C		(–)100	mA
Collector Current (Pulse)	I_{CP}		(–)200	mA
Collector Dissipation	P_C		1.5	W
		Tc=25°C	7	W
Junction Temperature	Tj		150	°C
Storage Temperature	Tstg		–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}=(-)200V, I_E=0A			(-)0.1	μA
Emitter Cutoff Current	I_{EBO}	V_{EB}=(-)4V, I_C=0A			(-)0.1	μA
DC Current Gain	h_{FE}	V_{CE}=(-)10V, I_C=(-)10mA	40*		320*	
Gain-Bandwidth Product	f_T	V_{CE}=(-)30V, I_C=(-)10mA		70		MHz
Collector-to-Emitter Saturation Voltage	V_{CE}(sat)	I_C=(-)20mA, I_B=(-)2mA			(-)0.6	V
Base-to-Emitter Saturation Voltage	V_{BE}(sat)	I_C=(-)20mA, I_B=(-)2mA			(-)1.0	V
Collector-to-Base Breakdown Voltage	$V_{(BR)CBO}$	I_C=(-)10μA, I_E=0A	(-)300			V
Collector-to-Emitter Breakdown Voltage	$V_{(BR)CEO}$	I_C=(-)1mA, R_{BE}=∞	(-)300			V
Emitter-to-Base Breakdown Voltage	$V_{(BR)EBO}$	I_E=(-)10μA, I_C=0A	(-)5			V
Output Capacitance	Cob	V_{CB}=(-)30V, f=1MHz		(3.1)2.6		pF
Reverse Transfer Capacitance	Cre	V_{CB}=(-)30V, f=1MHz		(2.3)1.8		pF

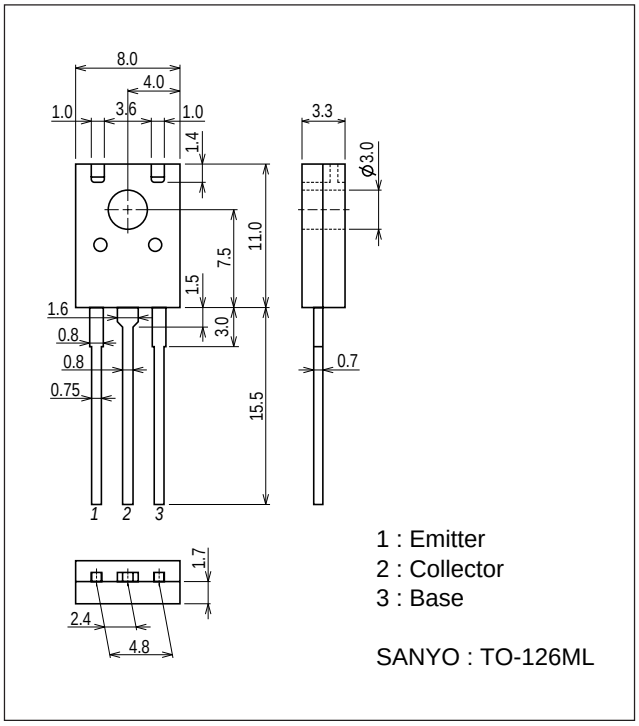
* : The 2SA1479 / 2SC3789 are classified by 10mA h_{FE} as follws:

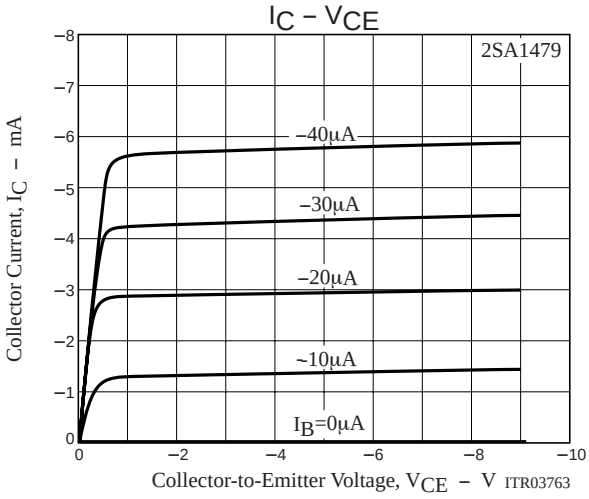
Rank	C	D	E	F
h_{FE}	40 to 80	60 to 120	100 to 200	160 to 320

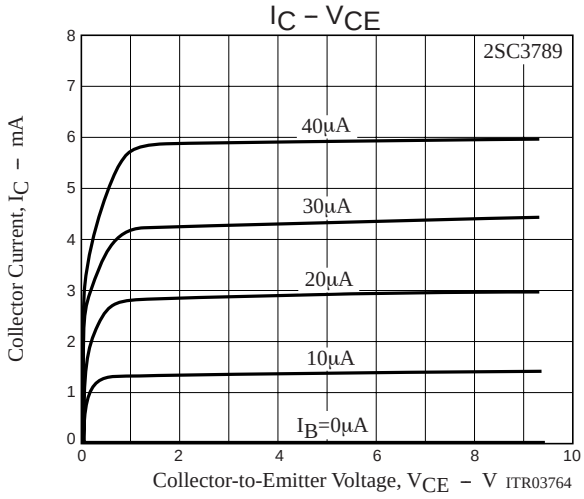
Package Dimensions

unit : mm (typ)

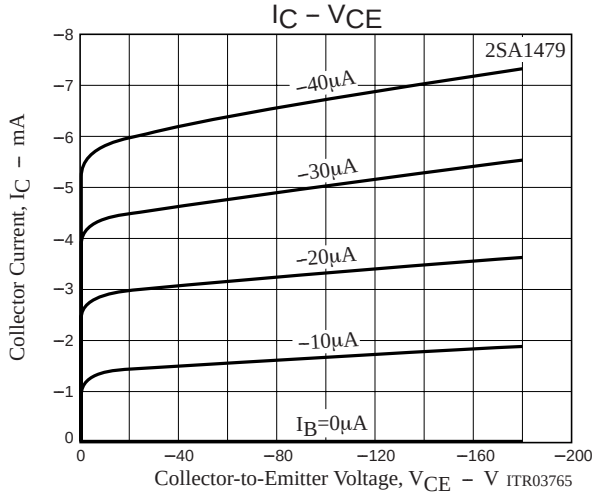
7516A-002







$I_C - V_{CE}$



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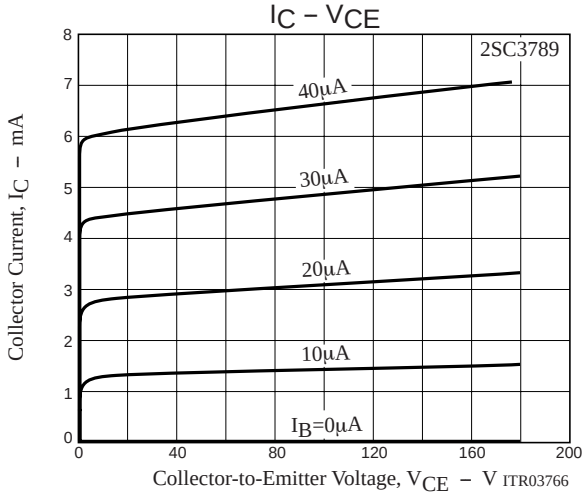
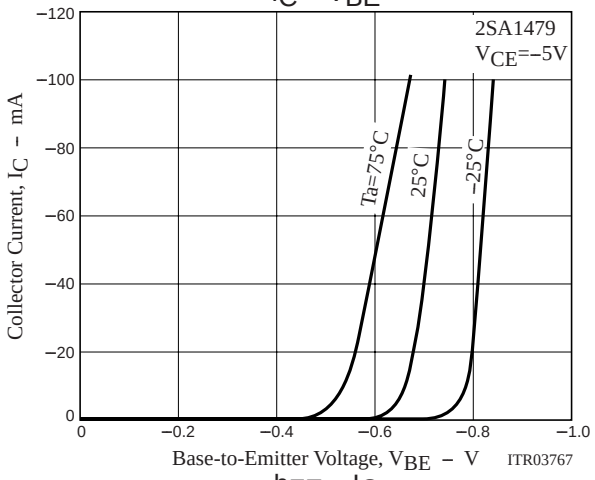
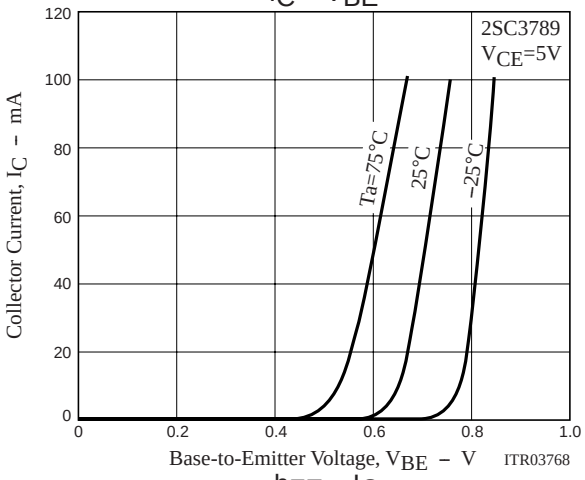


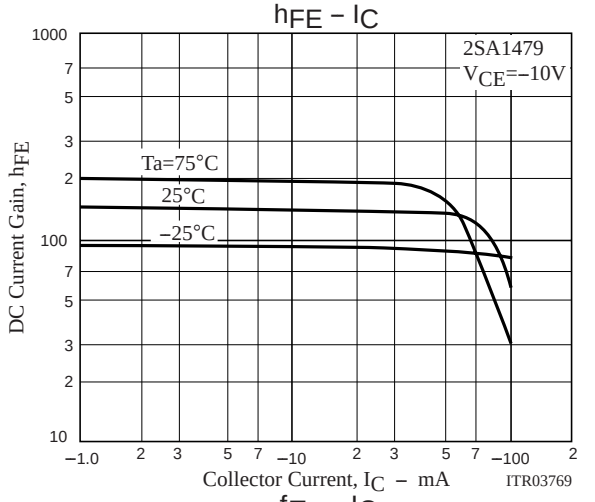
$I_C - V_{BE}$



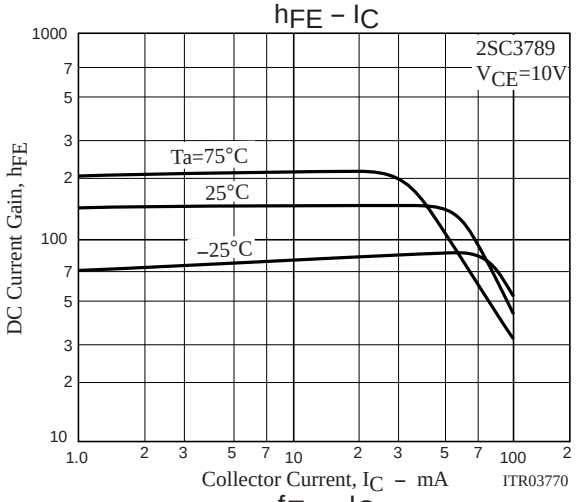
$I_C - V_{BE}$



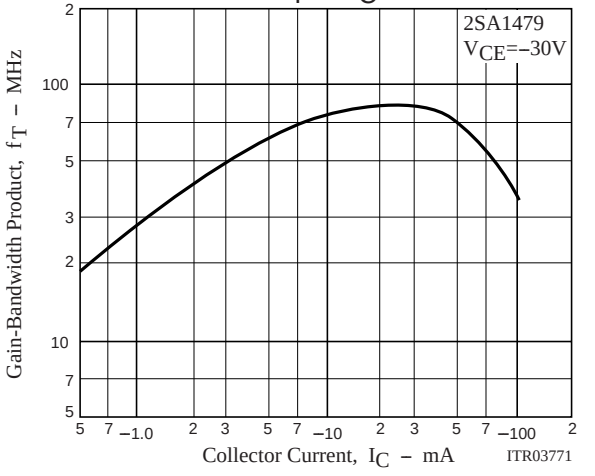
$h_{FE} - I_C$



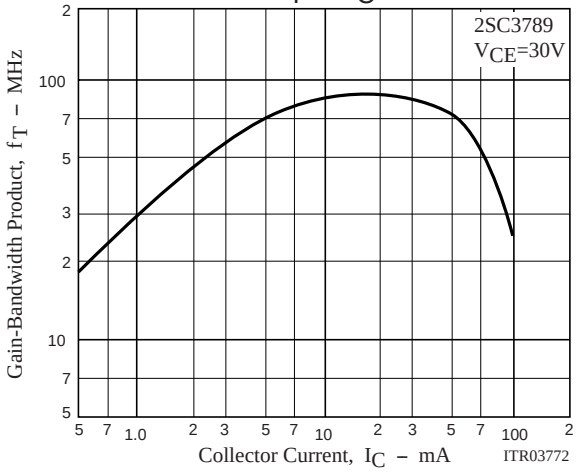
$h_{FE} - I_C$

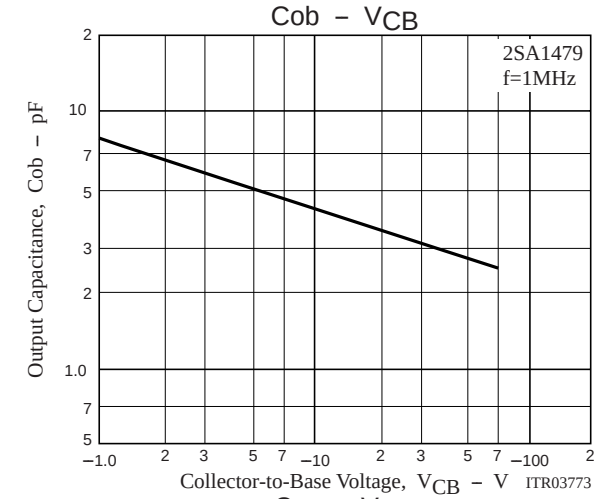


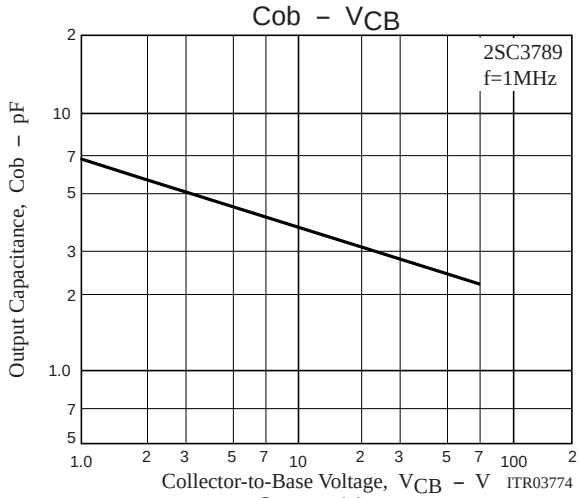
$f_T - I_C$

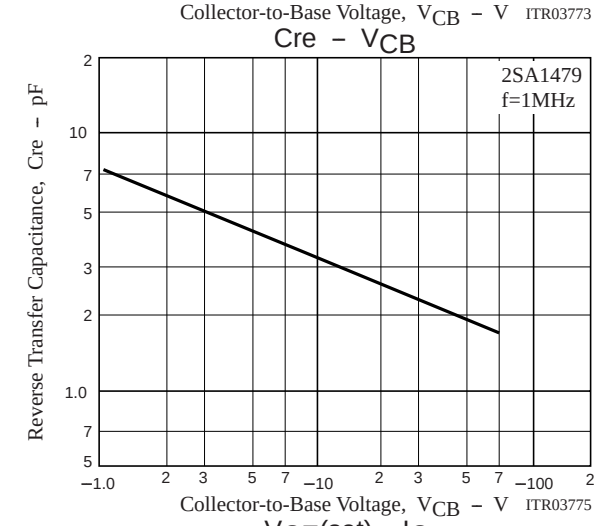


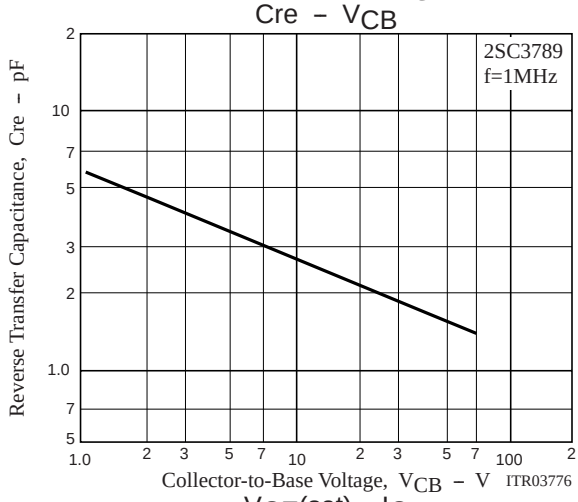
$f_T - I_C$

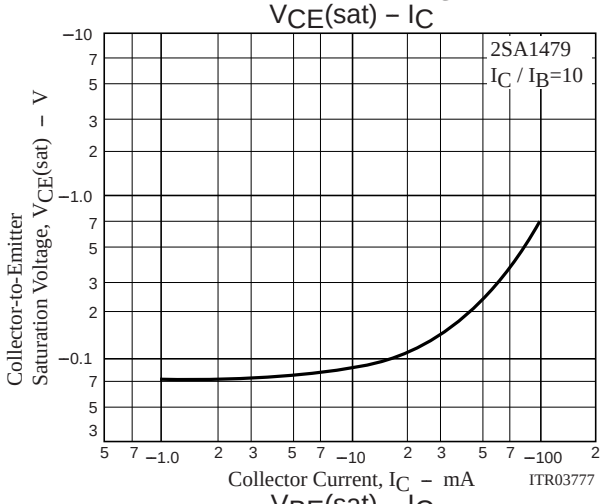


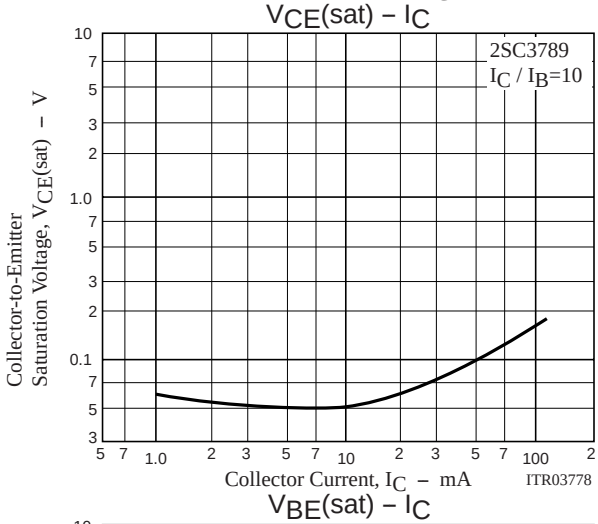

Cob – V_{CB}
2SA1479
f=1MHz
Output Capacitance, Cob – pF
Collector-to-Base Voltage, V_{CB} – V
ITR03773

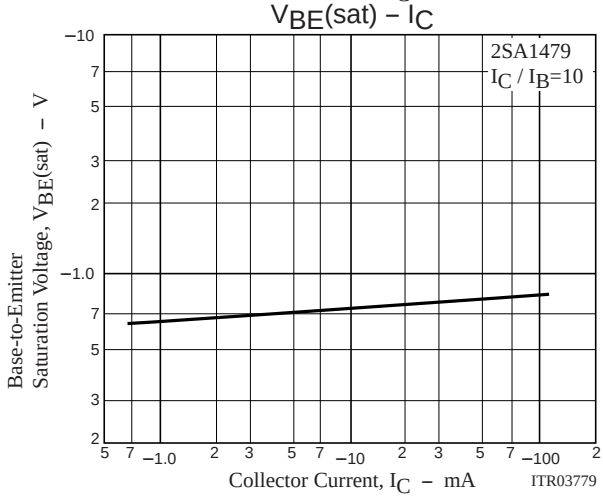

Cob – V_{CB}
2SC3789
f=1MHz
Output Capacitance, Cob – pF
Collector-to-Base Voltage, V_{CB} – V
ITR03774

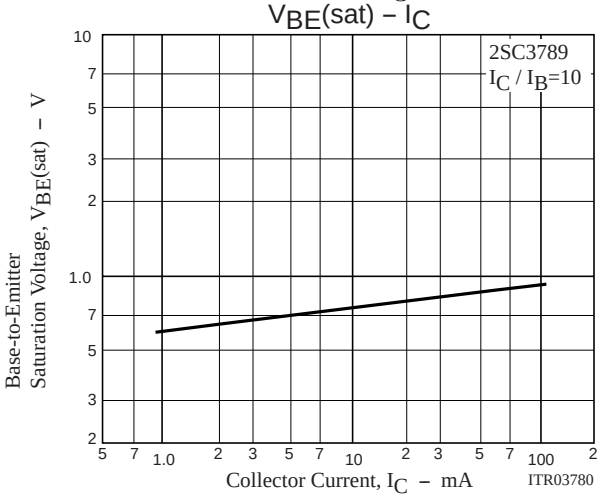

Cre – V_{CB}
2SA1479
f=1MHz
Reverse Transfer Capacitance, Cre – pF
Collector-to-Base Voltage, V_{CB} – V
ITR03775

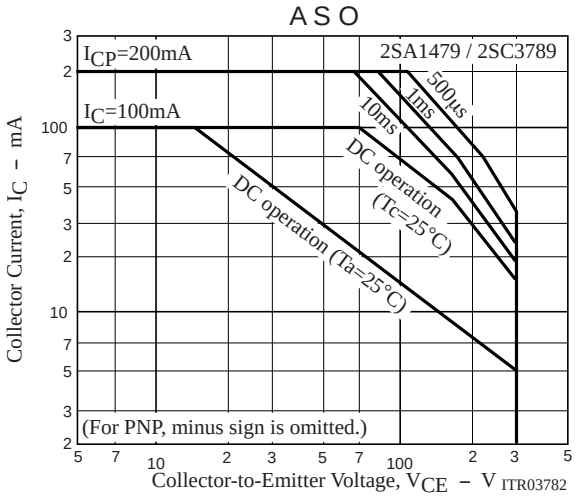

Cre – V_{CB}
2SC3789
f=1MHz
Reverse Transfer Capacitance, Cre – pF
Collector-to-Base Voltage, V_{CB} – V
ITR03776

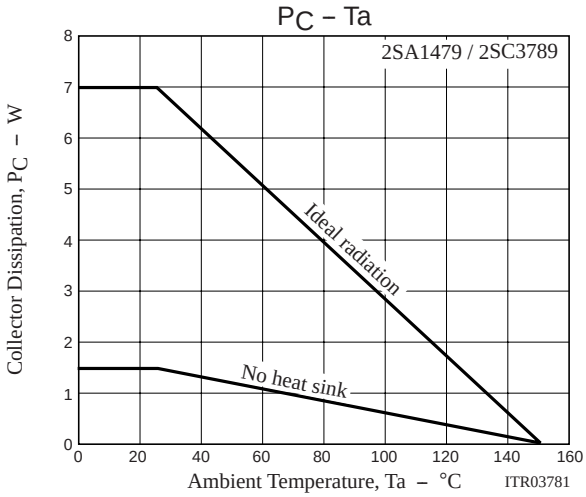

V_{CE}(sat) – I_C
2SA1479
I_C / I_B=10
Collector-to-Emitter Saturation Voltage, V_{CE}(sat) – V
Collector Current, I_C – mA
ITR03777


V_{CE}(sat) – I_C
2SC3789
I_C / I_B=10
Collector-to-Emitter Saturation Voltage, V_{CE}(sat) – V
Collector Current, I_C – mA
ITR03778


V_{BE}(sat) – I_C
2SA1479
I_C / I_B=10
Base-to-Emitter Saturation Voltage, V_{BE}(sat) – V
Collector Current, I_C – mA
ITR03779


V_{BE}(sat) – I_C
2SC3789
I_C / I_B=10
Base-to-Emitter Saturation Voltage, V_{BE}(sat) – V
Collector Current, I_C – mA
ITR03780





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