

Ordering number : EN2101E



2SA1507/2SC3902

Bipolar Transistor

(-)160V, (-)1.5A, Low $V_{CE(sat)}$, (PNP)NPN Single TO-126ML

ON Semiconductor®

<http://onsemi.com>

Applications

- Color TV audio output, converters, inverters

Features

- High breakdown voltage
- Large current capacity
- Adoption of FBET and MBIT process
- The plastic-covered heat sink eliminates the need for an insulator when mounting the 2SA1507/2SC3902

Specifications () : 2SA1507

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

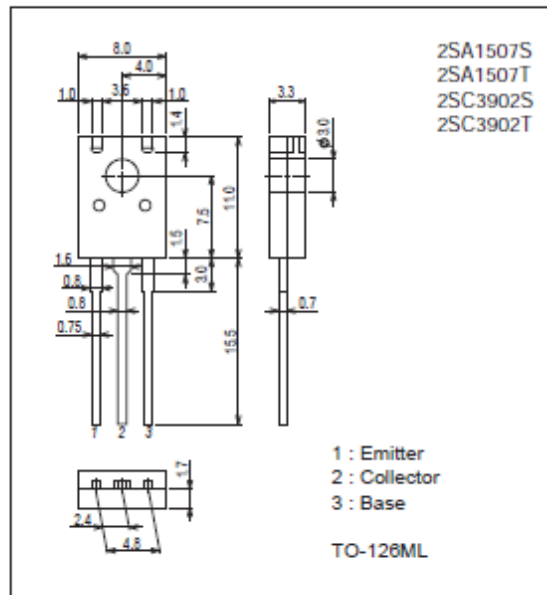
Parameter	Symbol	Conditions	Ratings	Unit
Collector-to-Base Voltage	V_{CB0}		(-)180	V
Collector-to-Emitter Voltage	V_{CE0}		(-)160	V
Emitter-to-Base Voltage	V_{EB0}		(-)6	V
Collector Current	I_C		(-)1.5	A
Collector Current (Pulse)	I_{CP}		(-)2.5	A
Collector Dissipation	P_C		1.5	W
		$T_c=25^\circ\text{C}$	10	W
Junction Temperature	T_J		150	$^\circ\text{C}$
Storage Temperature	T_{stg}		-55 to +150	$^\circ\text{C}$

Stresses exceeding Maximum Ratings may damage the device. Maximum Ratings are stress ratings only. Functional operation above the Recommended Operating Conditions is not implied. Extended exposure to stresses above the Recommended Operating Conditions may affect device reliability.

Package Dimensions

unit : mm (typ)

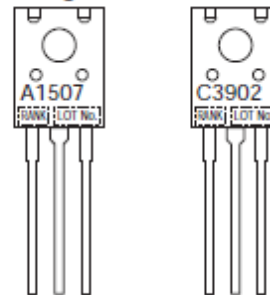
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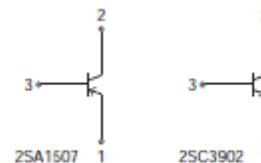
Product & Package Information

- Package : TO-126ML
- JEITA, JEDEC : TO-126
- Minimum Packing Quantity : 200 pcs./bag

Marking



Electrical Connection

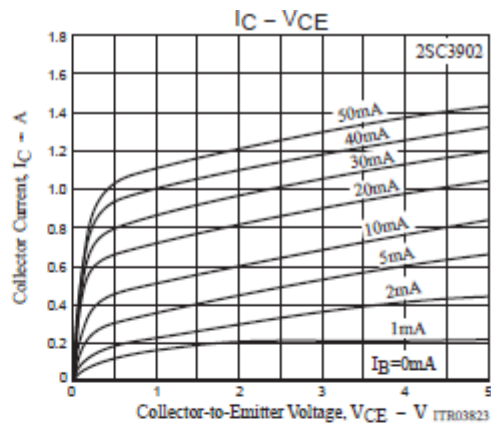
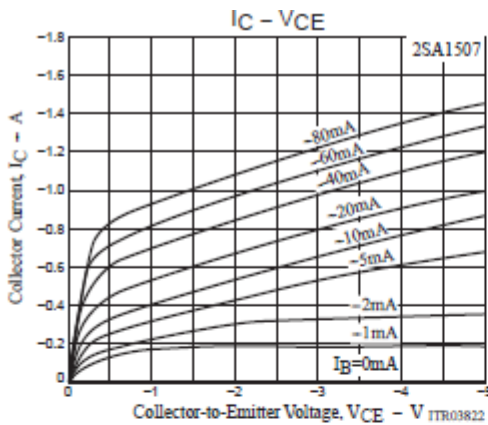


Electrical Characteristics at Ta=25°C

Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Collector Cutoff Current	ICBO	VCE=-()120V, IE=0A			(-)1.0	μA
Emitter Cutoff Current	IEBO	VEB=-()4V, IC=0A			(-)1.0	μA
DC Current Gain	hFE1	VCE=-()5V, IC=-()100mA	100*		400*	
	hFE2	VCE=-()5V, IC=-()10mA	90			
Gain-Bandwidth Product	fT	VCE=-()10V, IC=-()50mA		120		MHz
Output Capacitance	Cob	VCE=-()10V, f=1MHz		(22)14		pF
Collector-to-Emitter Saturation Voltage	VCE(sat)	IC=-()500mA, IB=-()50mA		(-0.2)0.13	(-0.5)0.45	V
Base-to-Emitter Saturation Voltage	VBE(sat)	IC=-()500mA, IB=-()50mA		(-)0.85	(-)1.2	V
Collector-to-Base Breakdown Voltage	V(BR)CBO	IC=-()10μA, IE=0A	(-)180			V
Collector-to-Emitter Breakdown Voltage	V(BR)CEO	IC=-()1mA, RE=∞	(-)160			V
Emitter-to-Base Breakdown Voltage	V(BR)EBO	IE=-()10μA, IC=0A	(-)6			V
Turn-On Time	ton	See specified Test Circuit.		(0.7)0.04		μs
Storage Time	tstg			(0.7)1.2		μs
Fall Time	tf			(0.04)0.08		μs

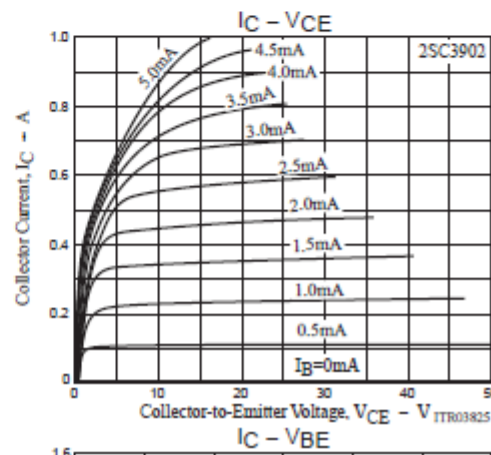
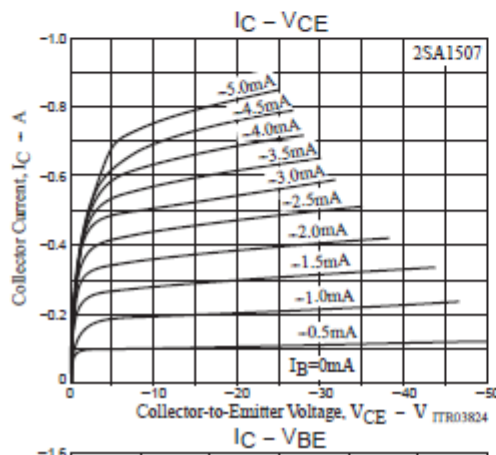
* : The 2SA1507 / 2SC3902 are classified by 100mA hFE as follows:

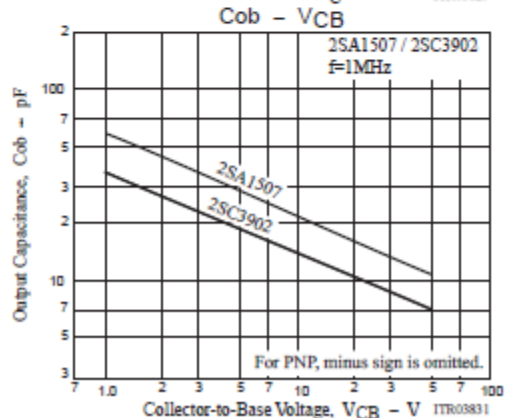
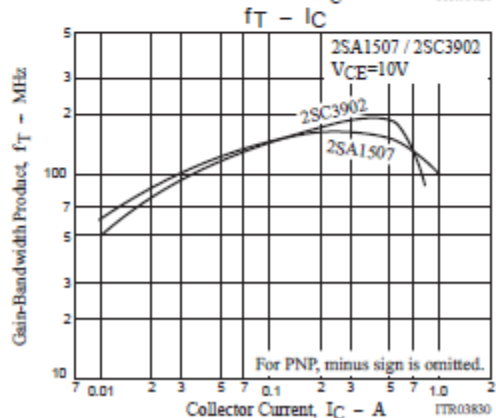
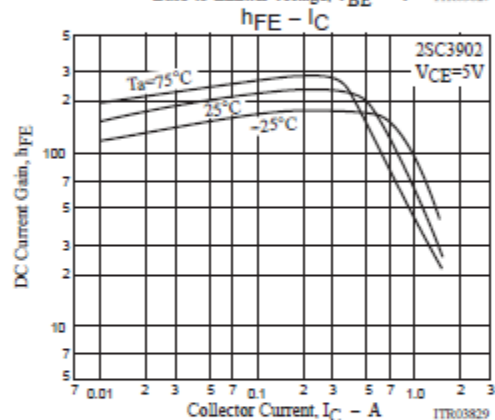
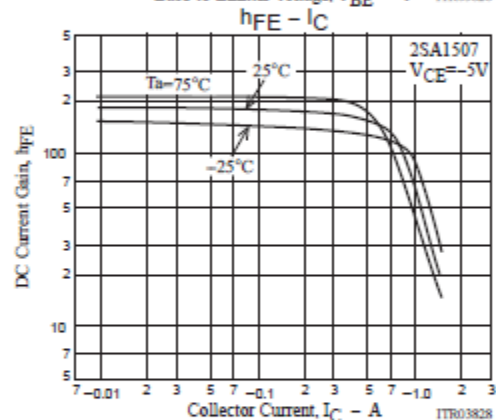
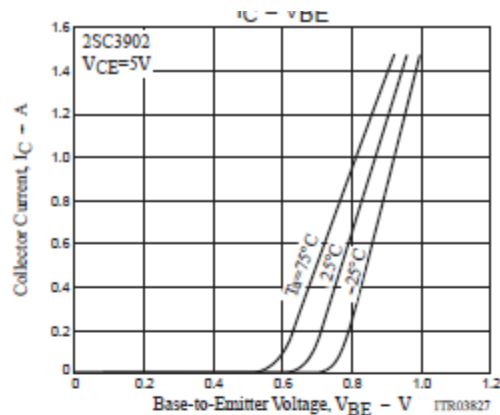
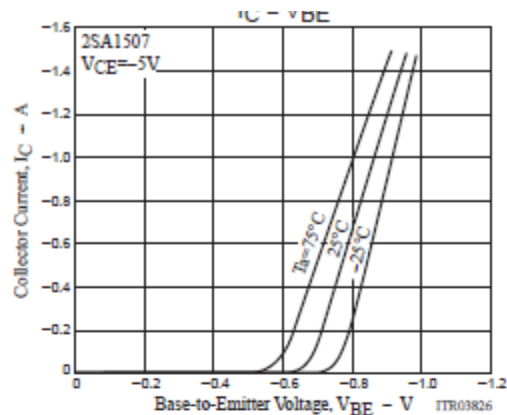
Rank	R	S	T
hFE	100 to 200	140 to 280	200 to 400



No.2101-2

2SA1507 / 2SC3902





No.2101-3/7

