2SB1070, 2SB1070A

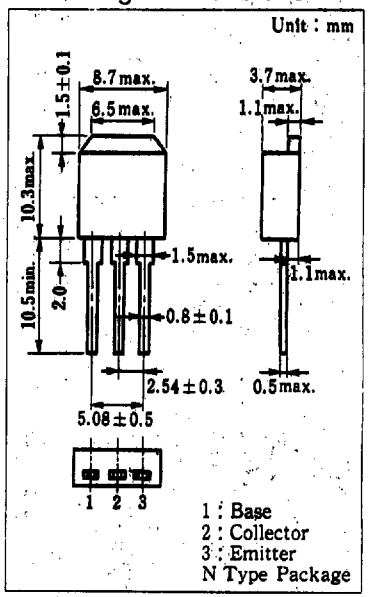
Silicon PNP Epitaxial Planar Type

Low Voltage Switching
Complementary Pair with 2SD1538, 2SD1538A

■ Features

- Low collector-eimitter saturation voltage ($V_{CE(sat)}$)
- High speed switching
- "N Type" package configuration with a cooling fin for direct soldering on PC board of a small-size electronic equipment

■ Package Dimensions



*Surface-mount type is also available. (Refer to p.82.)

■ Absolute Maximum Ratings (Tc=25°C)

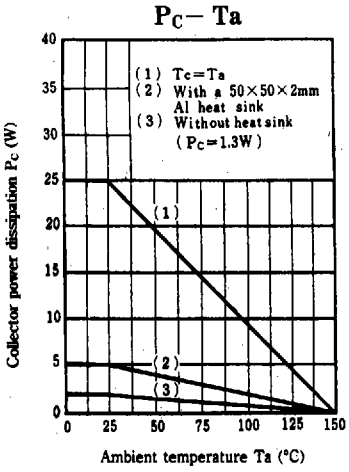
Item		Symbol	Value	Unit
Collector-base voltage	2SB1070	V_{CBO}	−40	V
	2SB1070A		−50	
Collector-emitter voltage	2SB1070	V_{CEO}	−20	V
	2SB1070A		−40	
Emitter-base voltage		V_{EBO}	−5	V
Peak collector current		I_{CP}	−8	A
Collector current		I_C	−4	A
Collector power dissipation	Tc=25℃	P_C	25	W
	Ta=25℃		1.3	
Junction temperature		T_j	150	℃
Storage temperature		T_{stg}	−55~+150	℃

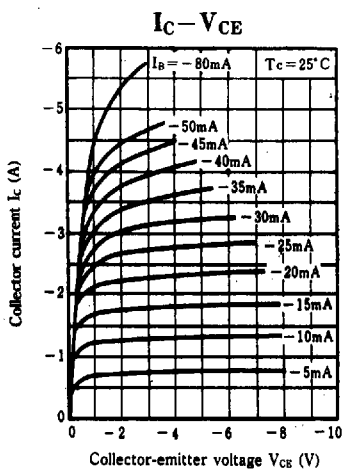
■ Electrical Characteristics (Tc=25°C)

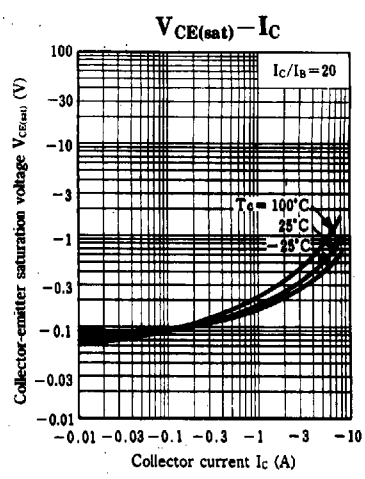
Item		Symbol	Condition	min.	typ.	max.	Unit
Collector cutoff current		I_{CBO}	$V_{CB}=-40$ V, $I_E=0$			−50	μA
Emitter cutoff current		I_{EBO}	$V_{EB}=-5$ V, $I_C=0$			−50	μA
Collector-emitter voltage	2SB1070	V_{CEO}	$I_C=-10$ mA, $I_B=0$	−20			V
	2SB1070A			−40			
DC current gain		h_{FE1}	$V_{CE}=-2$ V, $I_C=-0.1$ A	45			
		h_{FE2}*	$V_{CE}=-2$ V, $I_C=-1$ A	60		260	
Collector-emitter saturation voltage		$V_{CE(sat)}$	$I_C=-2$ A, $I_B=-0.1$ A			−0.5	V
Base-emitter saturation voltage		$V_{BE(sat)}$	$I_C=-2$ A, $I_B=-0.1$ A			−1.5	V
Transition frequency		f_T	$V_{CE}=-5$V, $I_C=-0.5$A, f=10MHz		150		MHz
Turn-on time		t_{on}	$I_C=-2$A, $I_{B1}=-0.2$A, $I_{B2}=0.2$A		0.3		μs
Storage time		t_{stg}			0.4		μs
Collector current fall time		t_f			0.1		μs

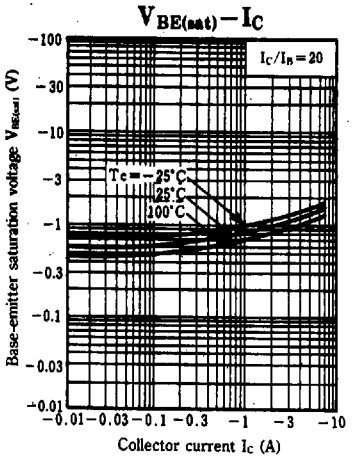
*h_{FE2} Classifications

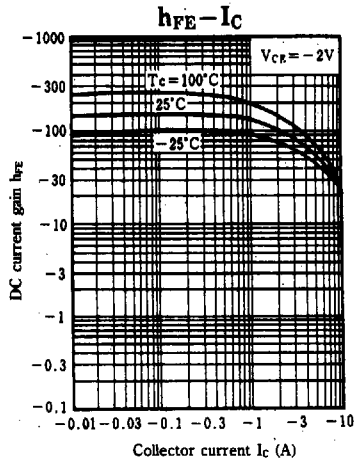
Class	R	Q	P
h_{FE2}	60~120	90~180	130~260

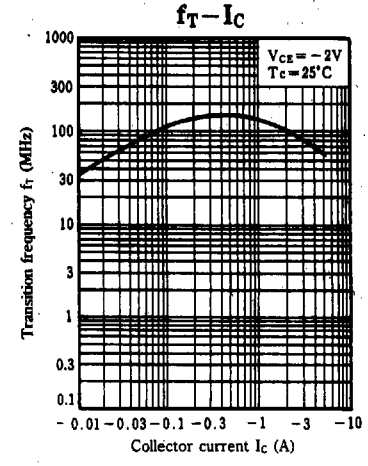


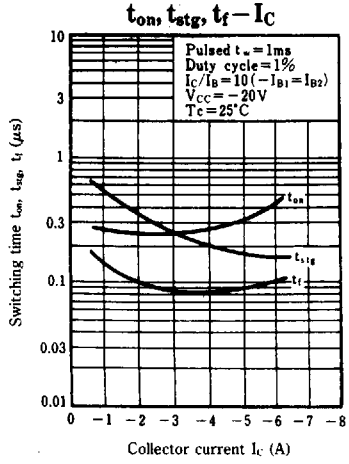


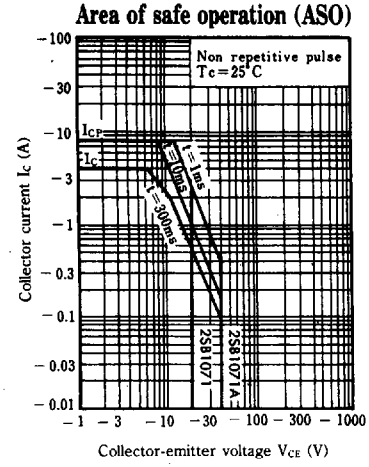












Note) Refer to P.257 (on 2SB1191/A) for $R_{th(t)}$ − t characteristics.