Ordering number: EN 3135A

SANYO

No.3135A

2SA1731

PNP Epitaxial Planar Silicon Transistor

High-Speed Switching Applications

Features

- Adoption of FBET, MBIT processes
- Large current capacity
- Low collector-to-emitter saturation voltage
- Fast switching speed

Absolute Maximum Ratings at Ta = 25°C

			unit
Collector to Base Voltage	V_{CBO}	−50	V
Collector to Emitter Voltage	V_{CEO}	−40	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	W
	Tc = 25°C	15	W
Junction Temperature	Tj	150	°C
Storage Temperature	Tstg	−55 to +150	°C

Electrical Characteristics at Ta = 25°C

			min	typ	max	unit
Collector Cutoff Current	I_{CBO}	V_{CB} = −40V, I_E = 0			−1	μA
Emitter Cutoff Current	I_{EBO}	V_{EB} = −3V, I_C = 0			−1	μA
DC Current Gain	$h_{FE}(1)$	V_{CE} = −2V, I_C = −500mA	70※		280※	
	$h_{FE}(2)$	V_{CE} = −2V, I_C = −5A	25			
Gain-Bandwidth Product	f_T	V_{CE} = −2V, I_C = −500mA		300		MHz
Output Capacitance	c_{ob}	V_{CB} = −10V, f = 1MHz		60		pF
C-E Saturation Voltage	$V_{CE(sat)}$	I_C = −2.5A, I_B = −125mA		−0.3	−0.8	V
B-E Saturation Voltage	$V_{BE(sat)}$	I_C = −2.5A, I_B = −125mA		−0.95	−1.3	V
C-B Breakdown Voltage	$V_{(BR)CBO}$	I_C = −100μA, I_E = 0	−50			V
C-E Breakdown Voltage	$V_{(BR)CEO}$	I_C = −1mA, R_{BE} = ∞	−40			V
E-B Breakdown Voltage	$V_{(BR)EBO}$	I_E = −100μA, I_C = 0	−5			V

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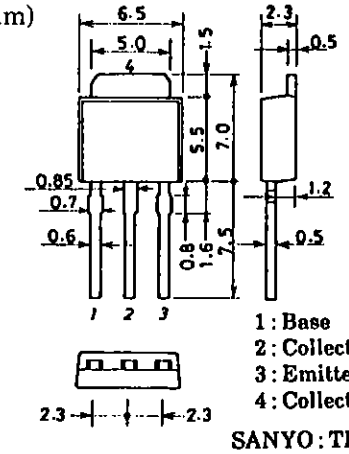
※: The 2SA1731 is classified by 500mA h_{FE} as follows:

70 Q 140	100 R 200	140 S 280

Package Dimensions 2045B

(unit : mm)

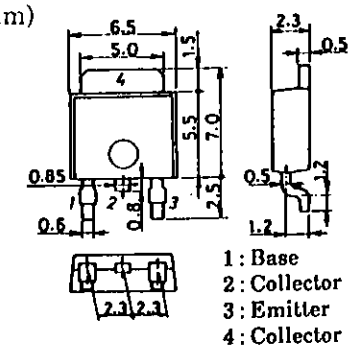


1 : Base
2 : Collector
3 : Emitter
4 : Collector

SANYO : TP

Package Dimensions 2044B

(unit : mm)



1 : Base
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SANYO : TP-FA

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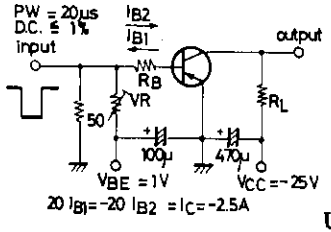
			min	typ	max	unit
Turn-ON Time	t_{on}	See specified Test Circuit.		50	100	ns
Storage Time	t_{stg}	〃		120	220	ns
Turn-OFF Time	t_{off}	〃		150	300	ns

Switching Time Test Circuit



Unit (Resistance : Ω, Capacitance : F)