Power Transistors

加急出货

# 2SD1705

# Silicon NPN Epitaxial Planar Type

#### Power Switching Complementary Pair with 2SB1154

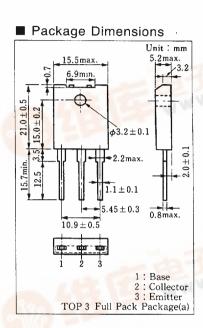
#### Features

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- Low collector-emitter saturation voltage ( $V_{CE(sat)}$ )
- Good linearity of DC current gain (hFE)
- High collector current (I<sub>c</sub>)
- "Full Pack" package for simplified mounting on a heat sink with one screw

Item		Symbol	Value	Unit
Collector-base voltage		V <sub>СВО</sub>	130	V
Collector-emitter voltage		VCEO	80	V
Emitter-base voltage		VLBO	7	V
Peak collector current		I <sub>CP</sub>	20	Α
Collector current		Ic	10	А
Collector power dissipation	Tc=25 °C	D	70	
	Ta=25 °C	$P_{\rm C}$	3	W
Junction temperature		Τ,	150	°C
Storage temperature		Tstg	-55 - +150	Ĵ

## Absolute Maximum Ratings (Tc=25°C)



## Electrical Characteristics (Tc=25°C)

Item	Symbol	Condition	min.	typ.	max.	Unit /
Collector cutoff current	Ісво	$V_{CB} = 100 \text{ V}, I_E = 0$			10	μA
Emitter cutoff current	ILBO	$V_{EB} = 5 V, I_C = 0$			50	μA
Collector-emitter voltage	VCEO	$I_{C} = 10 \text{ mA}, I_{B} = 0$	80			V
DC current gain	h <sub>FE1</sub>	$V_{CE} = 2 V, I_C = 0.1 A$	45	- T+ 1		
	h <sub>FE2</sub> *	$V_{CE} = 2 V, I_C = 3 A$	60		260	199
	h <sub>FE3</sub>	$V_{CE}=2 V, I_{C}=6 A$	30			
Collector-emitter saturation voltage	V <sub>CE(sat)1</sub>	$I_{\rm C} = 6 \text{ A}, \ I_{\rm B} = 0.3 \text{ A}$	W.A.		0.5	V
	V <sub>CE(sat)2</sub>	$I_{\rm C} = 10 \text{ A}, \ I_{\rm B} = 1 \text{ A}$			1.5	V
Base-emitter saturation voltage	V <sub>BE(sat)1</sub>	$I_{C} = 6 A, I_{B} = 0.3 A$			1.5	V
base-emitter saturation voltage	VBE(sat)2	$I_{c} = 10 \text{ A}, I_{B} = 1 \text{ A}$			2.5	V
Transition frequency	fT	$V_{CE} = 10V, I_C = 0.5A, f = 1MHz$		20		MHz
Turn-on time	ton	x a. x a. a. x a		0 5		μs
Storage ti <mark>me t<sub>s.g</sub></mark>		$I_C = 6A, I_{B1} = 0.6A, I_{B2} = -0.6A$ $V_{CC} = 50V$		2.0		μS
Fall time	tr	VCC-50V		0.2		μs

#### hrez Classifications

odf.dzsc.com

 Class
 R
 Q
 P

 P
 0
 120
 90~180
 130~260

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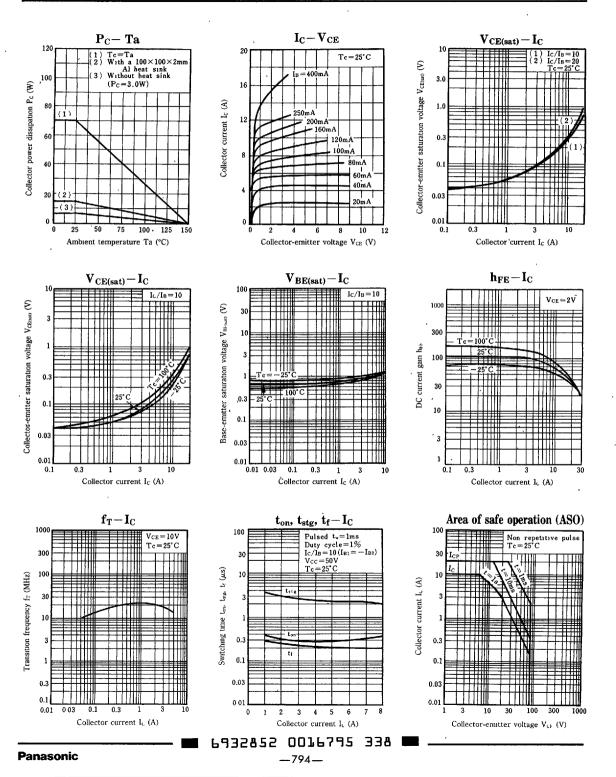
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Note Rth was measured at Ta=25°C and under natural At the way intraduct at  $(2 - 2)^{1/2}$  and while in the internation of  $(1)^{1/2} = 10V \times 0.24$  (2W) and without heat sink  $(2)^{1/2} T = 10V \times 10.4$  (10W) and with a  $100 \times 100 \times 2mm$  Al heat sink Transient thermal resistance  $R_{thtu}$  (°C/W) 1000 <u>+t⊞</u> 111 í titt T 100 H 11 10 ----m 1 -----01 10 - 310-2 102 103  $10^{-4}$ 10 - 11 10 104

Time t (s)

 $R_{th(t)} - t$ 

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