

## **The Data Book Project**

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TENTATIVE

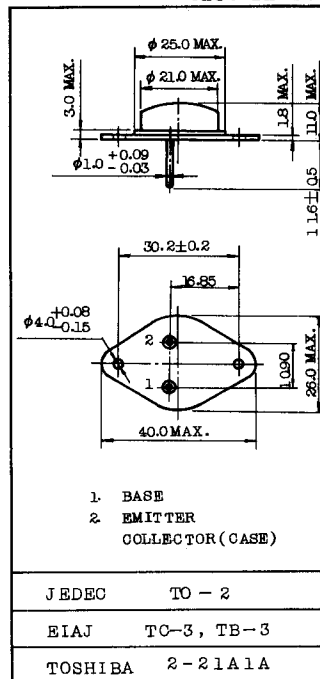
- 大電力スイッチング
- Power Switching Applications
- ・ High DC Current Gain  
 $h_{FE}=1000$  (Min.) ( $V_{CE}=3V, I_C=3A$ )
- ・ Low Collector-Emitter Saturation Voltage  
 $V_{CE(sat)}=1.5V$  (Max.) ( $I_C=3A$ )
- ・ Monolithic Construction With Built-In Base-Emitter Shunt Resistor.

最大定格 MAXIMUM RATINGS ( $T_a=25^\circ C$ )

CHARACTERISTICS	SYMBOL	RATING	UNIT
コレクタ・ベース間電圧	$V_{CBO}$	80	V
コレクタ・エミッタ間電圧	$V_{CEO}$	80	V
エミッタ・ベース間電圧	$V_{EBO}$	5	V
コレクタ電流	$I_C$	7	A
ベース電流	$I_B$	0.2	A
コレクタ損失 ( $T_c=25^\circ C$ )	$P_C$	50	W
接合温度	$T_j$	150	$^\circ C$
保存温度	$T_{stg}$	-65~150	$^\circ C$

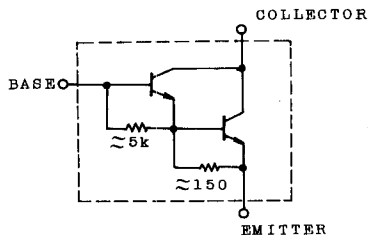
通信工業用  
 INDUSTRIAL APPLICATIONS

Unit in mm



アクセサリは AC73 を適用  
 MOUNTING KIT No. AC73

Fig.1 DABLINGTON CIRCUIT SCHEMATIC



# 2SD523

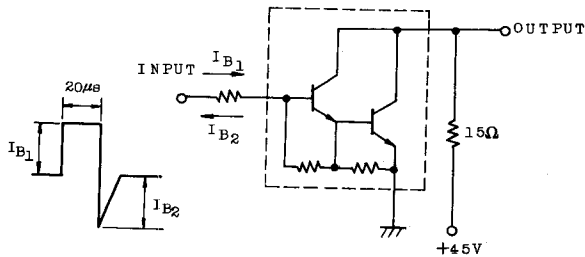
## 電気的特性 ELECTRICAL CHARACTERISTICS (Ta=25°C)

CHARACTERISTIC		SYMBOL	CONDITION	MIN.	TYP.	MAX.	UNIT
コレクタしゝ断電流		ICBO	V <sub>CB</sub> =80V, I <sub>E</sub> =0	-	-	100	μA
エミッタしゝ断電流		IEBO	V <sub>EB</sub> =5V, I <sub>C</sub> =0	-	-	3	mA
コレクタ・エミッタ間降伏電圧		V(BR)CEO	I <sub>C</sub> =50mA, I <sub>B</sub> =0	80	-	-	V
直流電流増幅率 Note	h <sub>FE</sub> (1)		V <sub>CE</sub> =3V, I <sub>C</sub> =3A	2000	-	15000	
	h <sub>FE</sub> (2)		V <sub>CE</sub> =3V, I <sub>C</sub> =7A	1000	-	-	
コレクタ・エミッタ 間飽和電圧 Note	V <sub>CE(sat)</sub> (1)		I <sub>C</sub> =3A, I <sub>B</sub> =6mA	-	0.9	1.5	V
	V <sub>CE(sat)</sub> (2)		I <sub>C</sub> =7A, I <sub>B</sub> =14mA	-	1.2	2.0	
ベース・エミッタ間飽和電圧 Note		V <sub>BE(sat)</sub>	I <sub>C</sub> =3A, I <sub>B</sub> =6mA	-	1.5	2.5	V
スイッチング 時間	ターンオン時間	t <sub>on</sub>	Fig. 1	-	0.8	-	μs
	蓄積時間	t <sub>stg</sub>		-	3.0	-	
	下降時間	t <sub>f</sub>		-	2.5	-	

Note ; Pulse Test: Pulse width ≤ 300μs, Duty cycle ≤ 2%

Fig. 1 スイッチング時間測定回路

### SWITCHING TIME TEST CIRCUIT

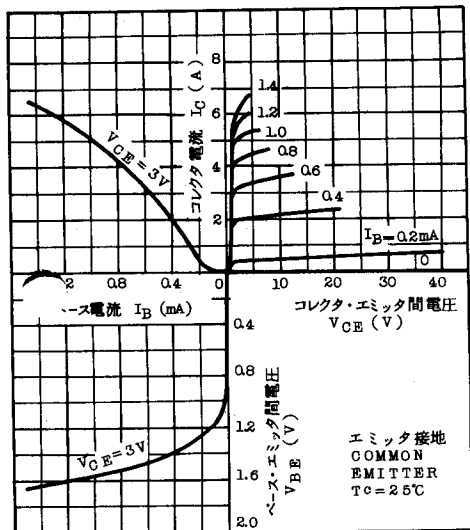


$$I_{B1} = I_{B2} = 6\text{mA}$$

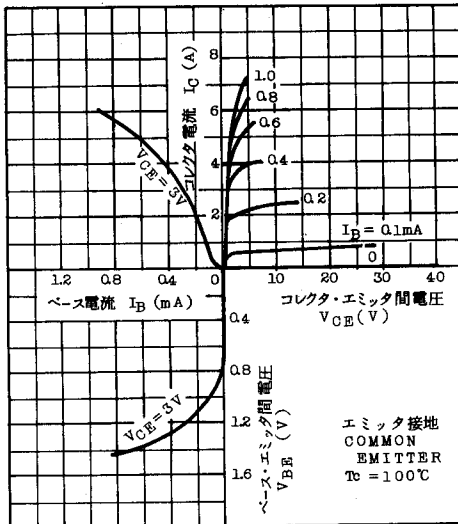
$$\text{DUTY CYCLE} \leq 1\%$$

$$I_C = 3\text{A}$$

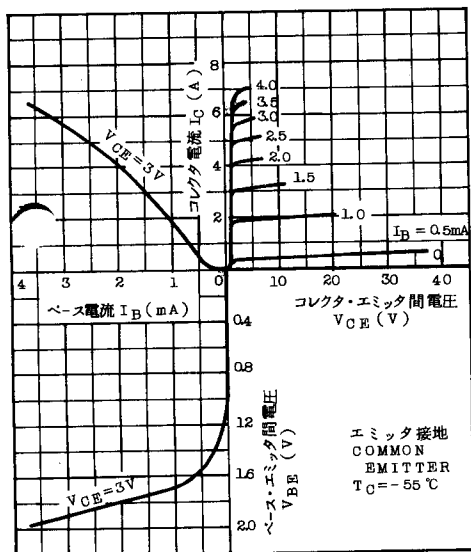
STATIC CHARACTERISTICS



STATIC CHARACTERISTICS

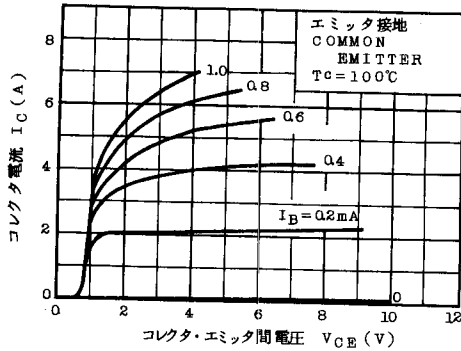


STATIC CHARACTERISTICS

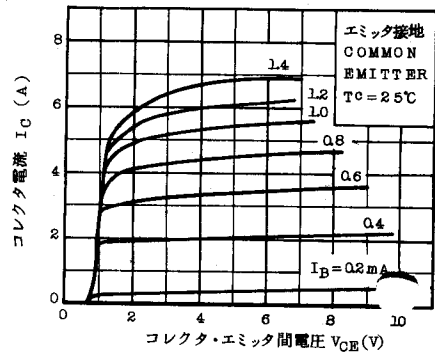


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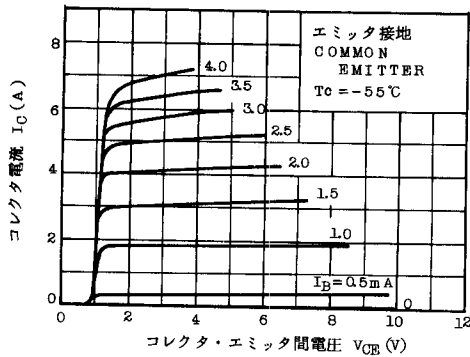
$I_C - V_{CE}$  (LOW VOLTAGE REGION)



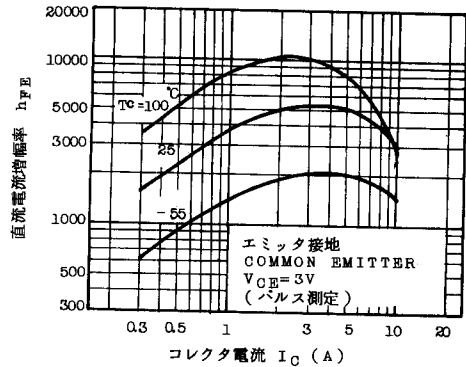
$I_C - V_{CE}$  (LOW VOLTAGE REGION)



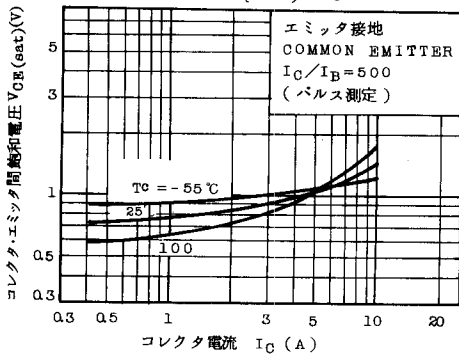
$I_C - V_{CE}$  (LOW VOLTAGE REGION)



$h_{FE} - I_C$



$V_{CE}(\text{sat}) - I_C$



$V_{BE}(\text{sat}) - I_C$

