

# Transistors

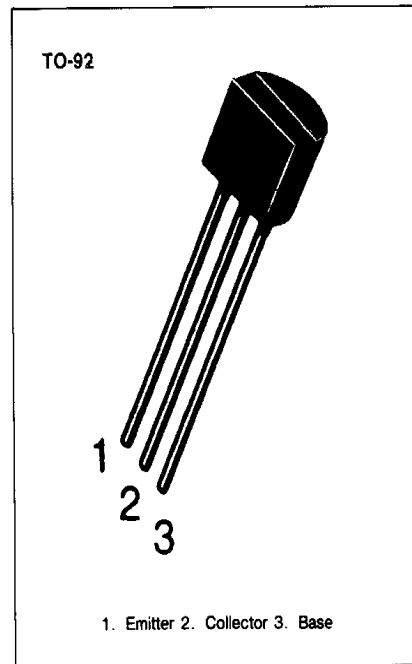
## 2SD5041

### AF OUTPUT AMPLIFIER FOR ELECTRONIC FLASH UNIT

- Low  $V_{ce(sat)}$
- High Performance at Low Supply Voltage

### ABSOLUTE MAXIMUM RATINGS ( $T_a = 25^\circ\text{C}$ )

Characteristic	Symbol	Rating	Unit
Collector-Base Voltage	$V_{CBO}$	40	V
Collector-Emitter Voltage	$V_{CEO}$	20	V
Emitter-Base Voltage	$V_{EBO}$	7	V
Collector Current	$I_C$	5	A
Collector Dissipation	$P_C$	0.75	W
Junction Temperature	$T_j$	150	$^\circ\text{C}$
Storage Temperature	$T_{stg}$	$-55 \sim 150$	$^\circ\text{C}$



### ELECTRICAL CHARACTERISTICS ( $T_a = 25^\circ\text{C}$ )

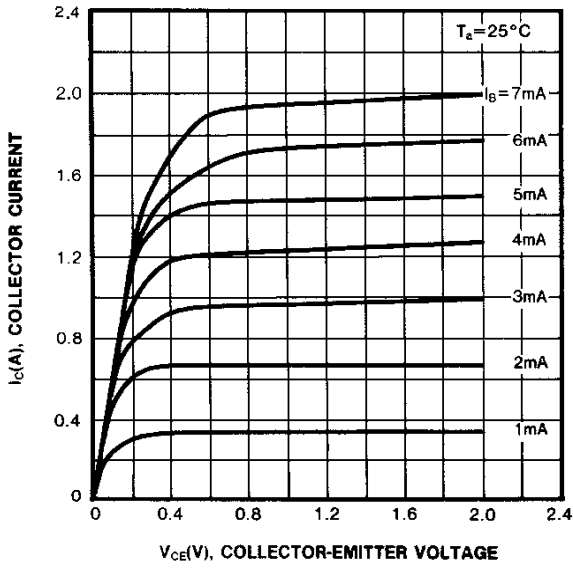
Characteristic	Symbol	Test Condition	Min	Typ	Max	Unit
Collector Emitter Voltage	$BV_{CEO}$	$I_C = 1\text{mA}, I_B = 0$	20			V
Emitter Base Voltage	$BV_{EBO}$	$I_C = 10\mu\text{A}, I_E = 0$	7			V
Collector Cutoff Current	$I_{CBO}$	$V_{CB} = 10\text{V}, I_E = 0$			0.1	$\mu\text{A}$
Emitter Cutoff Current	$I_{EBO}$	$V_{EB} = 7\text{V}, I_C = 0$			0.1	$\mu\text{A}$
DC Current Gain	$h_{FE1}$	$V_{CE} = 2\text{V}, I_C = 0.5\text{A}$	180		600	
	$h_{FE2}$	$V_{CE} = 2\text{V}, I_C = 2\text{A}$	150			
Collector Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C = 3\text{A}, I_B = 0.1\text{A}$			1	V
Current Gain Bandwidth Product	$f_T$	$V_{CE} = 6\text{V}, I_C = 50\text{mA}$		150		MHz
Output Capacitance	$C_{ob}$	$V_{CB} = 20\text{V}, I_E = 0, f = 1\text{MHz}$			50	pF

### $h_{FE1}$ CLASSIFICATION

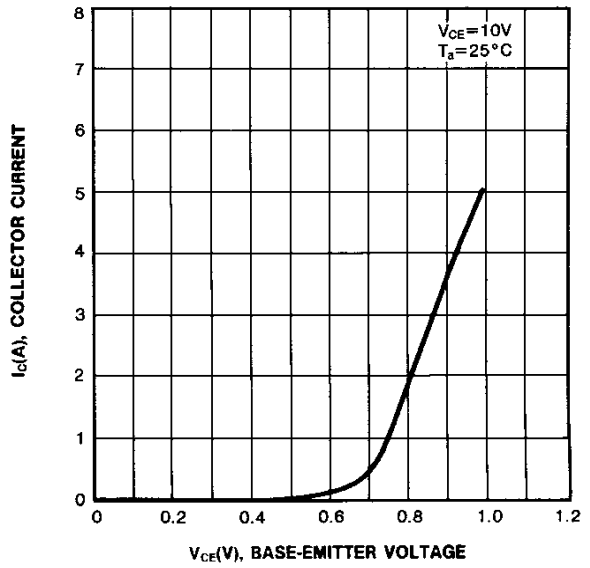
Classification	P	Q	R
$h_{FE1}$	180-270	230-380	340-600



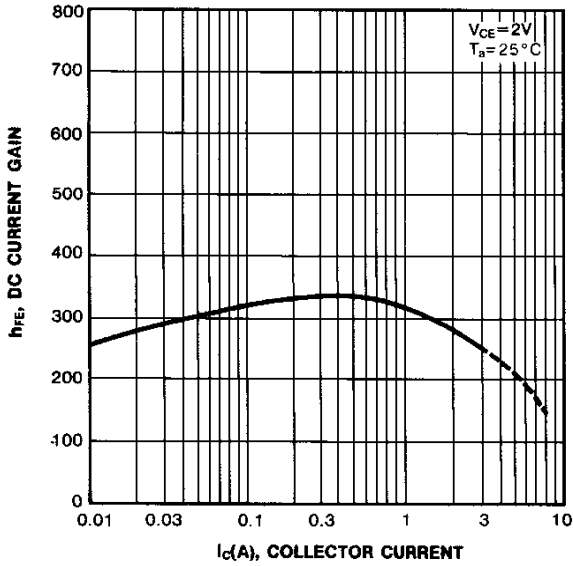
**STATIC CHARACTERISTIC**



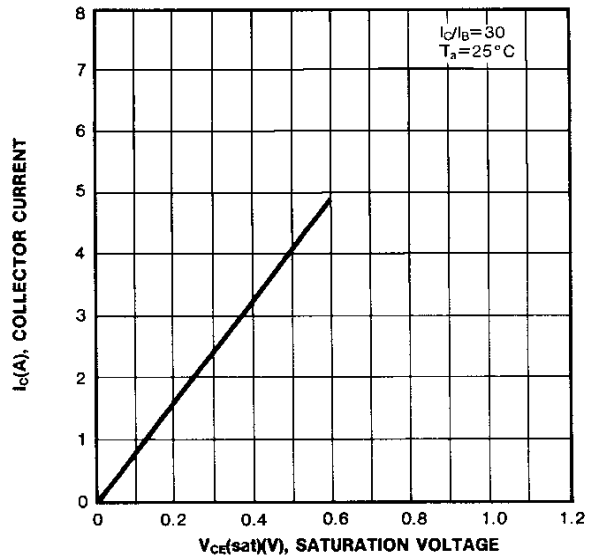
**BASE-EMITTER SATURATION VOLTAGE**



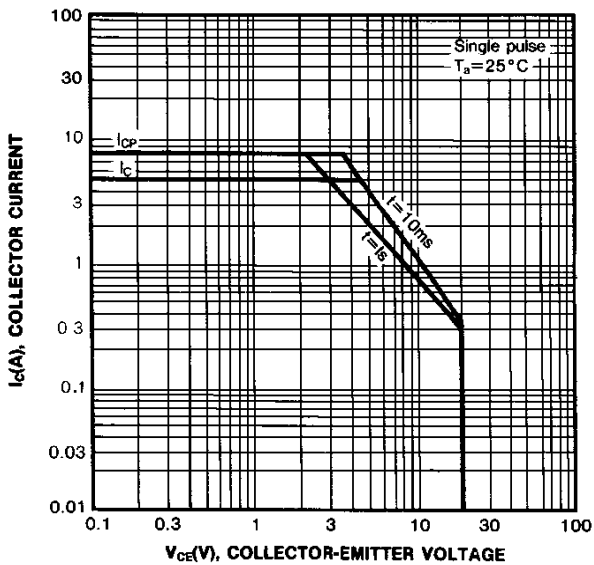
**DC CURRENT GAIN**



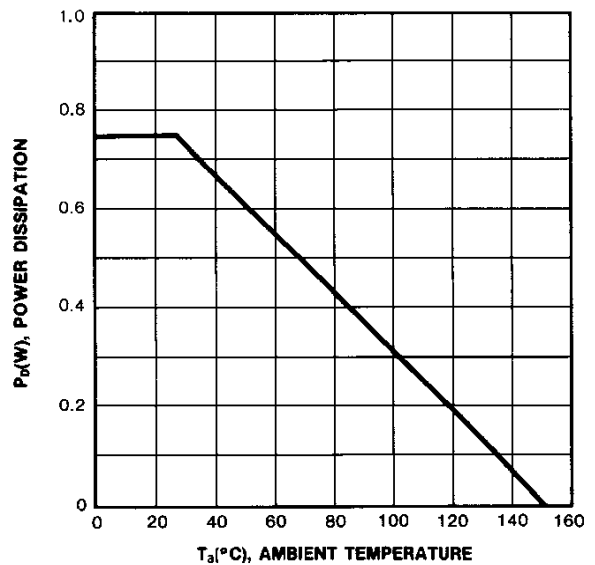
**COLLECTOR-EMITTER SATURATION VOLTAGE**



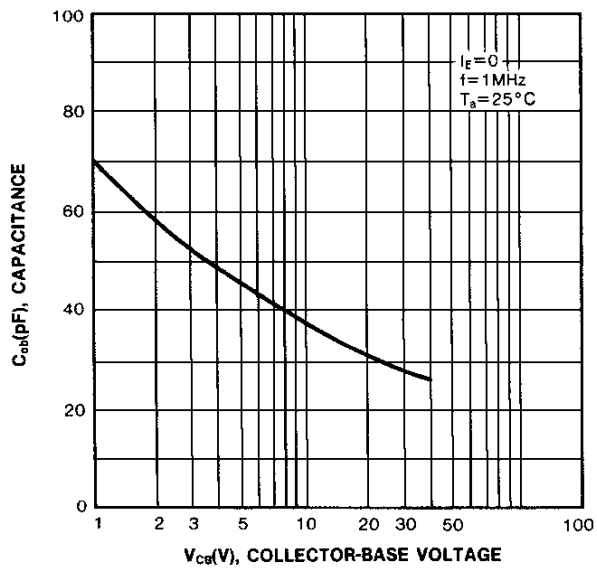
**SAFE OPERATING AREA**



**POWER DERATING**



**OUTPUT CAPACITANCE**



**CURRENT GAIN BANDWIDTH PRODUCT**

