

Silicon NPN Power Transistors

2SD841

DESCRIPTION

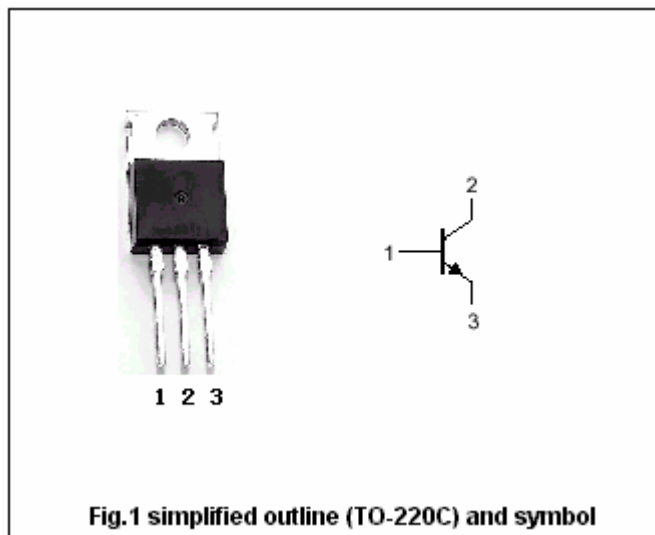
- With TO-220 package
- Low collector saturation voltage
- High speed switching
- High voltage:  $V_{CBO}=800V(\text{Min})$

APPLICATIONS

- High voltage switching applications

PINNING

PIN	DESCRIPTION
1	Base
2	Collector
3	Emitter



Absolute maximum ratings( $T_a=25^\circ\text{C}$ )

SYMBOL	PARAMETER	CONDITIONS	VALUE	UNIT
$V_{CBO}$	Collector-base voltage	Open emitter	800	V
$V_{CEO}$	Collector-emitter voltage	Open base	400	V
$V_{EBO}$	Emitter-base voltage	Open collector	5	V
$I_C$	Collector current		3	A
$I_B$	Base current		1.5	A
$P_C$	Collector power dissipation	$T_C=25$	40	W
		$T_a=25$	2	
$T_j$	Junction temperature		150	
$T_{stg}$	Storage temperature		-55~150	

## Silicon NPN Power Transistors

## 2SD841

## CHARACTERISTICS

T<sub>j</sub>=25 unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	MAX	UNIT
V <sub>(BR)CEO</sub>	Collector-emitter breakdown voltage	I <sub>C</sub> =10mA, I <sub>B</sub> =0	400			V
V <sub>CEsat</sub>	Collector-emitter saturation voltage	I <sub>C</sub> =0.5A; I <sub>B</sub> =50mA			1.0	V
V <sub>BEsat</sub>	Base-emitter saturation voltage	I <sub>C</sub> =0.5A; I <sub>B</sub> =50mA			1.5	V
I <sub>CBO</sub>	Collector cut-off current	V <sub>CB</sub> =800V; I <sub>E</sub> =0			1	mA
I <sub>EBO</sub>	Emitter cut-off current	V <sub>EB</sub> =5V; I <sub>C</sub> =0			1	mA
h <sub>FE-1</sub>	DC current gain	I <sub>C</sub> =10mA; V <sub>CE</sub> =5V	8			
h <sub>FE-2</sub>	DC current gain	I <sub>C</sub> =0.5A; V <sub>CE</sub> =5V	10			
f <sub>T</sub>	Transition frequency	I <sub>E</sub> =-0.1A; V <sub>CE</sub> =10V		4		MHz
C <sub>OB</sub>	Output capacitance	I <sub>E</sub> =0; V <sub>CB</sub> =10V; f=1MHz		75		pF
t <sub>f</sub>	Fall time	I <sub>C</sub> =0.5A; I <sub>B1</sub> =-I <sub>B2</sub> =50mA V <sub>CC</sub> =200V; R <sub>L</sub> =400			1.0	μs

Silicon NPN Power Transistors

2SD841

PACKAGE OUTLINE



Fig.2 Outline dimensions (unindicated tolerance:  $\pm 0.10$  mm)