## TRIPLE DIFFUSED SILICON NPN TRANSISTOR

... designed for low frequency power amplifier WWW.100Y.COM.TW

## **MAXIMUM RATINGS**

Characteristic	Symbol	Value	Unit V	
Collector Base Voltage	V <sub>CBO</sub>	100		
Collector Emitter Voltage	VCEO	80	V	
Emitter Base Voltage	VEBO	5	V	
Collector Current (DC)	I <sub>C</sub>	4	A	
Collector Current (Peak)	Ic	8 100	A	
Collector power Dissipation	Pc	40	W	
lunction Temperature	TJ	150	0°C	
Storage Temperature	T <sub>stg</sub>	-55~150	°C	



## **ELECTRICAL CHARACTERISTICS**

Symbol	Test Condition	Min.	Typ.	Max.	Unit	1001
ICBO	$V_{CB} = 80V, I_E = 0A$		O Mar	100	μA	HIGH POWER
V(BR)CEO	$I_{\rm C} = 50 {\rm mA}, I_{\rm B} = 0 {\rm A}$	80	M-O	$F_{\overline{1}}$	V	DISSIPATION MEDIUM SPEEI POWER SWITCHING
h <sub>FE</sub>	$V_{CE} = 4V, I_{C} = 1A$	60	-	200	-	
. cOM-'	$V_{CE} = 4V, I_C = 0.1A$	35	COP		-	
V <sub>CE(sat)</sub>	$I_{\rm C} = 2A, I_{\rm B} = 0.2A$	1003		1	V	
VBE	$V_{CE} = 4V, I_C = 1A$	100	1.00	1.5	v	
fT	$V_{CE} = 5V, I_C = 0.5A$	1.100	10	$D\overline{N}$	MHz	
Cob	$V_{CB} = 20V, I_E = 0A, f=1MHz$	-10	40	No.	Pf	N. 10
Cob	V <sub>CB</sub> = 20V, I <sub>E</sub> = 0A, f=1MHz	91-10 N W.J	40	.coM	Pf	MMM MMM
	ICBO   V(BR)CEO   hFE   VCE(sat)   VBE   fr   Cob	$\label{eq:cb} \begin{array}{ c c c c c } \hline I_{CBO} & V_{CB} = 80V, I_E = 0A \\ \hline \\ \hline \\ \hline \\ e & V_{(BR)CEO} & I_C = 50mA, I_B = 0A \\ \hline \\ & h_{FE} & V_{CE} = 4V, I_C = 1A \\ \hline \\ & V_{CE} = 4V, I_C = 0.1A \\ \hline \\ & V_{CE(sat)} & I_C = 2A, I_B = 0.2A \\ \hline \\ & V_{BE} & V_{CE} = 4V, I_C = 1A \\ \hline \\ & f_T & V_{CE} = 5V, I_C = 0.5A \\ \hline \\ & C_{ob} & V_{CB} = 20V, I_E = 0A, f=1MHz \\ \end{array}$	$\begin{tabular}{ c c c c c c c } \hline I_{CBO} & V_{CB} = 80V, I_E = 0A & - & & \\ \hline & V_{(BR)CEO} & I_C = 50mA, I_B = 0A & & 80 \\ \hline & & I_C = 50mA, I_B = 0.A & & 80 \\ \hline & & V_{CE} = 4V, I_C = 1A & & 60 \\ \hline & & V_{CE} = 4V, I_C = 0.1A & & 35 \\ \hline & V_{CE(sat)} & I_C = 2A, I_B = 0.2A & - & \\ \hline & V_{BE} & V_{CE} = 4V, I_C = 1A & - & \\ \hline & & f_T & V_{CE} = 5V, I_C = 0.5A & - & \\ \hline & & C_{ob} & V_{CB} = 20V, I_E = 0A, f = 1MHz & - & \\ \hline \end{tabular}$	$\begin{array}{ c c c c c c c }\hline I_{CBO} & V_{CB} = 80V, I_E = 0A & - & - & - \\ \hline & V_{(BR)CEO} & I_C = 50mA, I_B = 0A & 80 & - & \\ \hline & h_{FE} & V_{CE} = 4V, I_C = 1A & 60 & - & \\ & V_{CE} = 4V, I_C = 0.1A & 35 & - & \\ \hline & V_{CE(sat)} & I_C = 2A, I_B = 0.2A & - & - & \\ \hline & V_{BE} & V_{CE} = 4V, I_C = 1A & - & - & \\ \hline & f_T & V_{CE} = 5V, I_C = 0.5A & - & 10 & \\ \hline & C_{ob} & V_{CB} = 20V, I_E = 0A, f = 1MHz & - & 40 & \\ \hline \end{array}$	$ \begin{array}{ c c c c c c c c } \hline I_{CBO} & V_{CB} = 80V, I_E = 0A & - & - & 100 \\ \hline I_{CBO} & I_C = 50mA, I_B = 0A & 80 & - & - \\ \hline h_{FE} & V_{CE} = 4V, I_C = 1A & 60 & - & 200 \\ \hline V_{CE} = 4V, I_C = 0.1A & 35 & - & - \\ \hline V_{CE(sat)} & I_C = 2A, I_B = 0.2A & - & - & 1 \\ \hline V_{BE} & V_{CE} = 4V, I_C = 1A & - & - & 1.5 \\ \hline f_T & V_{CE} = 5V, I_C = 0.5A & - & 10 & - \\ \hline C_{ob} & V_{CB} = 20V, I_E = 0A, f = 1MHz & - & 40 & - \\ \hline \end{array} $	$ \begin{array}{ c c c c c c c c } \hline I_{CBO} & V_{CB} = 80V, I_E = 0A & - & - & 100 & \mu A \\ \hline e & V_{(BR)CEO} & I_C = 50mA, I_B = 0A & 80 & - & - & V \\ \hline h_{FE} & V_{CE} = 4V, I_C = 1A & 60 & - & 200 & - \\ & V_{CE} = 4V, I_C = 0.1A & 35 & - & - & - \\ \hline V_{CE(sat)} & I_C = 2A, I_B = 0.2A & - & - & 1 & V \\ \hline V_{BE} & V_{CE} = 4V, I_C = 1A & - & - & 1.5 & V \\ \hline f_T & V_{CE} = 5V, I_C = 0.5A & - & 10 & - & MHz \\ \hline C_{ob} & V_{CB} = 20V, I_E = 0A, f = 1MHz & - & 40 & - & Pf \\ \hline \end{array} $

## **Classification of hFE**

B	C
60 to 120	100-200
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	B 60 to 120



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