

# TIP30 SERIES (TIP30/30A/30B/30C)

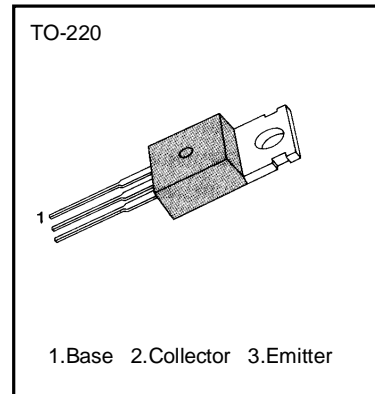
## PNP EPITAXIAL SILICON TRANSISTOR

### MEDIUM POWER LINEAR SWITCHING APPLICATIONS

• Complement to TIP29/29A/29B/29C

### ABSOLUTE MAXIMUM RATINGS

Characteristic	Symbol	Rating	Unit
Collector Emitter Voltage : TIP30	$V_{CBO}$	- 40	V
: TIP30A		- 60	V
: TIP30B		- 80	V
: TIP30C		- 100	V
Collector Emitter Voltage : TIP30	$V_{CEO}$	- 40	V
: TIP30A		- 60	V
: TIP30B		- 80	V
: TIP30C		- 100	V
Emitter-Base Voltage	$V_{EBO}$	- 5	V
Collector Current (DC)	$I_C$	- 1	A
Collector Current (Pulse)	$I_C$	- 3	A
Base Current	$I_B$	- 0.4	A
Collector Dissipation ( $T_C=25^\circ\text{C}$ )	$P_C$	30	W
Collector Dissipation ( $T_A=25^\circ\text{C}$ )	$P_C$	2	W
Junction Temperature	$T_J$	150	$^\circ\text{C}$
Storage Temperature	$T_{STG}$	- 65 ~ 150	$^\circ\text{C}$



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

Characteristic	Symbol	Test Conditions	Min	Max	Unit
*Collector Emitter Sustaining Voltage : TIP30	$BV_{CEO(sus)}$	$I_C = -30\text{mA}, I_B = 0$	-40		V
: TIP30A			-60		V
: TIP30B			-80		V
: TIP30C			-100		V
Collector Cutoff Current : TIP30/30A	$I_{CEO}$	$V_{CE} = -30\text{V}, I_B = 0$		-0.3	mA
: TIP30B/30C		$V_{CE} = -60\text{V}, I_B = 0$		-0.3	mA
Collector Cutoff Current : TIP30	$I_{CES}$	$V_{CE} = -40\text{V}, V_{EB} = 0$		-200	$\mu\text{A}$
: TIP30A		$V_{CE} = -60\text{V}, V_{EB} = 0$		-200	$\mu\text{A}$
: TIP30B		$V_{CE} = -80\text{V}, V_{EB} = 0$		-200	$\mu\text{A}$
: TIP30C		$V_{CE} = -100\text{V}, V_{EB} = 0$		-200	$\mu\text{A}$
Emitter Cutoff Current	$I_{EBO}$	$V_{EB} = -5\text{V}, I_C = 0$		-1.0	mA
*DC Current Gain	$h_{FE}$	$V_{CE} = -4\text{V}, I_C = -0.2\text{A}$	40		
		$V_{CE} = -4\text{V}, I_C = -1\text{A}$	15	75	
*Collector Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C = -1\text{A}, I_B = -125\text{mA}$		-0.7	V
*Base Emitter Saturation Voltage	$V_{BE(on)}$	$V_{CE} = -4\text{V}, I_C = -1\text{A}$		-1.3	V
Current Gain Bandwidth Product	$f_T$	$V_{CE} = -10\text{V}, I_C = -200\text{mA}$ $f = 1\text{MHz}$	3.0		MHz

\* Pulse Test :  $PW \leq 300\mu\text{s}$ , Duty Cycle  $\leq 2\%$

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