

# TIP29 SERIES (TIP29/29A/29B/29C)

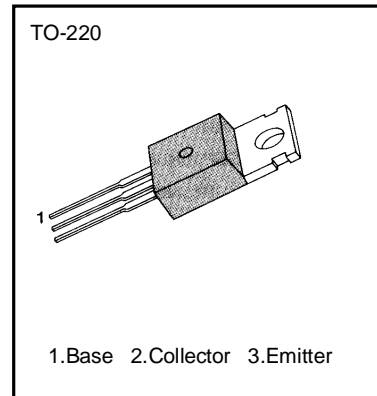
## NPN EPITAXIAL SILICON TRANSISTOR

### MEDIUM POWER LINEAR SWITCHING APPLICATIONS

• Complementary to TIP30/30A/30B/30C

### ABSOLUTE MAXIMUM RATINGS

Characteristic	Symbol	Rating	Unit	
Collector Emitter Voltage	$V_{CBO}$	TIP29	40	V
		TIP29A	60	V
		TIP29B	80	V
		TIP29C	100	V
Collector Emitter Voltage	$V_{CEO}$	TIP29	40	V
		TIP29A	60	V
		TIP29B	80	V
		TIP29C	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	$BV_{CEO(sus)}$	$I_C = 30\text{mA}, I_B = 0$	TIP29	40	V
			TIP29A	60	V
			TIP29B	80	V
			TIP29C	100	V
Collector Cutoff Current	$I_{CEO}$	$V_{CE} = 30\text{V}, I_B = 0$	TIP29/29A	0.3	mA
			TIP29B/29C	0.3	mA
Collector Cutoff Current	$I_{CES}$	$V_{CE} = 40\text{V}, V_{EB} = 0$	TIP29	200	$\mu\text{A}$
			TIP29A	200	$\mu\text{A}$
			TIP29B	200	$\mu\text{A}$
			TIP29C	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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