

isc Silicon NPN Power Transistors

TIP29B

DESCRIPTION

- Collector-Emitter Sustaining Voltage-  
:  $V_{CEO(SUS)} = 80V(\text{Min})$
- Collector-Emitter Saturation Voltage-  
:  $V_{CE(sat)} = 0.7V(\text{Max.})@I_C = 1.0A$
- Complement to Type TIP30B

APPLICATIONS

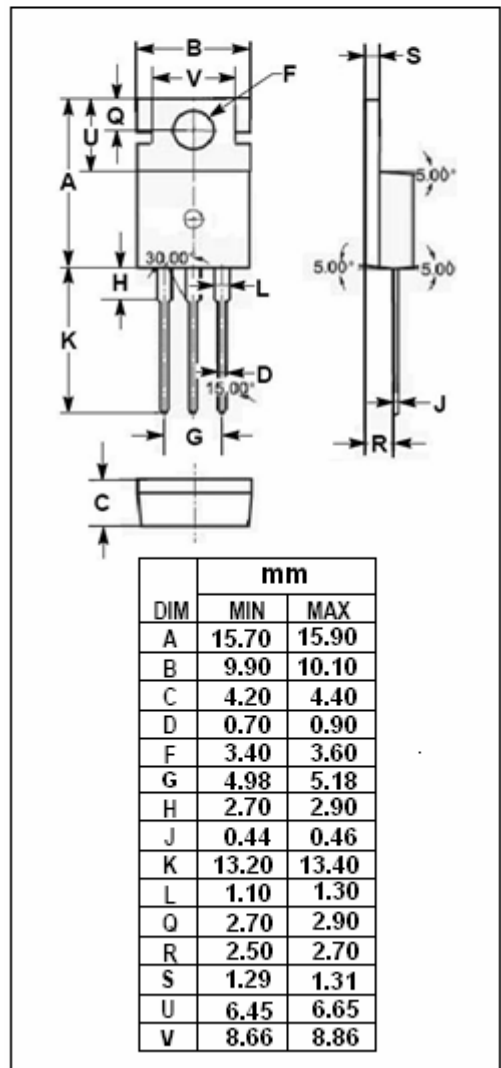
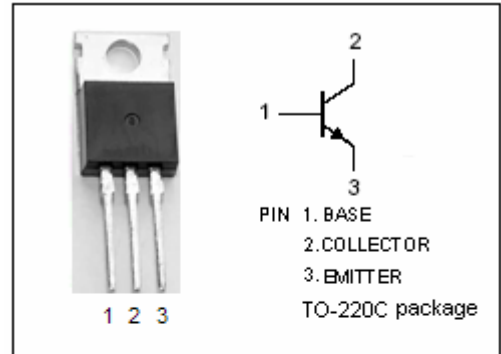
- Designed for use in general purpose amplifier and switching applications.

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

SYMBOL	PARAMETER	VALUE	UNIT
$V_{CBO}$	Collector-Base Voltage	80	V
$V_{CEO}$	Collector-Emitter Voltage	80	V
$V_{EBO}$	Emitter-Base Voltage	5	V
$I_C$	Collector Current-Continuous	1	A
$I_{CM}$	Collector Current-Pulse	3	A
$I_B$	Base Current	0.4	A
$P_C$	Collector Power Dissipation $T_C=25^\circ\text{C}$	30	W
$T_j$	Junction Temperature	150	$^\circ\text{C}$
$T_{stg}$	Storage Temperature Range	-65~150	$^\circ\text{C}$

THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	MAX	UNIT
$R_{th\ j-c}$	Thermal Resistance, Junction to Case	4.17	$^\circ\text{C/W}$
$R_{th\ j-a}$	Thermal Resistance, Junction to Ambient	62.5	$^\circ\text{C/W}$



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## ELECTRICAL CHARACTERISTICS

 $T_C=25^\circ\text{C}$  unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	MAX	UNIT
$V_{CE(sus)}$	Collector-Emitter Sustaining Voltage	$I_C=30\text{mA}; I_B=0$	80		V
$V_{CE(sat)}$	Collector-Emitter Saturation Voltage	$I_C=1\text{A}; I_B=0.125\text{A}$		0.7	V
$V_{BE(on)}$	Base-Emitter On Voltage	$I_C=1\text{A}; V_{CE}=4\text{V}$		1.3	V
$I_{CES}$	Collector Cutoff Current	$V_{CE}=80\text{V}; V_{EB}=0$		0.2	mA
$I_{CEO}$	Collector Cutoff Current	$V_{CE}=60\text{V}; I_B=0$		0.3	mA
$I_{EBO}$	Emitter Cutoff Current	$V_{EB}=5\text{V}; I_C=0$		1.0	mA
$h_{FE-1}$	DC Current Gain	$I_C=0.2\text{A}; V_{CE}=4\text{V}$	40		
$h_{FE-2}$	DC Current Gain	$I_C=1\text{A}; V_{CE}=4\text{V}$	15	75	
$f_T$	Current-Gain—Bandwidth Product	$I_C=0.2\text{A}; V_{CE}=10\text{V}; f=1\text{MHz}$	3		MHz