

# isc Silicon NPN Power Transistor

# 2SD1716

## DESCRIPTION

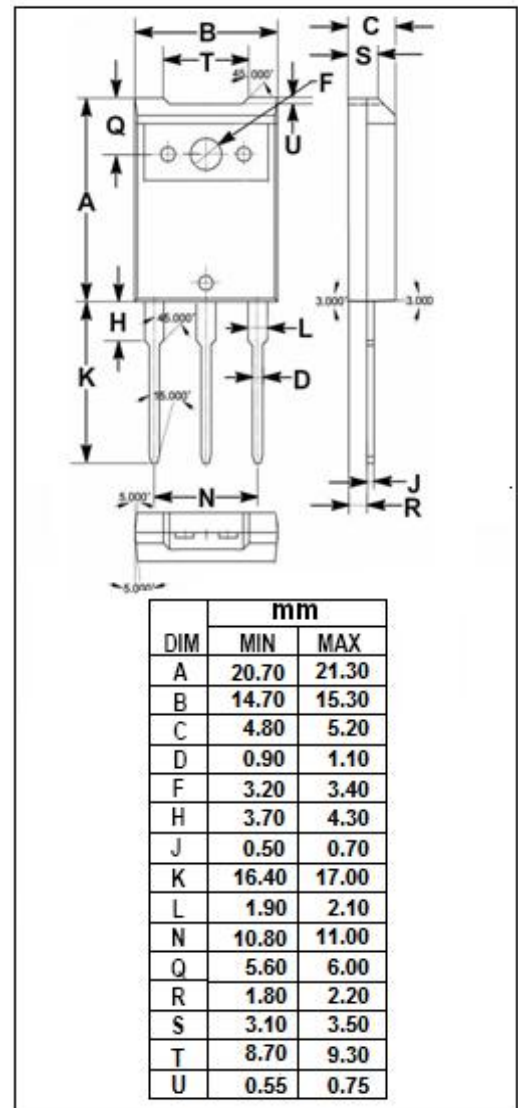
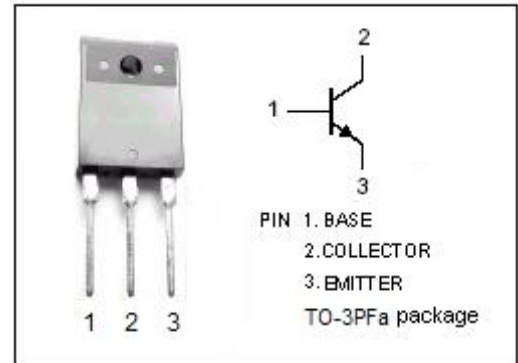
- Collector-Emitter Breakdown Voltage-  
:  $V_{(BR)CEO} = 160V(\text{Min.})$
- Good Linearity of  $h_{FE}$
- Wide Area of Safe Operation
- Complement to Type 2SB1161
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

## APPLICATIONS

- Designed for high power amplifier applications.

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

SYMBOL	PARAMETER	VALUE	UNIT
$V_{CBO}$	Collector-Base Voltage	160	V
$V_{CEO}$	Collector-Emitter Voltage	160	V
$V_{EBO}$	Emitter-Base Voltage	5	V
$I_C$	Collector Current-Continuous	12	A
$I_{CP}$	Collector Current-Pulse	20	A
$P_C$	Collector Power Dissipation @ $T_C=25^\circ\text{C}$	120	W
	Collector Power Dissipation @ $T_a=25^\circ\text{C}$	3	
$T_J$	Junction Temperature	150	$^\circ\text{C}$
$T_{stg}$	Storage Temperature Range	-55~150	$^\circ\text{C}$



**isc Silicon NPN Power Transistor****2SD1716****ELECTRICAL CHARACTERISTICS** $T_C=25^{\circ}\text{C}$  unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	MAX	UNIT
$V_{CE(sat)}$	Collector-Emitter Saturation Voltage	$I_C=8\text{A}; I_B=0.8\text{A}$			2.0	V
$V_{BE(on)}$	Base -Emitter On Voltage	$I_C=8\text{A}; V_{CE}=5\text{V}$			1.8	V
$I_{CBO}$	Collector Cutoff Current	$V_{CB}=160\text{V}; I_E=0$			50	$\mu\text{A}$
$I_{EBO}$	Emitter Cutoff Current	$V_{EB}=3\text{V}; I_C=0$			50	$\mu\text{A}$
$h_{FE-1}$	DC Current Gain	$I_C=20\text{mA}; V_{CE}=5\text{V}$	20			
$h_{FE-2}$	DC Current Gain	$I_C=1\text{A}; V_{CE}=5\text{V}$	60		200	
$h_{FE-3}$	DC Current Gain	$I_C=8\text{A}; V_{CE}=5\text{V}$	20			
$C_{OB}$	Collector Output Capacitance	$I_E=0; V_{CB}=10\text{V}; f=1\text{MHz}$		250		pF
$f_T$	Current-Gain—Bandwidth Product	$I_C=0.5\text{A}; V_{CE}=5\text{V}$		20		MHz

**◆  $h_{FE-2}$  Classifications**

Q	S	P
60-120	80-160	100-200

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