

**Silicon NPN Power Transistor**

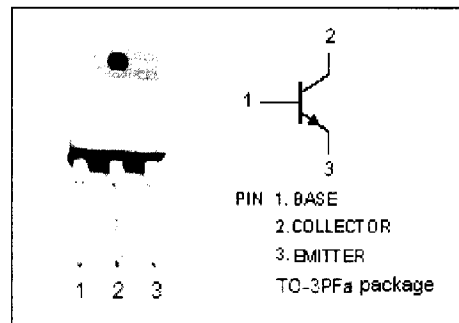
**2SC4689**

**DESCRIPTION**

- Collector-Emitter Breakdown Voltage-  
:  $V_{(BR)CEO} = 120V(\text{Min})$
- Collector-Emitter Saturation Voltage-  
:  $V_{CE(sat)} = 2.0V(\text{Max}) @ I_C = 6A$
- Complement to Type 2SA1804

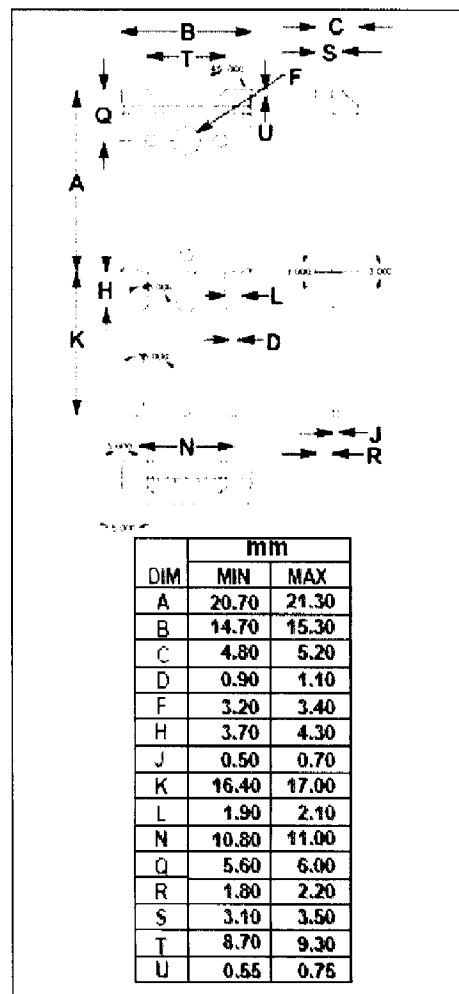
**APPLICATIONS**

- Power amplifier applications
- Recommend for 55W high fidelity audio frequency amplifier output stage applications

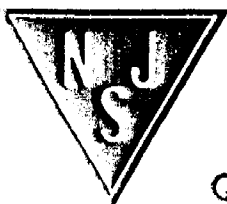


**ABSOLUTE MAXIMUM RATINGS( $T_a=25^\circ\text{C}$ )**

SYMBOL	PARAMETER	VALUE	UNIT
$V_{CBO}$	Collector-Base Voltage	120	V
$V_{CEO}$	Collector-Emitter Voltage	120	V
$V_{EBO}$	Emitter-Base voltage	5	V
$I_C$	Collector Current-Continuous	8	A
$I_{CM}$	Collector Current-Peak	16	A
$I_B$	Base Current-Continuous	0.8	A
$P_C$	Collector Power Dissipation @ $T_c=25^\circ\text{C}$	70	W
$T_J$	Junction Temperature	150	$^\circ\text{C}$
$T_{stg}$	Storage Temperature Range	-55~150	$^\circ\text{C}$



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## ELECTRICAL CHARACTERISTICS

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

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	MAX	UNIT
$V_{(BR)CEO}$	Collector-Emitter Breakdown Voltage	$I_C=50\text{mA}; I_B=0$	120			V
$V_{CE(sat)}$	Collector-Emitter Saturation Voltage	$I_C=6\text{A}; I_B=0.6\text{A}$			2.0	V
$V_{BE(on)}$	Base-Emitter On Voltage	$I_C=4\text{A}; V_{CE}=5\text{V}$			1.5	V
$I_{CBO}$	Collector Cutoff Current	$V_{CB}=120\text{V}; I_E=0$			5.0	$\mu\text{A}$
$I_{EBO}$	Emitter Cutoff Current	$V_{EB}=5\text{V}; I_C=0$			5.0	$\mu\text{A}$
$h_{FE-1}$	DC Current Gain	$I_C=1\text{A}; V_{CE}=5\text{V}$	55		160	
$h_{FE-2}$	DC Current Gain	$I_C=4\text{A}; V_{CE}=5\text{V}$	35			
$f_T$	Current-Gain—Bandwidth Product	$I_C=1\text{A}; V_{CE}=5\text{V}$		30		MHz
$C_{OB}$	Output Capacitance	$I_E=0; V_{CB}=10\text{V}; f_{test}=1\text{MHz}$		190		pF

### ◆ $h_{FE-1}$ Classifications

R	O
55-110	80-160