

isc Silicon NPN Power Transistor
2N5989
DESCRIPTION

- Collector-Emitter Breakdown Voltage-
: $V_{(BR)CEO} = 60V(\text{Min})$
- Low Collector-Emitter Saturation Voltage
- 100% avalanche tested
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

APPLICATIONS

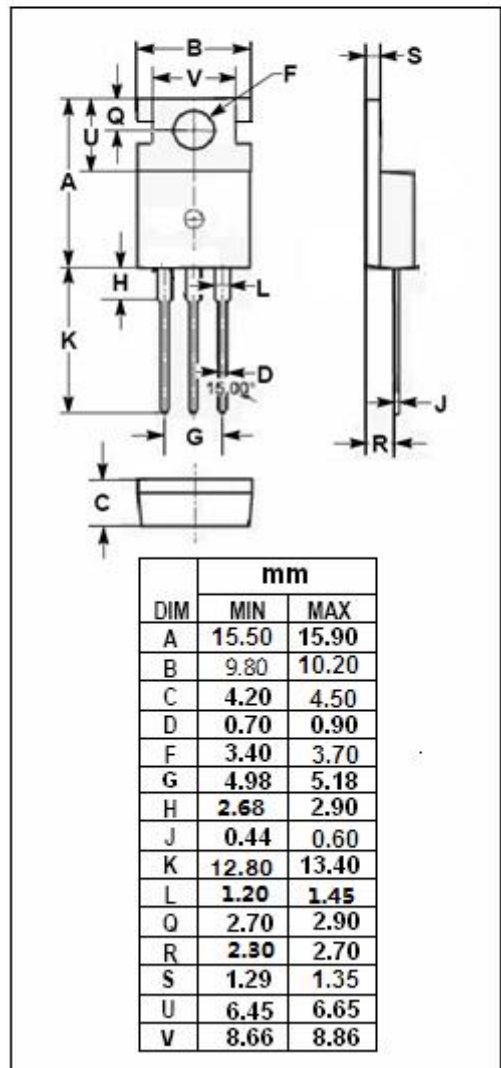
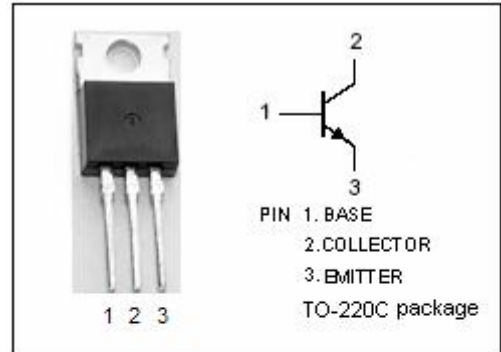
- Designed for use in general purpose amplifier and switching circuits

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

SYMBOL	PARAMETER	VALUE	UNIT
V_{CBO}	Collector-Base Voltage	60	V
V_{CEO}	Collector-Emitter Voltage	40	V
V_{EBO}	Emitter-Base Voltage	5	V
I_C	Collector Current-Continuous	12	A
I_{CM}	Collector Current-Peak	20	A
P_C	Collector Power Dissipation @ $T_C = 25^\circ\text{C}$	100	W
T_J	Junction Temperature	-65~150	$^\circ\text{C}$
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	1.25	$^\circ\text{C}/\text{W}$



isc Silicon NPN Power Transistor**2N5989****ELECTRICAL CHARACTERISTICS****T_c=25°C unless otherwise specified**

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	MAX	UNIT
V _{(BR)CEO}	Collector-Emitter Breakdown Voltage	I _C = 200mA ; I _B = 0	40			V
V _{CE(sat)-1}	Collector-Emitter Saturation Voltage	I _C = 6A; I _B = 0.6A			0.6	V
V _{CE(sat)-2}	Collector-Emitter Saturation Voltage	I _C = 12A; I _B = 1.8A			1.7	V
V _{BE(sat)}	Base-Emitter Saturation Voltage	I _C = 12A; I _B = 1.8A			2.5	V
I _{CEO}	Collector Cutoff Current	V _{CE} = 20V ; I _B = 0			2	mA
I _{EBO}	Emitter Cutoff Current	V _{EB} = 5V ; I _C = 0			1	mA
h _{FE-1}	DC Current Gain	I _C = 1.5A ; V _{CE} = 2V	40			
h _{FE-2}	DC Current Gain	I _C = 6A ; V _{CE} = 2V	20		120	
h _{FE-3}	DC Current Gain	I _C = 12A ; V _{CE} = 2V	7			
f _T	Current-Gain—Bandwidth Product	I _C = 0.5A; V _{CE} = 10V; f _{test} = 1.0MHz	2			MHz

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