

Silicon NPN Power Transistor

2SC5271

DESCRIPTION

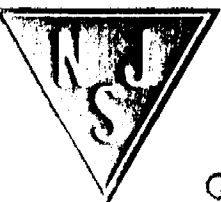
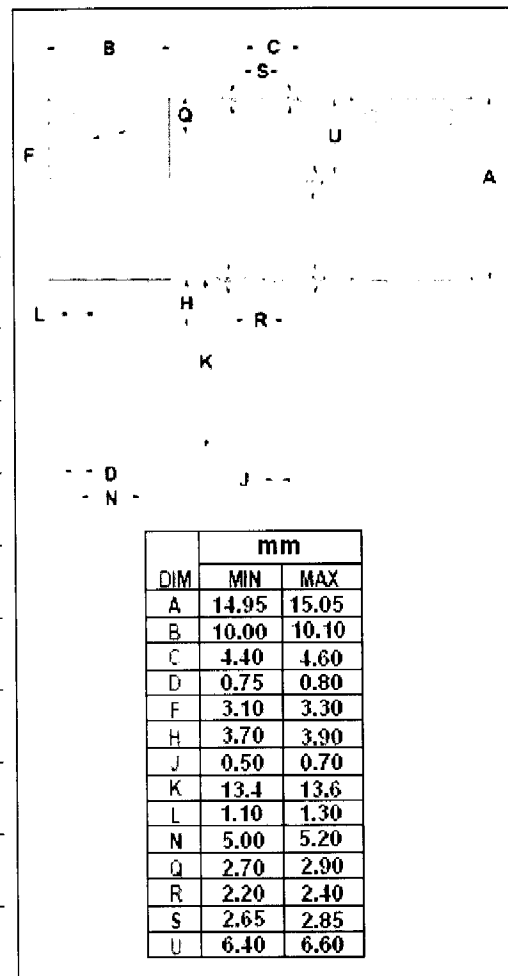
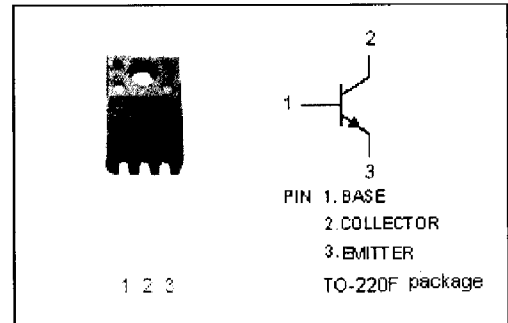
- Collector-Emitter Breakdown Voltage-
 : $V_{(BR)CEO} = 200V(\text{Min})$
- Low Saturation Voltage-
 : $V_{CE(sat)} = 1.0V(\text{Max}) @ (I_C = 2.5A, I_B = 0.5A)$

APPLICATIONS

- Designed for resonant switching regulator and general purpose applications.

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

SYMBOL	PARAMETER	VALUE	UNIT
V_{CBO}	Collector-Base Voltage	300	V
V_{CEO}	Collector-Emitter Voltage	200	V
V_{EBO}	Emitter-Base Voltage	7.0	V
I_C	Collector Current-Continuous	5.0	A
I_{CM}	Collector Current-Pulse	10	A
I_B	Base Current-Continuous	2.0	A
P_T	Total Power Dissipation @ $T_C = 25^\circ\text{C}$	30	W
T_J	Junction Temperature	150	$^\circ\text{C}$
T_{stg}	Storage Temperature	-55~150	$^\circ\text{C}$



NJ Semi-Products reserves the right to change test conditions, parameter limits and package dimensions without notice. Information furnished by NJ Semi-Products is believed to be both accurate and reliable at the time of going to press. However, NJ Semi-Products assumes no responsibility for any errors or omissions discovered in its use. NJ Semi-Products encourages customers to verify that datasheets are current before placing orders.

Silicon NPN Power Transistor

2SC5271

ELECTRICAL CHARACTERISTICS

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

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	MAX	UNIT
$V_{(BR)CEO}$	Collector-Emitter Breakdown Voltage	$I_C=10\text{mA}; I_B=0$	200			V
$V_{CE(sat)}$	Collector-Emitter Saturation Voltage	$I_C=2.5\text{A}; I_B=0.5\text{A}$			1.0	V
$V_{BE(sat)}$	Base-Emitter Saturation Voltage	$I_C=2.5\text{A}; I_B=0.5\text{A}$			1.5	V
I_{CBO}	Collector Cutoff Current	$V_{CB}=300\text{V}; I_E=0$			100	μA
I_{EBO}	Emitter Cutoff Current	$V_{EB}=7\text{V}; I_C=0$			100	μA
h_{FE-1}	DC Current Gain	$I_C=2.5\text{A}; V_{CE}=2\text{V}$	10		30	
h_{FE-2}	DC Current Gain	$I_C=1\text{mA}; V_{CE}=2\text{V}$	15			
C_{OB}	Output Capacitance	$I_E=0; V_{CB}=10\text{V}; f=1.0\text{MHz}$		45		pF
f_T	Current-Gain—Bandwidth Product	$I_C=0.5\text{A}; V_{CE}=12\text{V}$		10		MHz

Switching times

t_{on}	Turn-on Time	$I_C=2.5\text{A}, R_L=60\Omega,$ $I_{B1}=0.5\text{A}; I_{B2}=-1.0\text{A}, V_{CC}=150\text{V}$			0.3	μs
t_{stg}	Storage Time				1.0	μs
t_f	Fall Time				0.1	μs