

Silicon NPN Power Transistor

2SC5002

DESCRIPTION

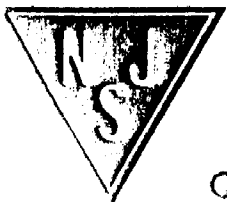
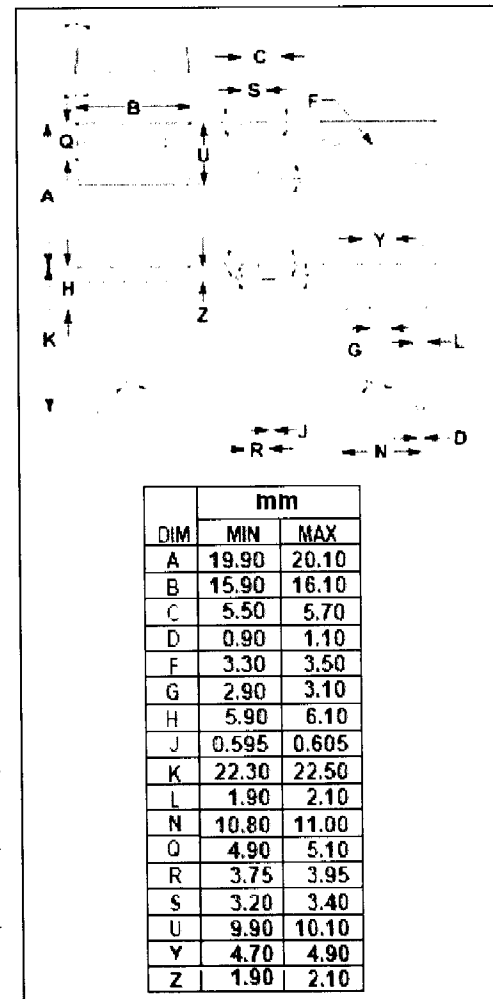
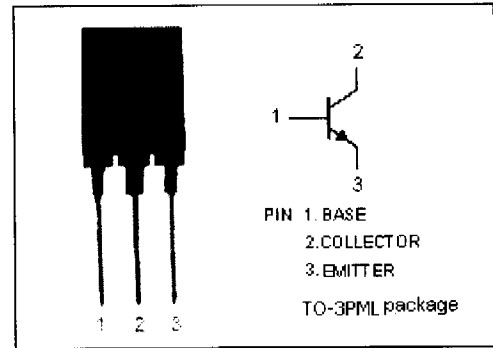
- Collector-Emitter Breakdown Voltage-
 : $V_{(BR)CEO} = 800V(\text{Min})$
- High Switching Speed

APPLICATIONS

- Designed for display horizontal deflection output, switching regulator and general purpose applications.

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

SYMBOL	PARAMETER	VALUE	UNIT
V_{CBO}	Collector-Base Voltage	1500	V
V_{CEO}	Collector-Emitter Voltage	800	V
V_{EBO}	Emitter-Base Voltage	6	V
I_C	Collector Current-Continuous	7	A
I_{CM}	Collector Current-Peak	14	A
I_B	Base Current-Continuous	3.5	A
P_C	Collector Power Dissipation @ $T_c = 25^\circ\text{C}$	80	W
T_J	Junction Temperature	150	$^\circ\text{C}$
T_{stg}	Storage Temperature	-55-150	$^\circ\text{C}$



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ELECTRICAL CHARACTERISTICS

T_j=25°C unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	MAX	UNIT
V _{(BR)CEO}	Collector-Emitter Breakdown Voltage	I _C = 10mA; I _B = 0	800			V
V _{CE(sat)}	Collector-Emitter Saturation Voltage	I _C = 5A; I _B = 1.2A			5.0	V
V _{BE(sat)}	Base-Emitter Saturation Voltage	I _C = 5A; I _B = 1.2A			1.5	V
I _{CBO}	Collector Cutoff Current	V _{CB} = 1200V; I _E = 0 V _{CB} = 1500V; I _E = 0			0.1 1.0	mA
I _{EBO}	Emitter Cutoff Current	V _{EB} = 6V; I _C = 0			0.1	mA
h _{FE-1}	DC Current Gain	I _C = 1A; V _{CE} = 5V	8			
h _{FE-2}	DC Current Gain	I _C = 5A; V _{CE} = 5V	4		9	
C _{OB}	Output Capacitance	I _E = 0; V _{CB} = 10V; f= 1MHz		100		pF
f _T	Current-Gain—Bandwidth Product	I _E = -0.5A; V _{CE} = 12V		4		MHz

Switching Times

t _{stg}	Storage Time	I _C = 4A; I _{B1} = 0.8A; I _{B2} = -1.6A; V _{CC} = 200V; R _L = 50 Ω			4.0	μs
t _f	Fall Time				0.2	μs