

Silicon PNP Power Transistor

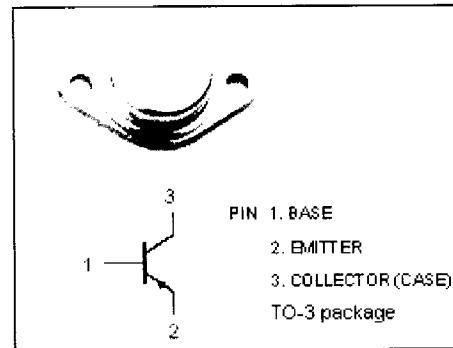
2SA1042

DESCRIPTION

- High Current Capability
- Good Linearity of h_{FE}
- Collector-Emitter Breakdown Voltage-
 $V_{(BR)CEO} = -70V(\text{Min.})$
- Complement to Type 2SC2432

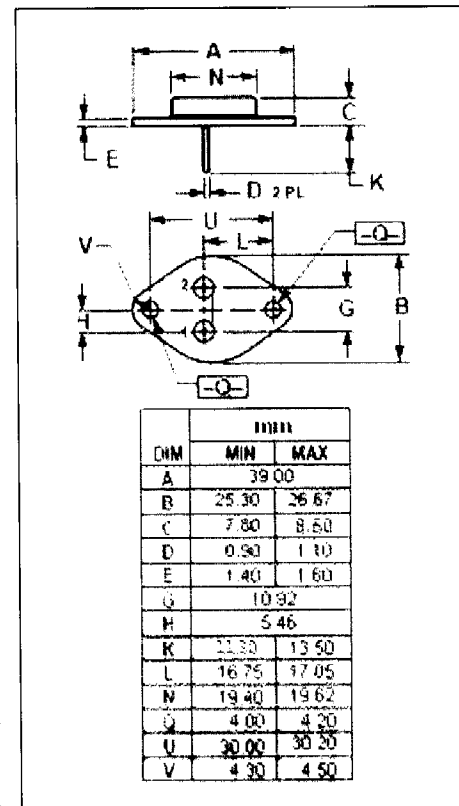
APPLICATIONS

- Designed for high speed, high voltage switching systems.

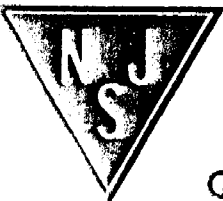


ABSOLUTE MAXIMUM RATINGS($T_a=25^\circ\text{C}$)

SYMBOL	PARAMETER	VALUE	UNIT
V_{CBO}	Collector-Base Voltage	-70	V
V_{CEO}	Collector-Emitter Voltage	-70	V
V_{EBO}	Emitter-Base Voltage	-5	V
I_C	Collector Current-Continuous	-15	A
I_B	Base Current-Continuous	-5	A
P_C	Collector Power Dissipation @ $T_c=25^\circ\text{C}$	100	W
T_j	Junction Temperature	175	$^\circ\text{C}$
T_{stg}	Storage Temperature	-65~175	$^\circ\text{C}$



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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; R _{BE} = ∞	-70			V
V _{(BR)CBO}	Collector-Base Breakdown Voltage	I _C = -50 μA; I _E = 0	-70			V
V _{(BR)EBO}	Emitter-Base Breakdown Voltage	I _E = -1mA; I _C = 0	-5			V
V _{CE(sat)}	Collector-Emitter Saturation Voltage	I _C = -7A; I _B = -0.7A			-1.5	V
V _{BE(sat)}	Base-Emitter Saturation Voltage	I _C = -7A; I _B = -0.7A			-1.8	V
I _{CBO}	Collector Cutoff Current	V _{CB} = -70V; I _E = 0			-50	μ A
I _{CEO}	Collector Cutoff Current	V _{CE} = -70V; I _B = 0			-1	mA
I _{EBO}	Emitter Cutoff Current	V _{EB} = -4V; I _C = 0			-50	μ A
h _{FE-1}	DC Current Gain	I _C = -1.5A; V _{CE} = -5V	35		200	
h _{FE-2}	DC Current Gain	I _C = -15A; V _{CE} = -5V	10			
C _{OB}	Output Capacitance	I _E = 0; V _{CB} = -10V; f= 1.0MHz		350		pF
f _T	Current-Gain—Bandwidth Product	I _C = -1A; V _{CE} = -10V		60		MHz

Switching Times

t _r	Rise Time	I _C = -7.5A; I _{B1} = -I _{B2} = -0.75A; R _L = 4Ω			0.8	μ s
t _{stg}	Storage Time				1.0	μ s
t _f	Fall Time				0.8	μ s