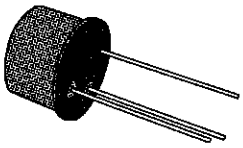
SGS-THOMSON MICROELECTRONICS

2N5415S

HIGH-VOLTAGE AMPLIFIER

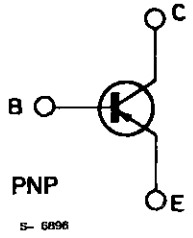
DESCRIPTION

The 2N5415S is a silicon planar epitaxial PNP transistor in Jedec TO-39 metal case, intended for high vol-tage switching and linear amplifier applications.



TO-39

INTERNAL SCHEMATIC DIAGRAM



ABSOLUTE MAXIMUM RATINGS

Symbol	Parameter	Value	Unit
V_{CBO}	Collector-base Voltage (I_E = 0)	– 200	V
V_{CEO}	Collector-emitter Voltage (I_B = 0)	– 200	V
V_{EBO}	Emitter-base Voltage (I_C = 0)	– 4	V
I_{CM}	Collector Peak Current	– 1	A
P_{tot}	Total Power Dissipation at $T_{amb} \leq 25$ °C at $T_{case} \leq 25$ °C	1 10	W W
T_{stg}, T_j	Storage and Junction Temperature	– 55 to 200	°C

THERMAL DATA

$R_{th\ j\text{-}case}$	Thermal Resistance Junction-case	Max	17.5	°C/W
$R_{th\ j\text{-}amb}$	Thermal Resistance Junction-ambient	Max	175	°C/W

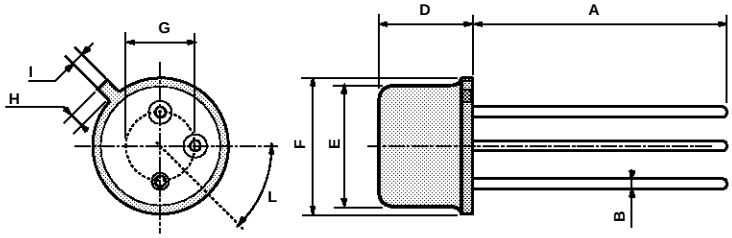
ELECTRICAL CHARACTERISTICS (T_{amb} = 25 °C unless otherwise specified)

Symbol	Parameter	Test Conditions	Min.	Typ.	Max.	Unit
I_{CBO}	Collector Cutoff Current (I_E = 0)	V_{CB} = – 175 V			– 50	µA
I_{CEO}	Collector Cutoff Current (I_B = 0)	V_{CE} = – 150 V			– 50	µA
I_{EBO}	Emitter Cutoff Current (I_C = 0)	V_{EB} = – 4 V			– 20	µA
$V_{(BR)CEO}$*	Collector-emitter Breakdown Voltage (I_B = 0)	I_C = – 2 mA	– 200			V
$V_{CE(sat)}$*	Collector-emitter Saturation Voltage	I_C = – 50 mA I_B = – 5 mA			– 2.5	V
V_{BE}*	Base-Emitter Voltage	I_C = – 50 mA V_{CE} = – 10 V			– 1.5	V
h_{FE}*	DC Current Gain	I_C = – 50 A V_{CE} = – 10 V	30		150	
f_T	Transition Frequency	I_C = – 10 mA V_{CE} = – 10 V f = 5 MHz	15			MHz
C_{CBO}	Collector-base Capacitance	I_E = 0 V_{CB} = – 10 V f = 1 MHz			15	pF

* Pulsed : pulse duration = 300 µs, duty cycle = 1 %.

TO39 MECHANICAL DATA

DIM.	mm			inch		
	MIN.	TYP.	MAX.	MIN.	TYP.	MAX.
A	12.7			0.500		
B			0.49			0.019
D			6.6			0.260
E			8.5			0.334
F			9.4			0.370
G	5.08			0.200		
H			1.2			0.047
I			0.9			0.035
L	45^{o} (typ.)					



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