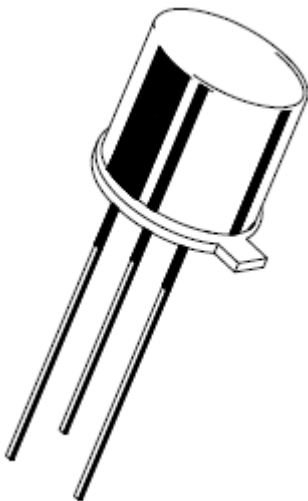


NPN Switching Transistor



TO-18

Features:

- High current (Maximum 600 mA)

Applications:

Designed for high speed switching application at collector current up to 0.5 A and feature useful current gain over a wide range of collector current, low leakage current and low saturation voltage

Absolute Maximum Ratings ($T_a = 25^\circ\text{C}$)

Symbol	Parameter	Value	Unit
V_{CBO}	Collector - base voltage	75	V
V_{CEO}	Collector - emitter voltage	40	V
V_{EBO}	Emitter - base voltage	6	V
I_C	Collector current	0.8	A
P_{tot}	Total dissipation at $T_A = 25^\circ\text{C}$	0.5	W
	Total dissipation at $T_C = 25^\circ\text{C}$	1.8	W
T_J	Junction temperature	175	$^\circ\text{C}$
T_{stg}	Storage temperature	-65 to 200	$^\circ\text{C}$

Thermal Characteristics

Symbol	Parameter	Maximum	Unit
$R_{th\ j-a}$	Thermal resistance, junction to ambient	300	$^\circ\text{C/W}$
$R_{th\ j-c}$	Thermal resistance, junction to case	83.3	$^\circ\text{C/W}$



NPN Switching Transistor



Electrical Characteristics ($T_C = 25^\circ\text{C}$ Unless Otherwise Specified)

Symbol	Parameter	Conditions	Minimum	Maximum	Unit
$V_{(BR) CBO}$	Collector - base breakdown voltage	$I_C = 10 \mu\text{A}; I_E = 0$	75	-	V
$V_{(BR) CEO}$	Collector - emitter Breakdown Voltage	$I_C = 10 \text{ mA}; I_E = 0$	40	-	V
$V_{(BR) EBO}$	Emitter - base breakdown voltage	$I_C = 10 \mu\text{A}; I_E = 0$	6	-	V
I_{CBO}	Collector cut off current	$V_{CE} = 60 \text{ V}; I_B = 0$	-	10	nA
I_{EBO}	Emitter cut off current	$V_{EB} = 3 \text{ V}; I_C = 0$	-	10	nA
$V_{CE (sat) 1}$	Collector - emitter saturation voltage	$I_C = 150 \text{ mA}; I_B = 15 \text{ mA}$	-	0.4	V
$V_{CE (sat) 2}$	Collector - emitter saturation voltage	$I_C = 500 \text{ mA}; I_B = 50 \text{ mA}$	-	1	V
$V_{BE (sat) 1}$	Base - emitter saturation voltage	$I_C = 150 \text{ mA}; I_B = 15 \text{ mA}$	0.6	1.2	V
$V_{BE (sat) 2}$	Base - emitter saturation voltage	$I_C = 500 \text{ mA}; I_B = 50 \text{ mA}$	-	2	V
H_{FE1}	DC current gain	$I_C = 0.5 \text{ A}; V_{CE} = 10 \text{ V}$	40	-	-
H_{FE2}	DC current gain	$I_C = 0.15 \text{ A}; V_{CE} = 10 \text{ V}$	100	300	-
f_T	Transition frequency	$I_C = 20 \text{ mA}; V_{CE} = 20 \text{ V}; f = 100 \text{ MHz}$	300	-	MHz
C_{EBO}	Emitter base capacitance	$I_C = 0; V_{EB} = 0.5 \text{ V}; f = 100 \text{ MHz}$	-	25	pF
C_{CBO}	Collector base capacitance	$I_C = 0; V_{EB} = 10 \text{ V}; f = 100 \text{ MHz}$	-	8	pF

Part Number Table

Description	Part Number
NPN Switching Transistor	2N2222A

Important Notice : This data sheet and its contents (the "Information") belong to the members of the Premier Farnell group of companies (the "Group") or are licensed to it. No licence is granted for the use of it other than for information purposes in connection with the products to which it relates. No licence of any intellectual property rights is granted. The Information is subject to change without notice and replaces all data sheets previously supplied. The Information supplied is believed to be accurate but the Group assumes no responsibility for its accuracy or completeness, any error in or omission from it or for any use made of it. Users of this data sheet should check for themselves the Information and the suitability of the products for their purpose and not make any assumptions based on information included or omitted. Liability for loss or damage resulting from any reliance on the Information or use of it (including liability resulting from negligence or where the Group was aware of the possibility of such loss or damage arising) is excluded. This will not operate to limit or restrict the Group's liability for death or personal injury resulting from its negligence. Multicomp is the registered trademark of the Group. © Premier Farnell plc 2011.