

RoHS
Compliant



Features

- NPN Silicon Planar Switching Transistor
- Switching and Linear application DC and VHF Amplifier applications

Absolute Maximum Ratings (T_A = 25°C unless otherwise specified)

Parameter	Symbol	Values	Unit
Collector Emitter Voltage	V _{CEO}	30	V
Collector Base Voltage	V _{CBO}	60	
Emitter Base Voltage	V _{EBO}	5	
Collector Current Continuous	I _C	800	mA
Power Dissipation at T _A = 25°C Derate above 25°C	P _D	500 2.28	mW mW / °C
Power Dissipation at T _c = 25°C Derate above 25°C	P _D	1.2 6.85	W mW / °C
Operating and Storage Junction Temperature Range	T _J , T _{stg}	-65 to +200	°C

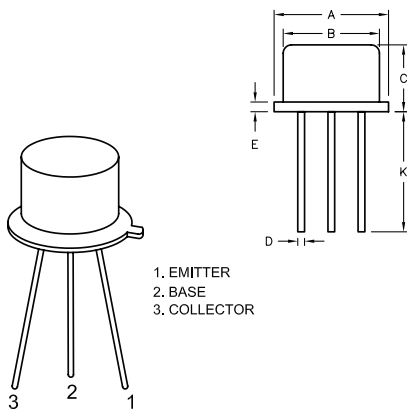
Electrical Characteristics (T_A = 25°C unless otherwise specified)

Parameter	Symbol	Test Condition	Value		
			Minimum	Maximum	Unit
Collector Emitter Breakdown Voltage	BV _{CEO}	I _C = 10mA, I _B = 0	30	-	V
Collector Base Breakdown Voltage	BV _{CBO}	I _C = 10μA, I _E = 0	60	-	
Emitter Base Breakdown Voltage	V _{EBOF}	I _E = 10μA, I _C = 0	5	-	
Collector Leakage Current	I _{CBO}	V _{CB} = 50V, I _E = 0 V _{CB} = 50V, I _E = 0 T _A = 150°C	-	10 10	nA μA
Collector Emitter Saturation Voltage	*V _{CE(SAT)}	I _C = 150mA, I _B = 15mA I _C = 500mA, I _B = 50mA	-	0.4 1.6	V
Base Emitter Saturation Voltage	*V _{BE(SAT)}	I _C = 150mA, I _B = 15mA I _C = 500mA, I _B = 50mA	0.6	1.3 2.6	
DC Current Gain	h _{FE}	I _C = 0.1mA, V _{CE} = 10V* I _C = 1mA, V _{CE} = 10V I _C = 10mA, V _{CE} = 10V* I _C = 150mA, V _{CE} = 1V* I _C = 150mA, V _{CE} = 1V* I _C = 500mA, V _{CE} = 10V*	35 50 75 50 100 30	300	-
Dynamic Characteristics					
Transition Frequency	f _t	I _C = 20mA, V _{CE} = 20V f = 100MHz	250	-	MHz
Output Capacitance	C _{ob}	V _{CB} = 10V, I _E = 0 f = 100 kHz	-	8	pF
Input Capacitance	C _{ib}	V _{EB} = 0.5V, I _C = 0 f = 100 kHz	-	30	

Parameter	Symbol	Test Condition	Value		
			Minimum	Maximum	Unit
Switching Characteristics					
Delay Time	t_d	$I_c = 150\text{mA}, I_{B1} = 15\text{mA}$	-	10	ns
Rise Time	t_r	$V_{CC} = 30\text{V}, V_{BE(\text{off})} = 0.5\text{V}$	-	25	
Storage Time	t_s	$I_c = 150\text{mA}, I_{B1} = 15\text{mA}$	-	225	
Fall Time	t_f	$I_{B2} = 15\text{mA}, V_{CC} = 30\text{V}$	-	60	

*Pulse Condition: Pulse Width $\leq 300\mu\text{s}$, Duty Cycle $\leq 2\%$

TO-18 Metal Can Package



1. EMITTER
2. BASE
3. COLLECTOR

Dimensions	Minimum	Maximum
A	5.24	5.84
B	4.52	4.97
C	4.31	5.33
D	0.4	0.53
E	-	0.76
F	-	1.27
G	-	2.97
H	0.91	1.17
J	0.71	1.21
K	12.7	-
L	45°	

Dimensions : Millimetres

Part Number Table

Description	Part Number
Transistor, NPN, TO - 18	2N2222

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