



TO-92 Plastic-Encapsulate Transistors

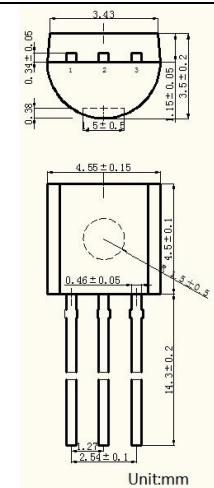
ALJ13003-72 TRANSISTOR (NPN)

FEATURES

Power switching applications

MAXIMUM RATINGS ($T_a=25^{\circ}\text{C}$ unless otherwise noted)

Symbol	Parameter	Value	Unit
V_{CBO}	Collector-Base Voltage	600	V
V_{CEO}	Collector-Emitter Voltage	480	V
V_{EBO}	Emitter-Base Voltage	9	V
I_{C}	Collector Current	0.5	A
P_{C}	Collector Power Dissipation	800	mW
T_{j}	Junction Temperature	150	$^{\circ}\text{C}$
T_{stg}	Storage Temperature	-55~150	$^{\circ}\text{C}$



1. EMITTER
2. COLLECTOR
3. BASE

ELECTRICAL CHARACTERISTICS ($T_a=25^{\circ}\text{C}$ unless otherwise specified)

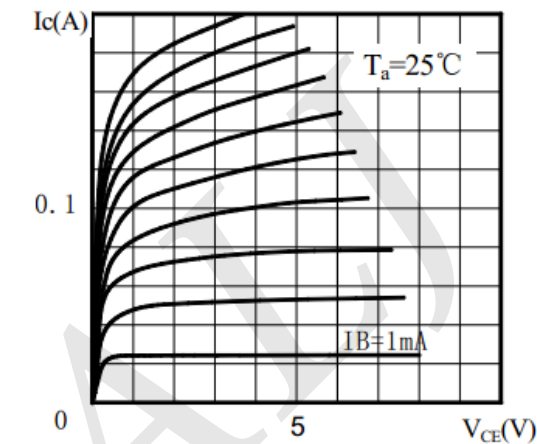
Parameter	Symbol	Test conditions	Min	Typ	Max	Unit
Collector-base breakdown voltage	$V_{(\text{BR})\text{CBO}}$	$I_{\text{C}}=100\mu\text{A}, I_{\text{E}}=0$	600			V
Collector-emitter breakdown voltage	$V_{(\text{BR})\text{CEO}}$	$I_{\text{C}}=1\text{mA}, I_{\text{B}}=0$	480			V
Emitter-Base breakdown voltage	$V_{(\text{BR})\text{EBO}}$	$I_{\text{E}}=100\mu\text{A}, I_{\text{C}}=0$	9			V
Collector cut-off current	I_{CBO}	$V_{\text{CB}}=600\text{V}, I_{\text{E}}=0$			10	μA
Emitter cut-off current	I_{EBO}	$V_{\text{EB}}=9\text{V}, I_{\text{C}}=0$			10	μA
DC current gain	h_{FE}	$V_{\text{CE}}=10\text{V}, I_{\text{C}}=400\text{mA}$	15		30	
Collector-emitter saturation voltage	$V_{\text{CE(sat)}}$	$I_{\text{C}}=200\text{mA}, I_{\text{B}}=40\text{mA}$			0.6	V
Base-emitter saturation voltage	$V_{\text{BE(sat)}}$	$I_{\text{C}}=200\text{mA}, I_{\text{B}}=40\text{mA}$			1.5	V
Transition frequency	f_{T}	$V_{\text{CE}}=10\text{V}, I_{\text{C}}=0.1\text{A}, f=1\text{MHZ}$	5			MHZ
Storage time	t_{s}	UI9600, $I_{\text{C}}=0.1\text{A}$	2		5	μS
Rise time	t_{r}				1	μS
Fall time	t_{f}				1	μS

CLASSIFICATION OF h_{FE}

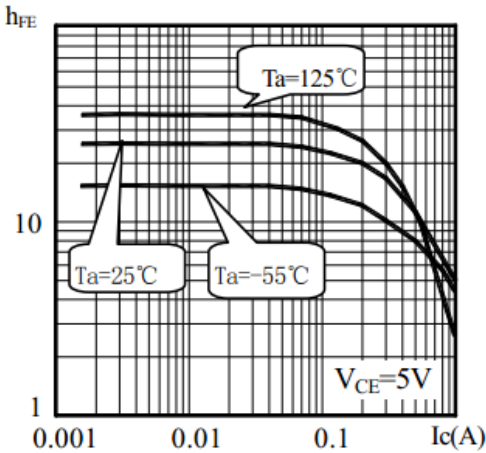
Rank			
Range	15-20	20-25	25-30

Typical Characteristics

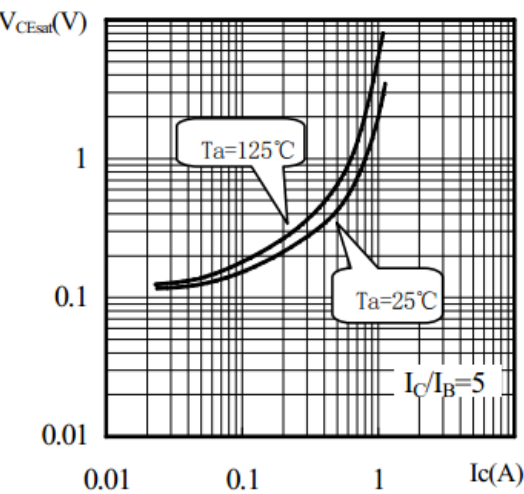
输出特性曲线 (I_C - V_{CE})



h_{FE} - I_C 关系曲线



V_{CEsat} - I_C 关系曲线



V_{BEsat} - I_C 关系曲线

