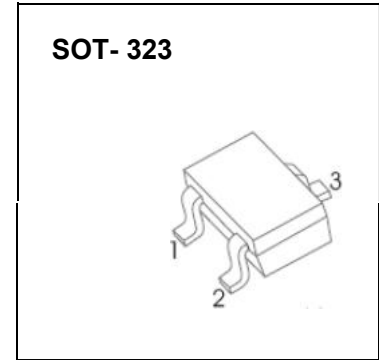


TRANSISTOR (NPN)

FEATURE

High DC current gain : $h_{FE}=200(\text{Typ})$ $V_{CE}=6V$, $I_C=1mA$

High voltage: $V_{CEO}=50V$



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

Symbol	Parameter	Value	Units
V_{CBO}	Collector-Base Voltage	60	V
V_{CEO}	Collector-Emitter Voltage	50	V
V_{EBO}	Emitter-Base Voltage	5	V
I_C	Collector Current -Continuous	100	mA
P_C	Collector Power Dissipation	200	mW
T_J	Junction Temperature	150	$^\circ\text{C}$
T_{stg}	Storage Temperature	-55-150	$^\circ\text{C}$

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

Parameter	Symbol	Test conditions	MIN	TYP	MAX	UNIT
Collector-base breakdown voltage	$V_{(BR)CBO}$	$I_C=100\mu A$, $I_E=0$	60			V
Collector-emitter breakdown voltage	$V_{(BR)CEO}$	$I_C=1mA$, $I_B=0$	50			V
Emitter-base breakdown voltage	$V_{(BR)EBO}$	$I_E=100\mu A$, $I_C=0$	5			V
Collector cut-off current	I_{CBO}	$V_{CB}=60V$, $I_E=0$			0.1	μA
Emitter cut-off current	I_{EBO}	$V_{EB}=5V$, $I_C=0$			0.1	μA
DC current gain	h_{FE}	$V_{CE}=6V$, $I_C=1mA$	90		700	
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C=100mA$, $I_B=10mA$			0.3	V
Base-emitter saturation voltage	$V_{BE(sat)}$	$I_C=100mA$, $I_B=10mA$			1	V
Transition frequency	f_T	$V_{CE}=6V$, $I_C=10mA$		250		MHz

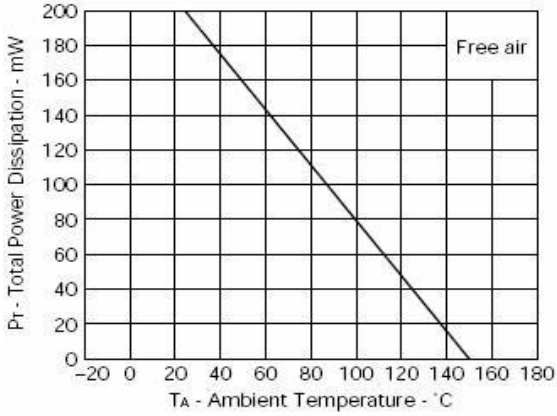
CLASSIFICATION OF h_{FE}

Range	90-180	135-270	200-400	400-700
Marking	L4	L5	L6	L7

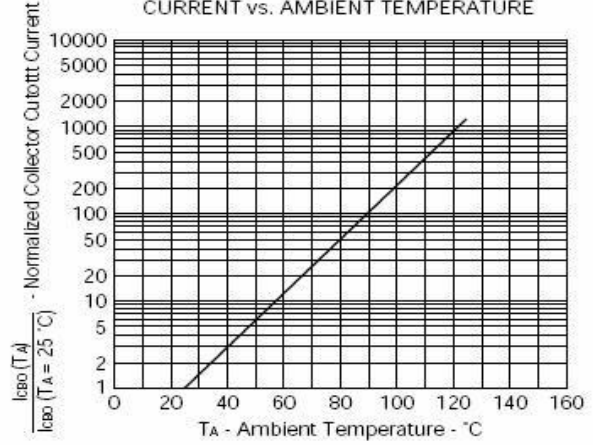


Typical Characteristics

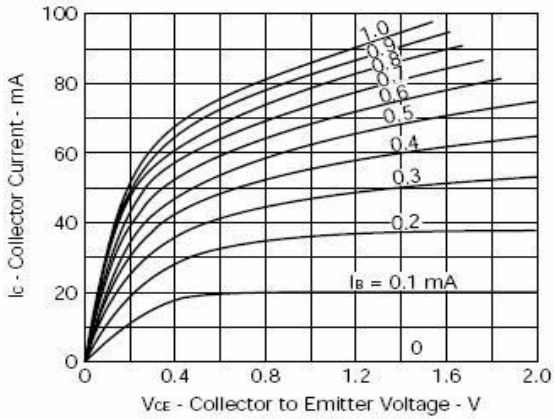
TOTAL POWER DISSIPATION vs. AMBIENT TEMPERATURE



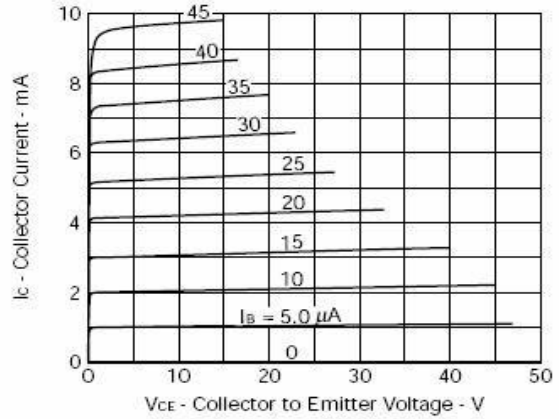
NORMALIZED COLLECTOR CUTOFF CURRENT vs. AMBIENT TEMPERATURE



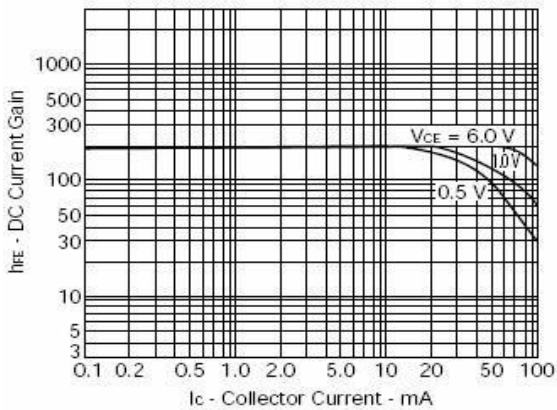
COLLECTOR CURRENT vs. COLLECTOR TO EMITTER VOLTAGE



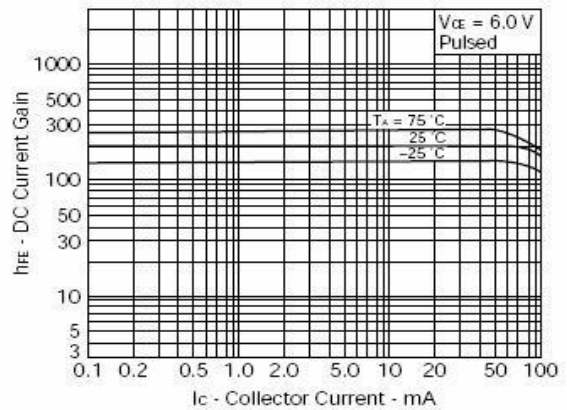
COLLECTOR CURRENT vs. COLLECTOR TO EMITTER VOLTAGE



DC CURRENT GAIN vs. COLLECTOR CURRENT



DC CURRENT GAIN vs. COLLECTOR CURRENT

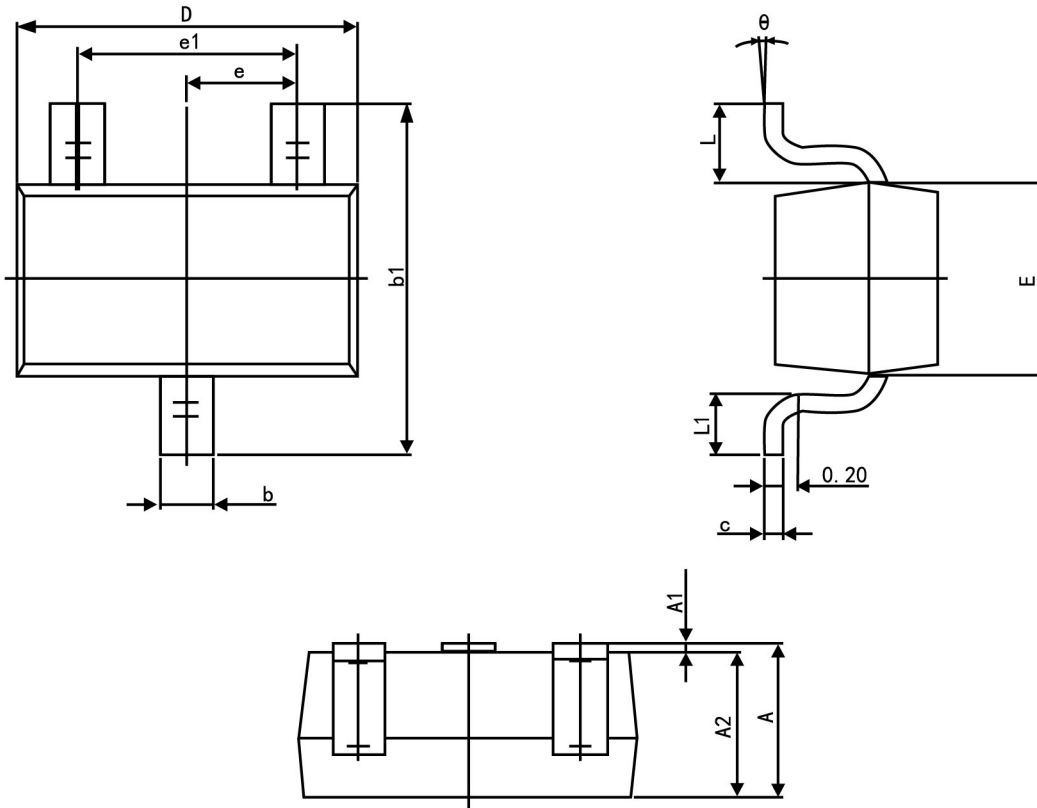




PACKAGE OUTLINE

Plastic surface mounted package; 3 leads

SOT-323



Symbol	Dimension in Millimeters	
	Min	Max
A	0.900	1.100
A1	0.000	0.100
A2	0.900	1.000
b	0.200	0.400
c	0.080	0.150
D	2.000	2.200
E	1.150	1.350
E1	2.150	2.450
e	0.650 TYP.	
e1	1.200	1.400
L	0.525 REF.	
L1	0.260	0.460
θ	0°	8°