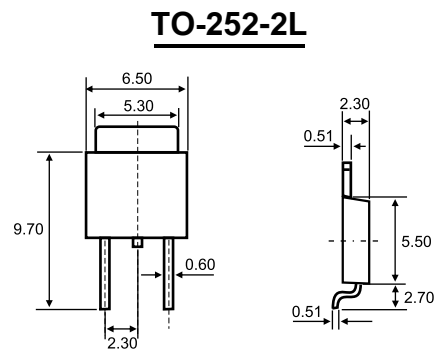
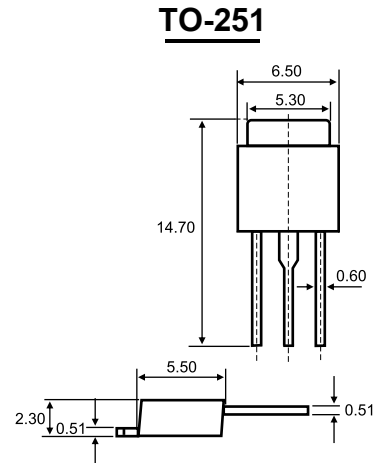




1. BASE
2. COLLECTOR
3. EMITTER

## Features

- ✧ Low  $V_{CE(sat)}$ .  $V_{CE(sat)} = -0.5V$  (Typ.) ( $I_C/I_B = -2A / -0.2A$ )
- ✧ Complements the 2SD1760 / 2SD1864.



Dimensions in inches and (millimeters)

## MAXIMUM RATINGS ( $T_A=25^\circ C$ 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	-3	A
$P_C$	Collector Power Dissipation	1	W
$T_J$	Junction Temperature	150	$^\circ C$
$T_{stg}$	Storage Temperature	-55-150	$^\circ C$

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

Parameter	Symbol	Test conditions	MIN	TYP	MAX	UNIT
Collector-base breakdown voltage	$V_{(BR)CBO}$	$I_C=-50\mu A, I_E=0$	-60			V
Collector-emitter breakdown voltage	$V_{(BR)CEO}$	$I_C=-1mA, I_B=0$	-50			V
Emitter-base breakdown voltage	$V_{(BR)EBO}$	$I_E=-50\mu A, I_C=0$	-5			V
Collector cut-off current	$I_{CBO}$	$V_{CB}=-40V, I_E=0$			-1	$\mu A$
Emitter cut-off current	$I_{EBO}$	$V_{EB}=-4V, I_C=0$			-1	$\mu A$
DC current gain	$h_{FE(1)}$	$V_{CE}=-3V, I_C=-0.5A$	82		390	
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C=-2A, I_B=-0.2A$			-1	V
Base-emitter saturation voltage	$V_{BE(sat)}$	$I_C=-1.5A, I_B=-0.15A$			-1.2	V
Transition frequency	$f_T$	$V_{CE}=-5V, I_C=-0.5A, f=30MHz$		70		MHz
Collector output capacitance	$C_{ob}$	$V_{CB}=-10V, I_E=0, f=1MHz$		50		pF

## CLASSIFICATION OF $h_{FE(1)}$

Rank	P	Q	R
Range	82-180	120-270	180-390
Marking			

## Typical Characteristics

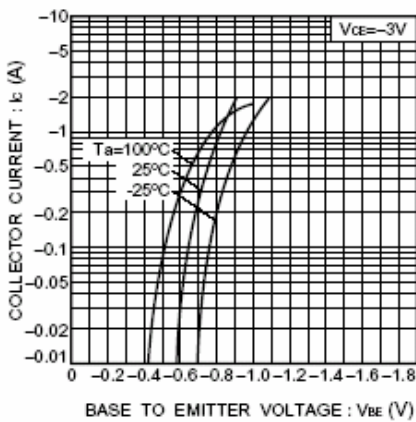


Fig.1 Grounded emitter propagation characteristics

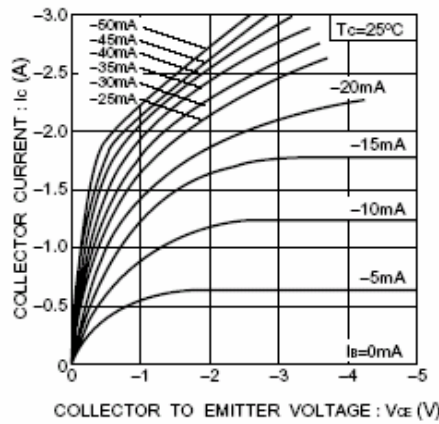


Fig.2 Grounded emitter output characteristics ( I )

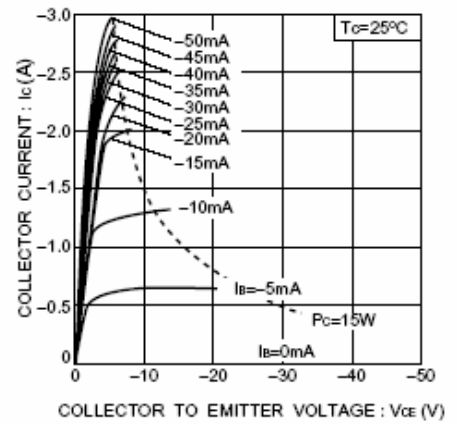


Fig.3 Grounded emitter output characteristics ( II )

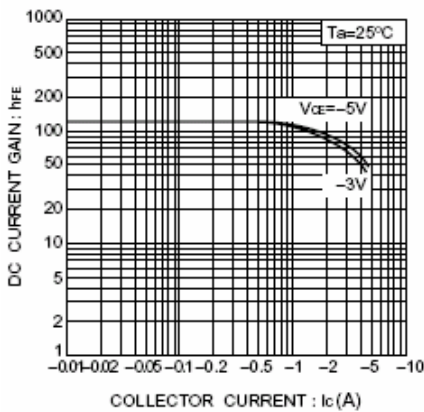


Fig.4 DC current gain vs. collector current ( I )

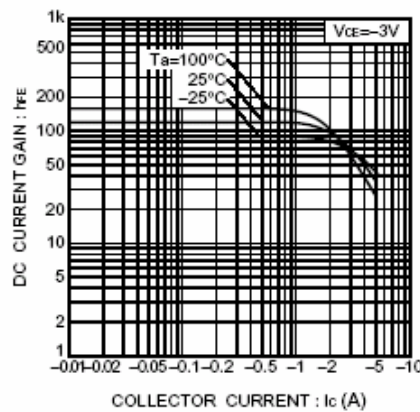


Fig.5 DC current gain vs. collector current ( II )

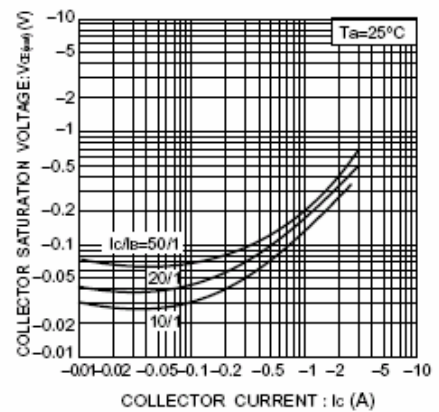


Fig.6 Collector-emitter saturation voltage vs. collector current

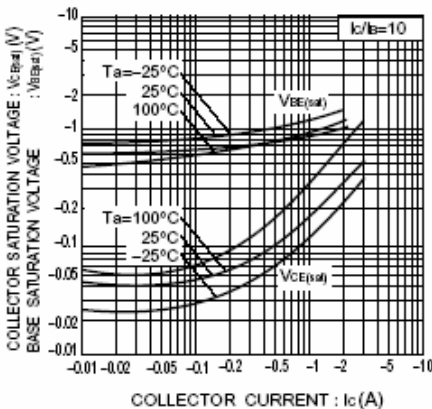


Fig.7 Collector-emitter saturation voltage vs. collector current  
Base-emitter saturation voltage vs. collector current

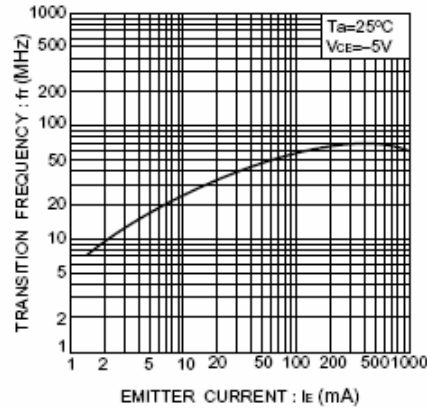


Fig.8 Gain bandwidth product vs. emitter current

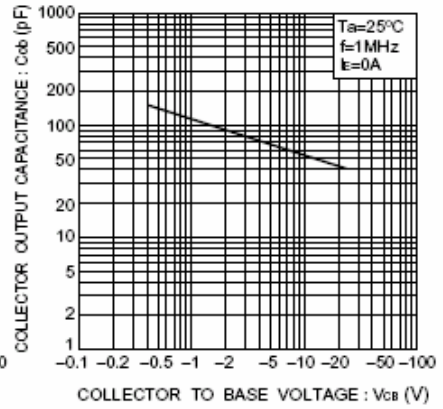


Fig.9 Collector output capacitance vs. collector base voltage

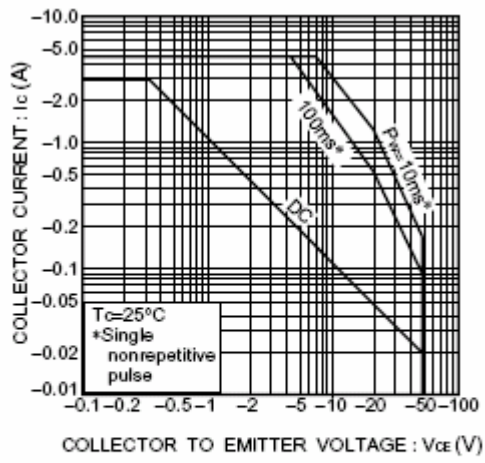


Fig.10 Safe operation area  
(2SB1184)