

# Medium Power Transistor (50V,0.5A)

## 2SD1949/2SD1484K

### ● Features

- 1) High current. ( $I_C=0.5A$ )
- 2) Low saturation voltage, typically  $V_{CE(sat)}=0.1V$  at  $I_C / I_B=150mA / 15mA$ .

### ● Absolute maximum ratings ( $T_a=25^\circ C$ )

Parameter	Symbol	Limits	Unit
Collector-base voltage	$V_{CBO}$	50	V
Collector-emitter voltage	$V_{CEO}$	50	V
Emitter-base voltage	$V_{EBO}$	5	V
Collector current	$I_C$	0.5	A
Collector power dissipation	$P_C$	0.2	W
Junction temperature	$T_J$	150	$^\circ C$
Storage temperature	$T_{stg}$	-55 to +150	$^\circ C$

### ● Electrical characteristics ( $T_a=25^\circ C$ )

Parameter	Symbol	Min.	Typ.	Max.	Unit	Conditions
Collector-base breakdown voltage	$BV_{CBO}$	50	-	-	V	$I_C=100\mu A$
Collector-emitter breakdown voltage	$BV_{CEO}$	50	-	-	V	$I_C=1mA$
Emitter-base breakdown voltage	$BV_{EBO}$	5	-	-	V	$I_E=100\mu A$
Collector cutoff current	$I_{CBO}$	-	-	0.5	$\mu A$	$V_{CB}=30V$
Emitter cutoff current	$I_{EBO}$	-	-	0.5	$\mu A$	$V_{EB}=4V$
DC current transfer ratio	$h_{FE}$	120	-	390	-	$V_{CE}/I_C=3V/10mA$
Collector-emitter saturation voltage	$V_{CE(sat)}$	-	-	0.4	V	$I_C/I_B=150mA/15mA$
Transition frequency	$f_T$	-	250	-	MHz	$V_{CE}=5V, I_E=-20mA, f=100MHz$
Output capacitance	$C_{ob}$	-	6.5	-	pF	$V_{CB}=10V, I_E=0A, f=1MHz$

### ● Packaging specifications and $h_{FE}$

Type	2SD1949	2SD1484K
Package	UMT3	SMT3
$h_{FE}$	QR	QR
Marking	Y*	Y*
Code	T106	T146
Basic ordering unit (pieces)	3000	3000

\* Danotes  $h_{FE}$

$h_{FE}$  values are classified as follows :

Item	Q	R
$h_{FE}$	120 to 270	180 to 390

Transistors

● Electrical characteristic curves

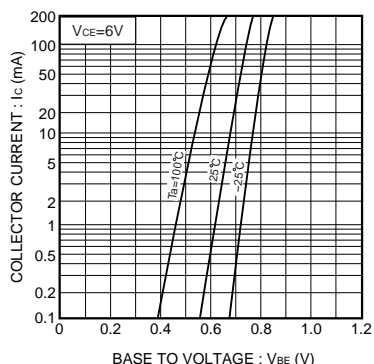


Fig.1 Ground emitter propagation characteristics

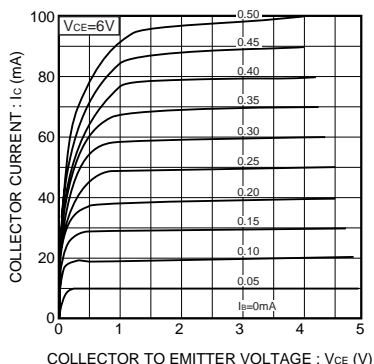


Fig.2 Ground emitter output characteristics

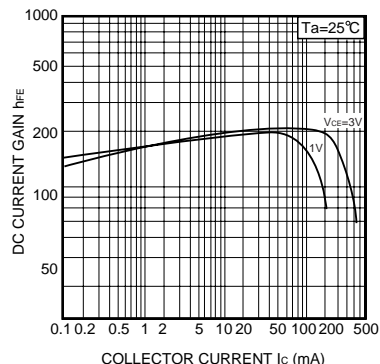


Fig.3 DC current gain vs. Collector current (I)

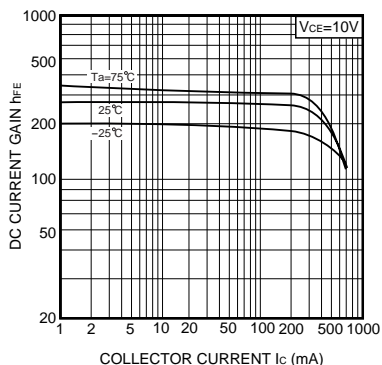


Fig.4 DC current gain vs. Collector current (II)

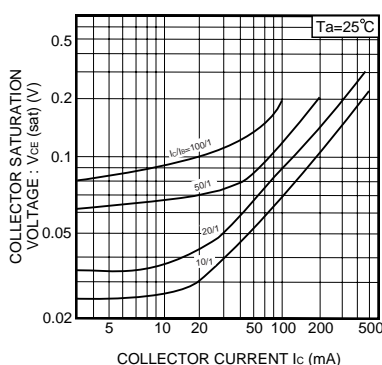


Fig.5 Collector-emitter saturation voltage vs. Collector current

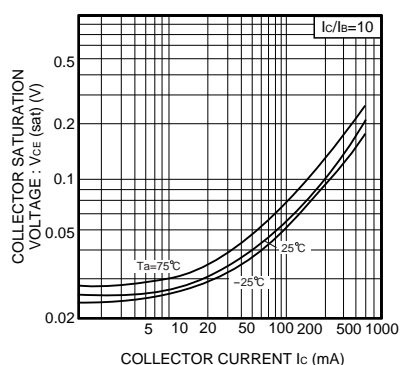


Fig.6 Collector-emitter saturation voltage vs. collector current

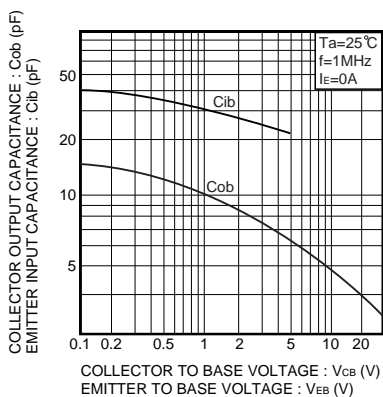


Fig.7 Input-and-output capacity vs. voltage characteristic

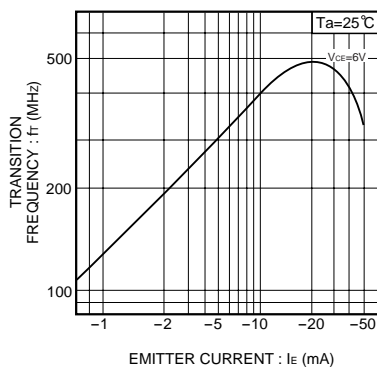


Fig.8 Transition frequency vs. emitter current

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