Low frequency amplifier

2SD2653K

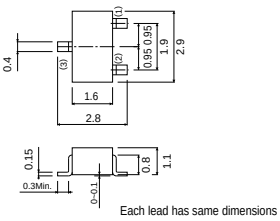
●Application

Low frequency amplifier
Driver

●Features

1) A collector current is large.
2) $V_{CE(sat)} \leq 180mV$
   At $I_C = 1A / I_B = 50mA$

●External dimensions (Units : mm)



ROHM : SMT3
EIAJ : SC-59
JEDEC : SOT-346

Abbreviated symbol : FW

(1) Emitter
(2) Base
(3) Collector

●Absolute maximum ratings (Ta=25°C)

Parameter	Symbol	Limits	Unit
Collector-base voltage	V_{CBO}	15	V
Collector-emitter voltage	V_{CEO}	12	V
Emitter-base voltage	V_{EBO}	6	V
Collector current	I_C	2	A
	I_{CP}	4	A *
Power dissipation	P_C	200	mW
Junction temperature	Tj	150	°C
Range of storage temperature	Tstg	−55~+150	°C

*Single pulse, P_W=1ms

●Electrical characteristics (Ta=25°C)

Parameter	Symbol	Min.	Typ.	Max.	Unit	Conditions
Collector-base breakdown voltage	BV_{CBO}	15	–	–	V	I_C=10μA
Collector-emitter breakdown voltage	BV_{CEO}	12	–	–	V	I_C=1mA
Emitter-base breakdown voltage	BV_{EBO}	6	–	–	V	I_E=10μA
Collector cutoff current	I_{CBO}	–	–	100	nA	V_{CB}=15V
Emitter cutoff current	I_{EBO}	–	–	100	nA	V_{EB}=6V
Collector-emitter saturation voltage	$V_{CE(sat)}$	–	90	180	mV	I_C=1A, I_B=50mA
DC current gain	h_{FE}	270	–	680	–	V_{CE}=2V, I_C=200mA *
Transition frequency	f_T	–	360	–	MHz	V_{CE}=2V, I_E=−200mA, f=100MHz *
Corrector output capacitance	Cob	–	20	–	pF	V_{CB}=10V, I_E=0A, f=1MHz

* Pulsed

●Packaging specifications

Type	Package	Taping
	Code	T146
	Basic ordering unit (pieces)	3000
2SD2653K		○

●Electrical characteristic curves

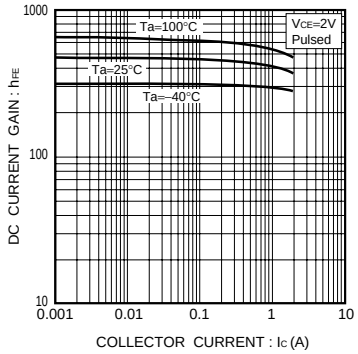


Fig.1 DC current gain vs. collector current

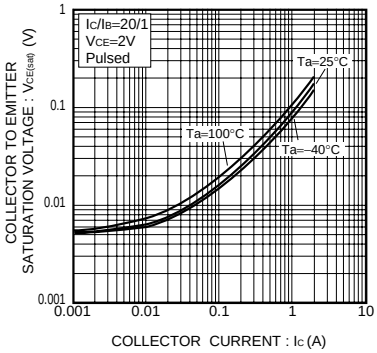


Fig.2 Base-emitter saturation voltage vs. collector current

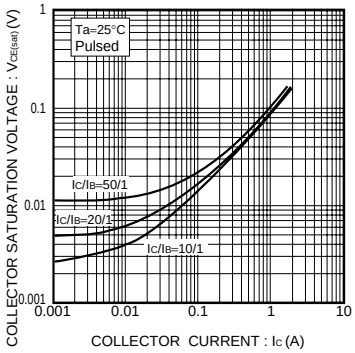


Fig.3 Collector-emitter saturation voltage vs. collector current

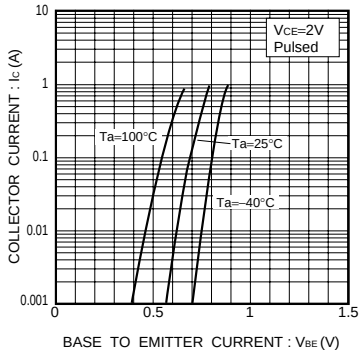


Fig.4 Grounded emitter propagation characteristics

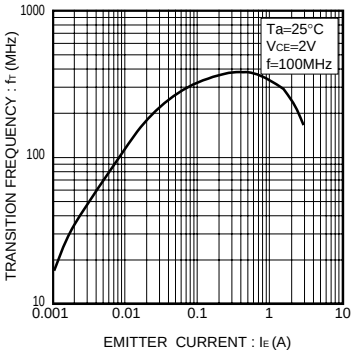


Fig.5 Gain bandwidth product vs. emitter current

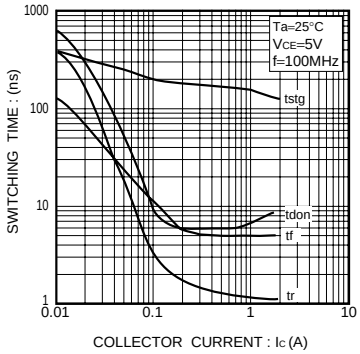


Fig.6 Switching time

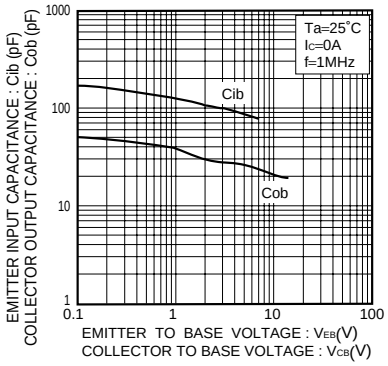


Fig.7 Collector output capacitance vs. collector-base voltage
Emitter input capacitance vs. emitter-base voltage

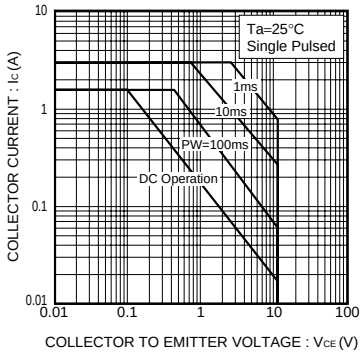


Fig.8 Safe Operating Area

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