

Power Transistor (15V, 0.5A)

2SD1757K

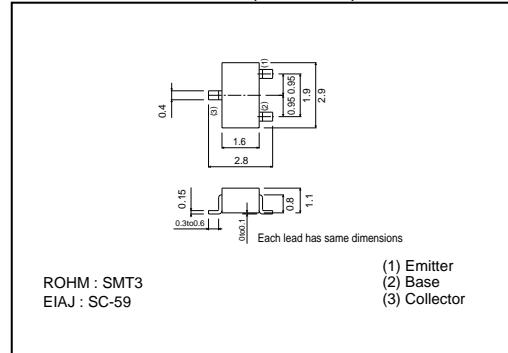
●Features

- 1) Low $V_{CE(sat)}$. (Typ.8mV at $I_C/I_B = 10/1mA$)
- 2) Optimal for muting.

●Absolute maximum ratings (Ta=25°C)

Parameter	Symbol	Limits	Unit
Collector-base voltage	V_{CBO}	30	V
Collector-emitter voltage	V_{CEO}	15	V
Emitter-base voltage	V_{EBO}	6.5	V
Collector current	I_C	0.5	A
Collector power dissipation	P_C	0.2	W
Junction temperature	T_J	150	°C
Storage temperature	T_{STG}	-55 to +150	°C

●External dimensions (Unit : mm)



●Packaging specifications and h_{FE}

Type	2SD1757K
Package	SMT3
h_{FE}	QRS
Marking	AA*
Code	T146
Basic ordering unit (pieces)	3000

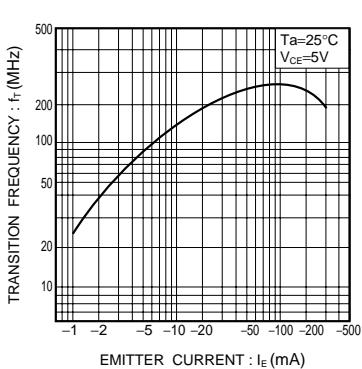
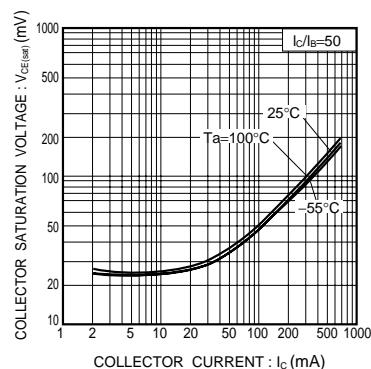
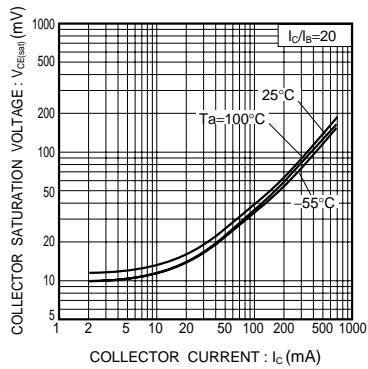
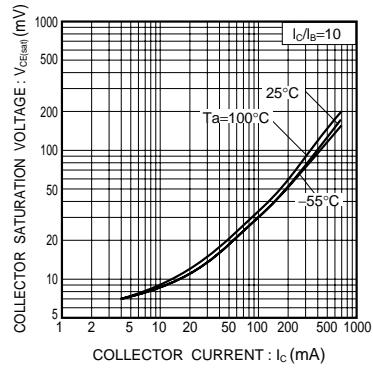
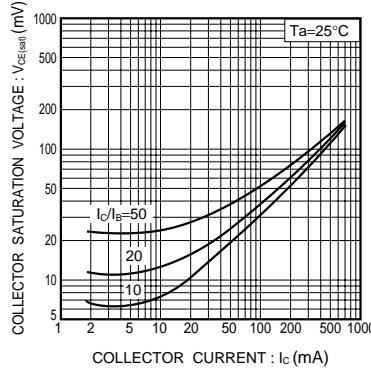
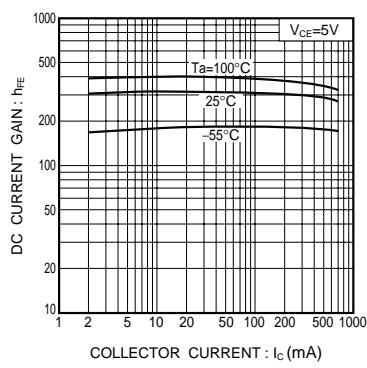
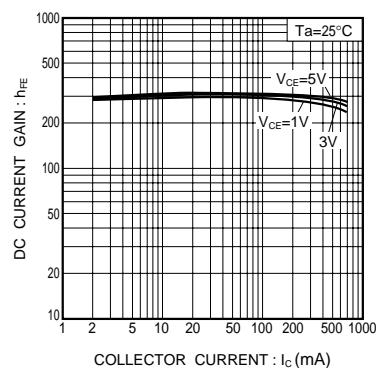
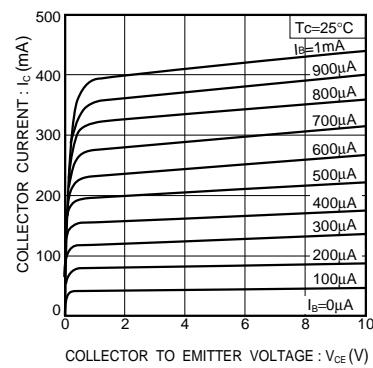
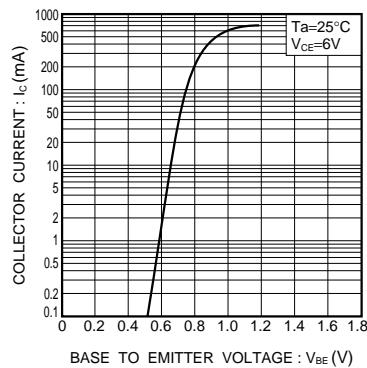
* Denotes h_{FE}

●Electrical characteristics (Ta=25°C)

Parameter	Symbol	Min.	Typ.	Max.	Unit	Conditions
Collector-base breakdown voltage	BV_{CBO}	30	—	—	V	$I_C=50\mu A$
Collector-emitter breakdown voltage	BV_{CEO}	15	—	—	V	$I_C=1mA$
Emitter-base breakdown voltage	BV_{EBO}	6.5	—	—	V	$I_E=50\mu A$
Collector cutoff current	I_{CBO}	—	—	0.5	μA	$V_{CE}=20V$
Emitter cutoff current	I_{EBO}	—	—	0.5	μA	$V_{EB}=4V$
Collector-emitter saturation voltage	$V_{CE(sat)}$	—	0.1	0.4	V	$I_C/I_E=500mA/50mA$
DC current transfer ratio	h_{FE}	120	—	560	—	$V_{CE}/I_C=3V/100mA$
Transition frequency	f_T	—	150	—	MHz	$V_{CE}=5V, I_E=-50mA, f=100MHz$
Output capacitance	C_{OB}	—	15	—	pF	$V_{CE}=10V, I_E=0A, f=1MHz$

Transistors

● Electrical characteristics curves



Transistors

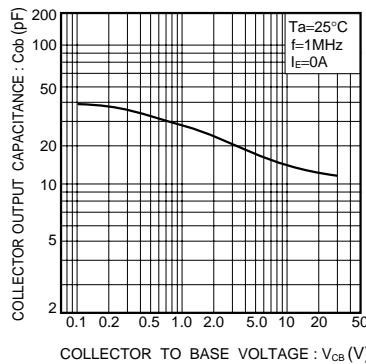


Fig.10 Collector output capacitance vs. collector-base voltage

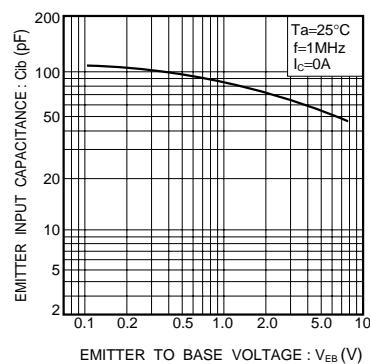


Fig.11 Emitter input capacitance vs. emitter-base voltage

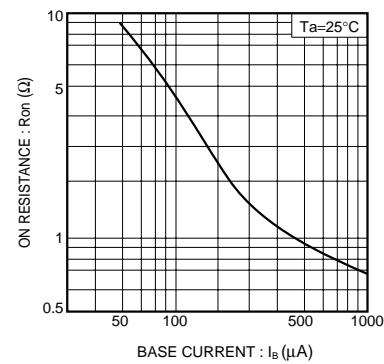


Fig.12 "ON" resistance vs. base current characteristics

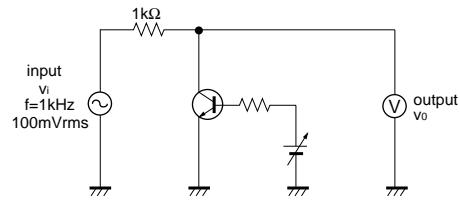


Fig.13 "ON" resistance measurement circuit

Appendix

Notes

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