

For Muting (20V, 0.3A)

2SD2704K

Features

1) High DC current gain. hfe = 820 to 2700

2) High emitter-base voltage. Vebo = 25V (Min.)

3) Low Ron

Ron= 0.7Ω (Typ.)

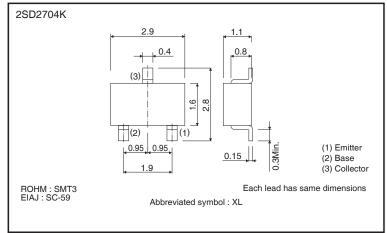
●Structure

Epitaxial planar type NPN silicon transistor

Packaging specifications

	Package	Taping
	Code	T146
Туре	Basic ordering unit (pieces)	3000
2SD2704K		0

●Dimensions (Unit : mm)



● Absolute maximum ratings (Ta=25°C)

Parameter	Symbol	Limits	Unit	
Collector-base voltage	VcBo 50		V	
Collector-emitter voltage	VCEO	20	V	
Emitter-base voltage	VEBO	25	V	
Collector current	Ic	0.3	А	
Collector power dissipation	Pc	0.2	W	
Junction temperature	Tj	150	°C	
Storage temperature	Tstg	-55 to +150	°C	

●Electrical characteristics (Ta=25°C)

Parameter	Symbol	Min.	Тур.	Max.	Unit	Conditions
Collector-base breakdown voltage	ВУсво	50	_	_	V	Ic=10μA
Collector-emitter breakdown voltage	BVCEO	20	_	_	V	Ic=1mA
Emitter-base breakdown voltage	ВУЕВО	25	_	_	V	Iε=10μA
Collector cutoff current	Ісво	_	_	0.1	μΑ	Vcb=50V
Emitter cutoff current	ІЕВО	_	_	0.1	μΑ	V _{EB} =25V
Collector-emitter saturation voltage	VCE(sat)	_	50	100	mV	Ic/Iв=30mA/3mA
DC current transfer ratio	hfe	820	-	2700	-	Vce=2V, Ic=4mA
Transition frequency	f⊤*	_	35	_	MHz	Vce=6V, Ie= -4mA, f=10MHz
Output capacitance	Cob	_	3.9	_	pF	Vcb=10V, Ie=0A, f=1MHz
Output On-resistance	Ron	_	0.7	_	Ω	I _B =5mA, Vi=100mV(rms), f=1kHz

st Measured using pulse current

2SD2704K Data Sheet

•Electrical characteristic curves

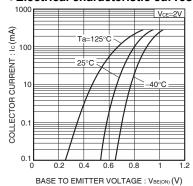


Fig.1 Grounded emitter propagation characteristics (I)

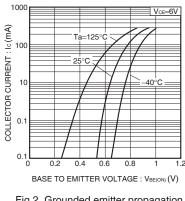


Fig.2 Grounded emitter propagation characteristics (II)

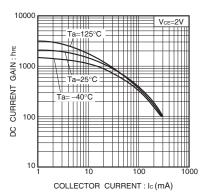


Fig.3 DC current gain vs. collector current (I)

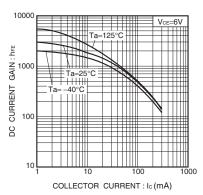


Fig.4 DC current gain vs. collector current (II)

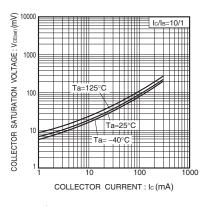


Fig.5 Collector-emitter saturation voltage vs. collector current (I)

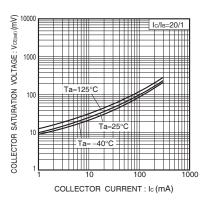


Fig.6 Collector-emitter saturation voltage vs. collector current (II)

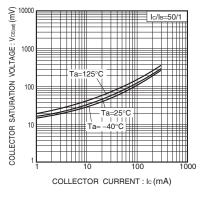


Fig.7 Collector-emitter saturation voltage vs. collector current (III)

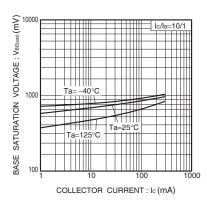


Fig.8 Base-emitter saturation voltage vs. collector current (I)

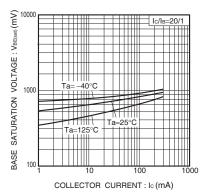


Fig.9 Base-emitter saturation voltage vs. collector current (II)

2SD2704K Data Sheet

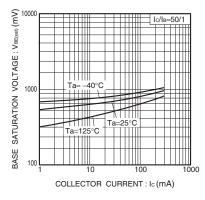


Fig.10 Base-emitter saturation voltage vs. collector current (III)

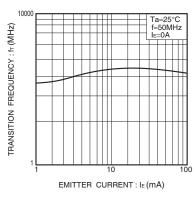


Fig.11 Gain bandwidth product vs. emitter current

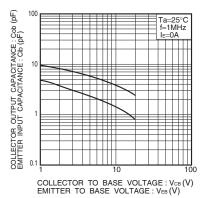


Fig.12 Collector output capacitance vs. collector-base voltage Emitter input capacitance vs. emitter-base voltage

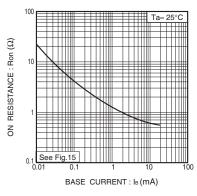


Fig.13 Output-on resistance vs. base current (I)

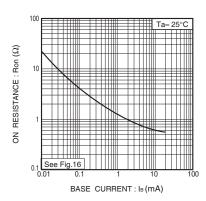


Fig.14 Output-on resistance vs. base current (II)

•Ron measurement circuit

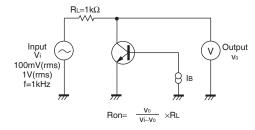


Fig.15 Ron measurement circuit (I)

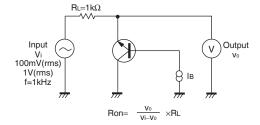


Fig.16 Ron measurement circuit (II)

This product might cause chip aging and breakdown under the large electrified environment. Please consider to design ESD protection circuit.

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