

Midium Power Transistors (50V / 3A)

2SCR533P

Structure

NPN Silicon epitaxial planar transistor

Features

 Low saturation voltage, typically V_{CE (sat)} = 0.13V (Max.) (I_C / I_B= 1A / 50mA)
High speed switching

Applications

Driver

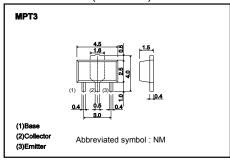
• Packaging specifications

Туре	Package	Taping
	Code	T100
	Basic ordering unit (pieces)	1000
2SCR533P		0

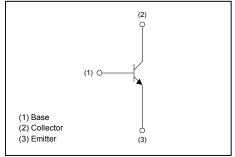
• Absolute maximum ratings (Ta = 25°C)

Parameter		Symbol	Limits	Unit
Collector-base voltage		V _{CBO}	50	V
Collector-emitter voltage		V _{CEO}	50	V
Emitter-base voltage		V _{EBO}	6	V
Collector current	DC	Ι _C	3	А
	Pulsed	۱ _{CP} *۱	6	А
Power dissination		P _D *2	0.5	W
Power dissipation		P _D *3	2	W
Junction temperature		Tj	150	°C
Range of storage temperature		T _{stg}	-55 to 150	°C

• Dimensions (Unit : mm)



• Inner circuit (Unit : mm)



*1 Pw=10ms, Single Pulse

*2 Each terminal mounted on a recommended land.

*3 Mounted on a ceramic board. (40x40x0.7mm³)

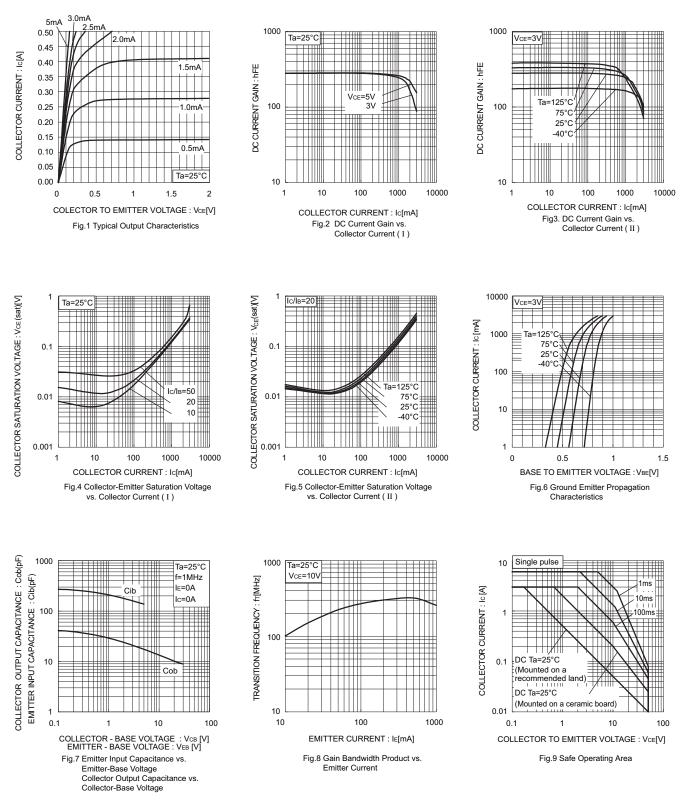
•Electrical characteristic (Ta = 25°C)

Parameter	Symbol	Min.	Тур.	Max.	Unit	Conditions	
Collector-emitter breakdown voltage	BV_{CEO}	50	-	-	V	l _C = 1mA	
Collector-base breakdown voltage	BV_{CBO}	50	-	-	V	Ι _C = 100μΑ	
Emitter-base breakdown voltage	BV_{EBO}	6	-	-	V	I _E = 100μA	
Collector cut-off current	I _{CBO}	-	-	1	μA	V _{CB} = 50V	
Emitter cut-off current	I _{EBO}	-	-	1	μA	V _{EB} = 4V	
Collector-emitter staturation voltage	V _{CE(sat)} ^{*1}	-	130	350	mV	I _C = 1A, I _B = 50mA	
DC current gain	h _{FE}	180	-	450	-	V _{CE} = 3V, I _C = 50mA	
Transition frequency	f _T *1	-	320	-	MHz	V _{CE} = 10V I _E =-500mA, f=100MHz	
Collector output capacitance	C _{ob}	-	13	-	pF	V _{CB} = 10V, I _E =0A f=1MH z	
Turn-on time	t _{on} *2	-	50	_	ns	- 1.50 - 150 m 0	
Storage time	t _{stg} * ₂	-	450	-	ns	I_{C} = 1.5A, I_{B1} = 150mA, I_{B2} =-150mA, $V_{CC} \sim 10V$	
Fall time	t _f *2	-	80	-	ns		

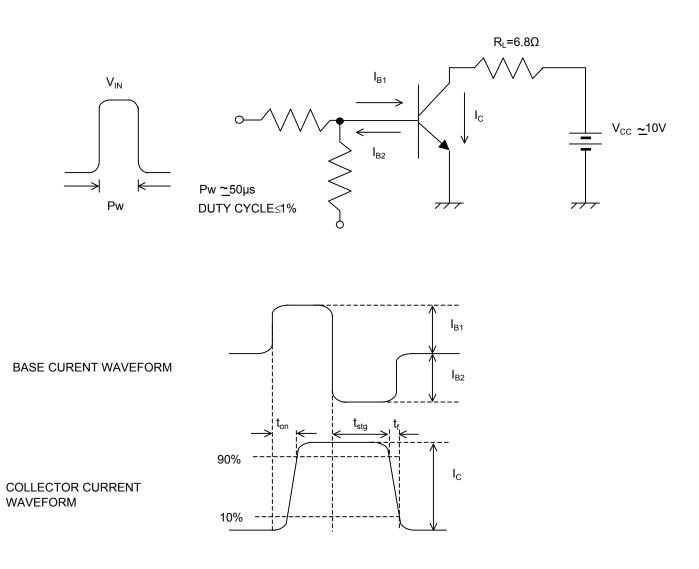
*1 Pulsed

*2 See switching time test circuit

•Electrical characteristic curves



•Switching time test circuit



	Notes
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