

Transistors

# 2A / 30V Bipolar transistor

## 2SD2679

●Applications

Low frequency amplification, driver

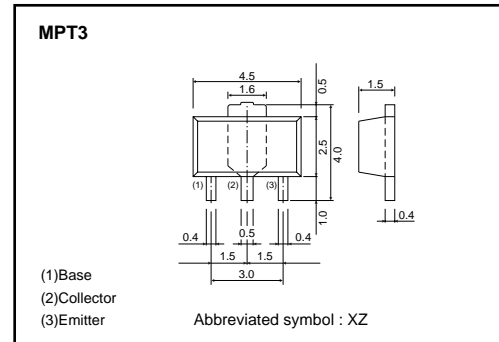
●Features

- 1) Collector current is high.
- 2) Low collector-emitter saturation voltage.  
( $V_{CE(sat)} \leq 350\text{mV}$  at  $I_C = 1.5\text{A}$ ,  $I_B = 75\text{mA}$ )

●Structure

NPN epitaxial planar silicon transistor

●External dimensions (Unit : mm)



●Absolute maximum ratings ( $T_a=25^\circ\text{C}$ )

Parameter	Symbol	Limits	Unit	
Collector-base voltage	$V_{CB0}$	30	V	
Collector-emitter voltage	$V_{CE0}$	30	V	
Emitter-base voltage	$V_{EB0}$	6	V	
Collector current	DC	$I_C$	2	A
	Pulse	$I_{CP}$	4 *1	
Power dissipation	$P_C$	0.5 *2	W	
		2 *3		
Junction temperature	$T_j$	150	$^\circ\text{C}$	
Storage temperature	$T_{stg}$	-55 to +150	$^\circ\text{C}$	

\*1  $P_w=1\text{ms}$ , single pulse.

\*2 Each terminal mounted on a recommended land.

\*3 Mounted on a 40x40x0.7mm ceramic board.

●Packaging specifications

Package	MPT3
Packaging type	Taping
Code	T100
Part No.	Basic ordering unit (pieces) 1000
2SD2679	○

●Electrical characteristics ( $T_a=25^\circ\text{C}$ )

Parameter	Symbol	Min.	Typ.	Max.	Unit	Conditions
Collector-emitter breakdown voltage	$BV_{CE0}$	30	-	-	V	$I_C=1\text{mA}$
Collector-base breakdown voltage	$BV_{CB0}$	30	-	-		$I_C=10\mu\text{A}$
Emitter-base breakdown voltage	$BV_{EB0}$	6	-	-		$I_E=10\mu\text{A}$
Collector cut-off current	$I_{CBO}$	-	-	100	nA	$V_{CB}=30\text{V}$
Emitter cut-off current	$I_{EBO}$	-	-	100		$V_{EB}=6\text{V}$
Collector-emitter saturation voltage	$V_{CE(sat)}$ *	-	180	370	mV	$I_C/I_B=1.5\text{A}/75\text{mA}$
DC current gain	$h_{FE}$	270	-	680	-	$V_{CE}=2\text{V}$ , $I_C=200\text{mA}$
Transition frequency	$f_T$	-	280	-	MHz	$V_{CE}=2\text{V}$ , $I_E=-200\text{mA}$ , $f=100\text{MHz}$
Collector output capacitance	$C_{ob}$	-	20	-	pF	$V_{CB}=10\text{V}$ , $I_E=0\text{mA}$ , $f=1\text{MHz}$

\* Pulsed

Transistors

●Electrical characteristics curves

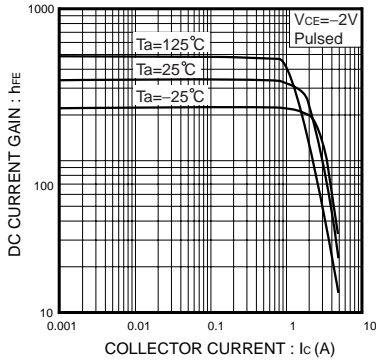


Fig.1 DC current gain vs. collector current

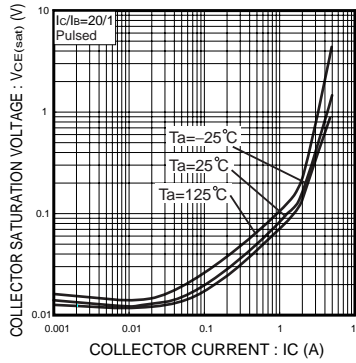


Fig.2 Collector-emitter saturation voltage vs. collector current

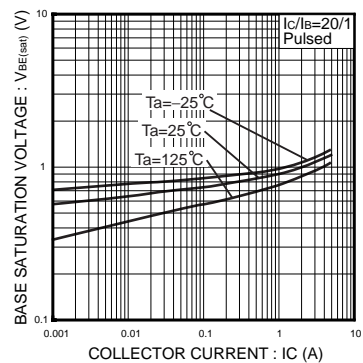


Fig.3 Base-emitter saturation voltage vs. collector current

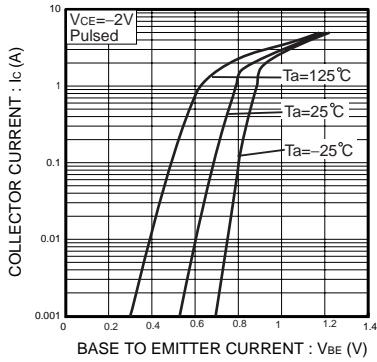


Fig.4 Grounded emitter propagation characteristics

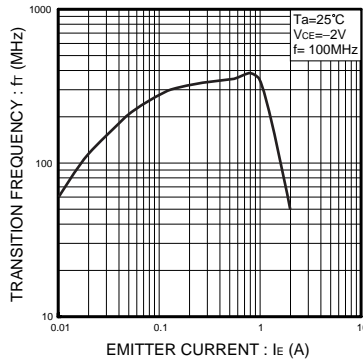


Fig.5 Gain bandwidth product vs. emitter current

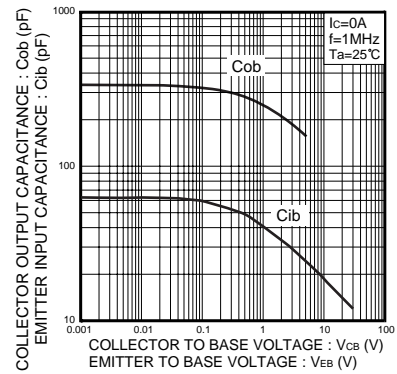


Fig.6 Collector output capacitance vs. collector-base voltage  
Emitter input capacitance vs. emitter-base voltage

## Appendix

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