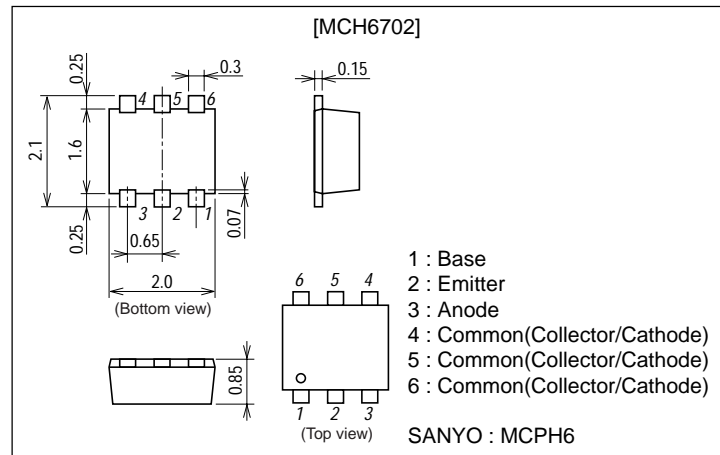


**MCH6702****DC/DC Converter Applications****Features**

- Composite type with a PNP transistor and a Schottky barrier diode contained in one package facilitating high-density mounting.
- The MCH6702 consists of two chips which are equivalent to the MCH6101 and SBS006, respectively.
- The ultrasmall package facilitates miniaturization in end products. (mounting height 0.85mm).

**Package Dimensions**unit : mm  
2191A**Specifications****Absolute Maximum Ratings** at  $T_a=25^\circ\text{C}$ 

Parameter	Symbol	Conditions	Ratings	Unit
[TR]				
Collector-to-Base Voltage	$V_{CBO}$		-15	V
Collector-to-Emitter Voltage	$V_{CEO}$		-15	V
Emitter-to-Base Voltage	$V_{EBO}$		-5	V
Collector Current	$I_C$		-1.5	A
Collector Current (Pulse)	$I_{CP}$		-3	A
Base Current	$I_B$		-300	mA
Collector Dissipation	$P_C$	Mounted on a ceramic board(600mm <sup>2</sup> X0.8mm)	1.0	W
Junction Temperature	$T_j$		150	°C
Storage Temperature	$T_{stg}$		-55 to +125	°C
[SBD]				
Repetitive Peak Reverse Voltage	$V_{RRM}$		30	V
Non-repetitive Peak Reverse Surge Voltage	$V_{RSM}$		30	V
Average Output Current	$I_O$		0.7	A
Surge Current	$I_{FSM}$	50Hz sine wave, 1 cycle	10	A
Junction Temperature	$T_j$		-55 to +125	°C
Storage Temperature	$T_{stg}$		-55 to +125	°C

Marking : PB

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- SANYO assumes no responsibility for equipment failures that result from using products at values that exceed, even momentarily, rated values (such as maximum ratings, operating condition ranges, or other parameters) listed in products specifications of any and all SANYO products described or contained herein.

**SANYO Electric Co.,Ltd. Semiconductor Company**

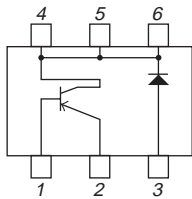
TOKYO OFFICE Tokyo Bldg., 1-10, 1 Chome, Ueno, Taito-ku, TOKYO, 110-8534 JAPAN

# MCH6702

## Electrical Characteristics at Ta=25°C

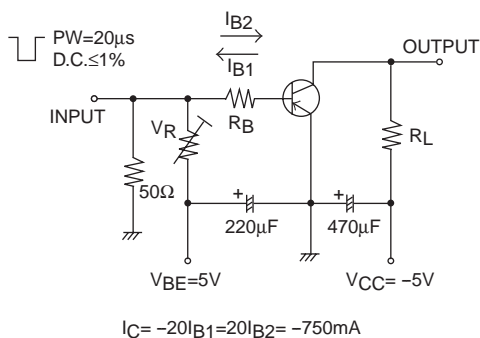
Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
[TR]						
Collector Cutoff Current	ICBO	V <sub>CB</sub> =-12V, I <sub>E</sub> =0			-0.1	μA
Emitter Cutoff Current	I <sub>EBO</sub>	V <sub>EB</sub> =-4V, I <sub>C</sub> =0			-0.1	μA
DC Current Gain	h <sub>FE</sub>	V <sub>CE</sub> =-2V, I <sub>C</sub> =-100mA	200		560	
Gain-Bandwidth Product	f <sub>T</sub>	V <sub>CE</sub> =-2V, I <sub>C</sub> =-300mA		350		MHz
Output Capacitance	C <sub>ob</sub>	V <sub>CB</sub> =-10V, f=1MHz		17		pF
Collector-to-Emitter Saturation Voltage	V <sub>CE(sat)</sub>	I <sub>C</sub> =-750mA, I <sub>B</sub> =-15mA		-120	-180	mV
Base-to-Emitter Saturation Voltage	V <sub>BE(sat)</sub>	I <sub>C</sub> =-750mA, I <sub>B</sub> =-15mA		-0.85	-1.2	V
Collector-to-Base Breakdown Voltage	V <sub>(BR)CBO</sub>	I <sub>C</sub> =-10μA, I <sub>E</sub> =0	-15			V
Collector-to-Emitter Breakdown Voltage	V <sub>(BR)CEO</sub>	I <sub>C</sub> =-1mA, R <sub>BE</sub> =∞	-15			V
Emitter-to-Base Breakdown Voltage	V <sub>(BR)EBO</sub>	I <sub>E</sub> =-10μA, I <sub>C</sub> =0	-5			V
Turn-ON Time	t <sub>on</sub>	See specified Test Circuit		50		ns
Storage Time	t <sub>stg</sub>	See specified Test Circuit		90		ns
Fall Time	t <sub>f</sub>	See specified Test Circuit		15		ns
[Di]						
Reverse Voltage	V <sub>R</sub>	I <sub>R</sub> =0.5mA	30			V
Forward Voltage	V <sub>F1</sub>	I <sub>F</sub> =0.3A		0.35	0.40	V
	V <sub>F2</sub>	I <sub>F</sub> =0.5A		0.42	0.47	V
	V <sub>F3</sub>	I <sub>F</sub> =0.7A		0.5	0.55	V
Reverse Current	I <sub>R</sub>	V <sub>R</sub> =10V			200	μA
Interterminal Capacitance	C	V <sub>R</sub> =10V, f=1MHz		20		pF
Reverse Recovery Time	t <sub>rr</sub>	I <sub>F</sub> =I <sub>R</sub> =100mA, See specified Test Circuit			10	ns

## Electrical Connection



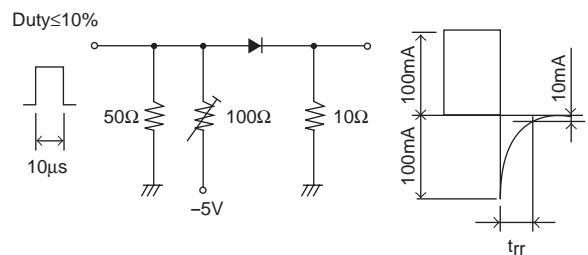
## Switching Time Test Circuit

[TR]

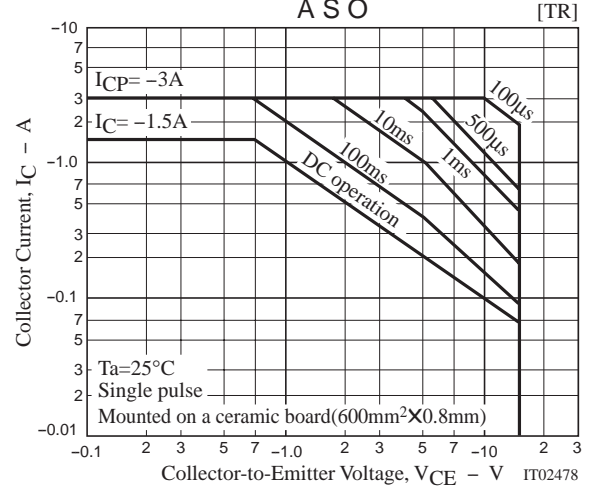
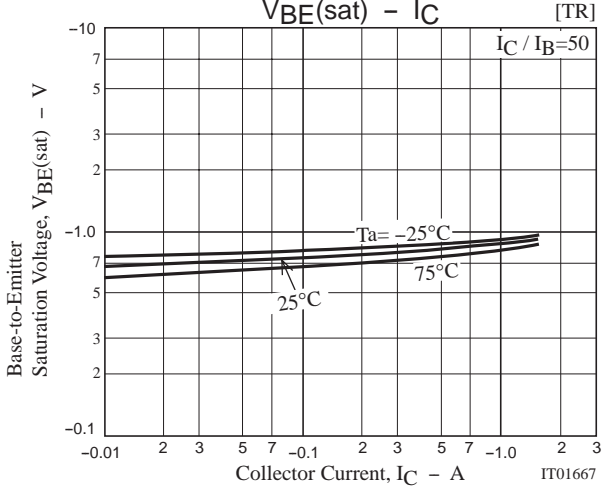
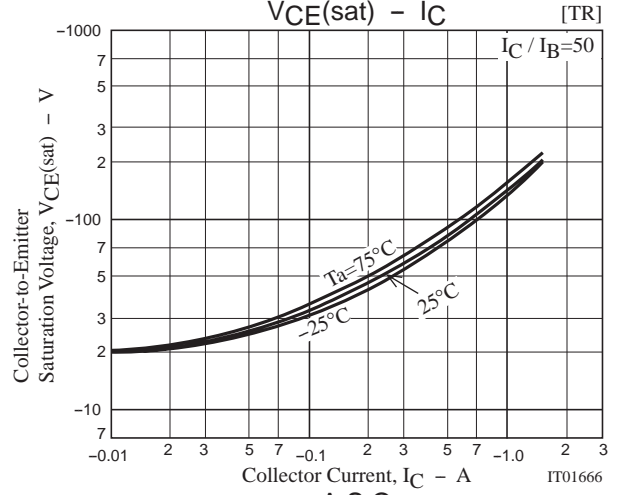
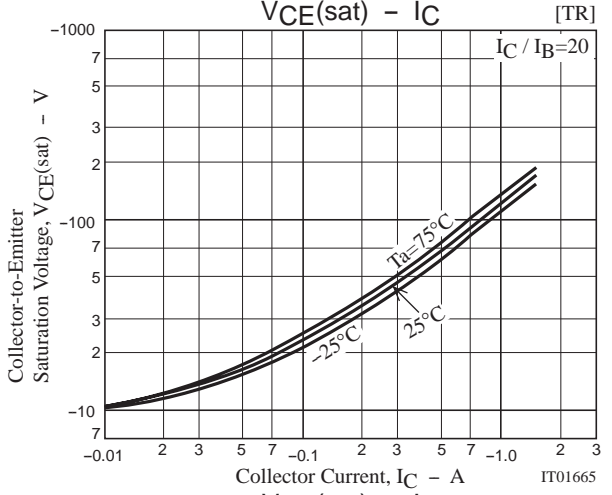
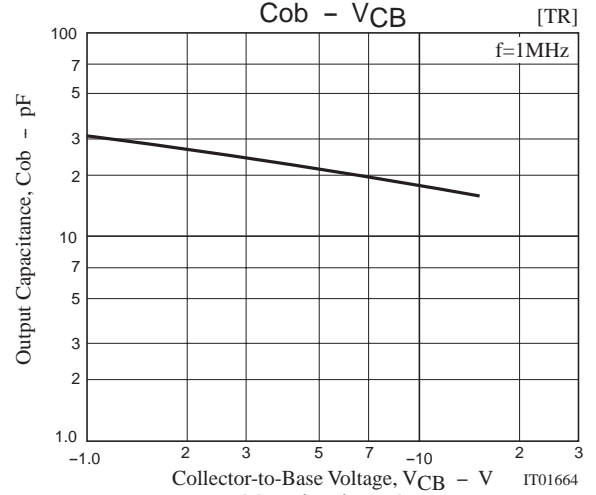
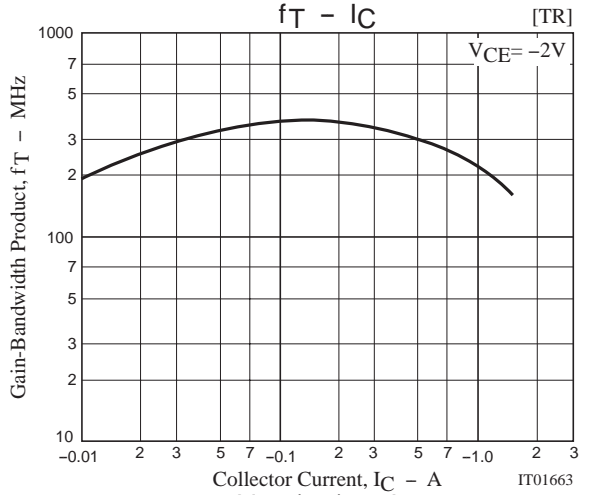
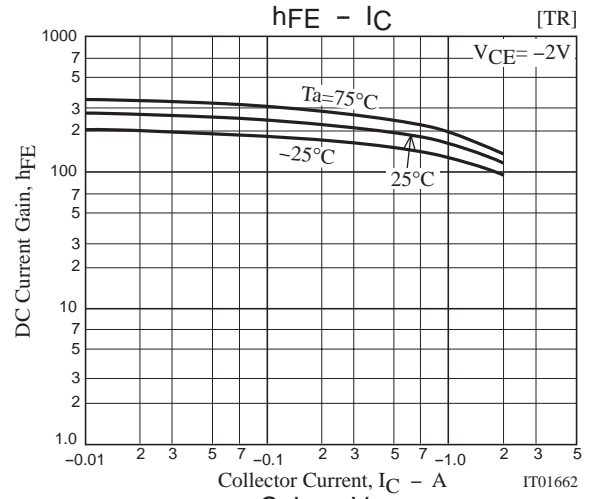
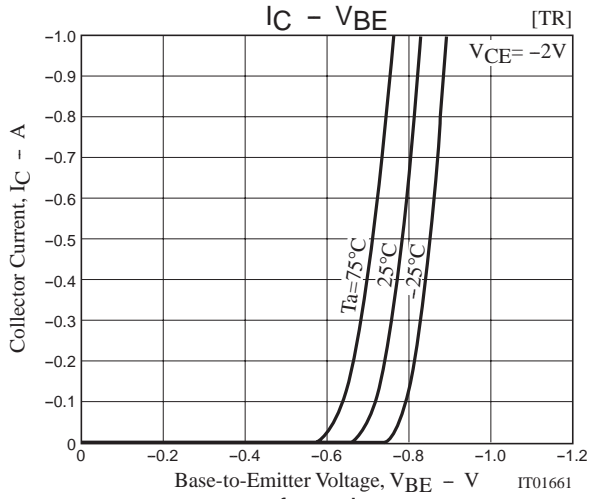


## t<sub>rr</sub> Specified Circuit

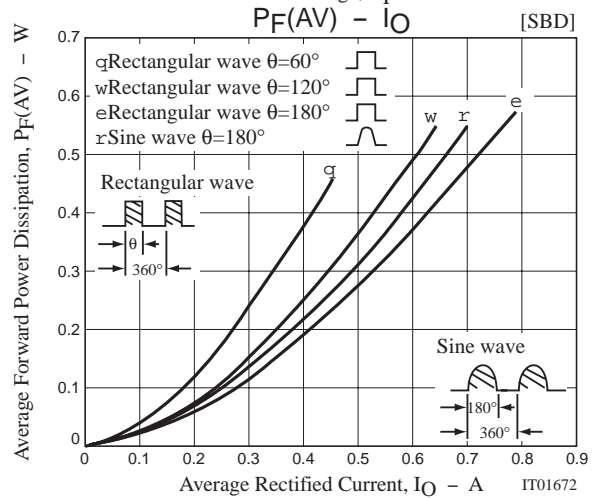
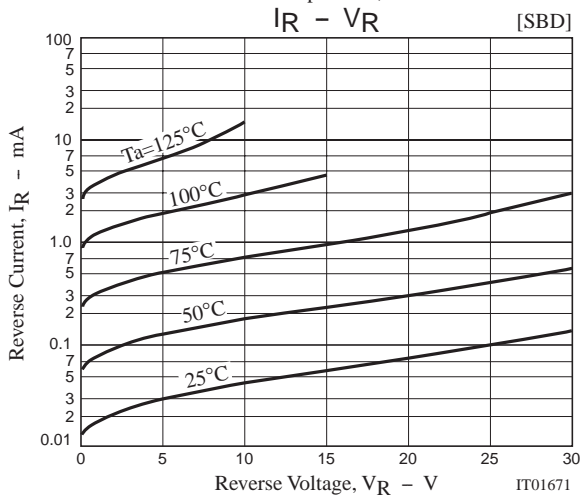
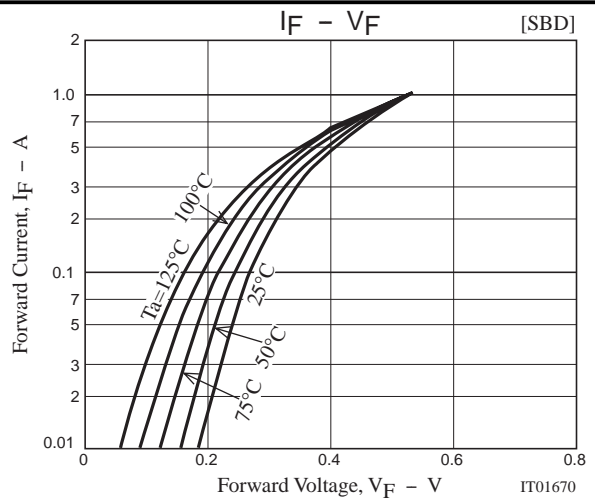
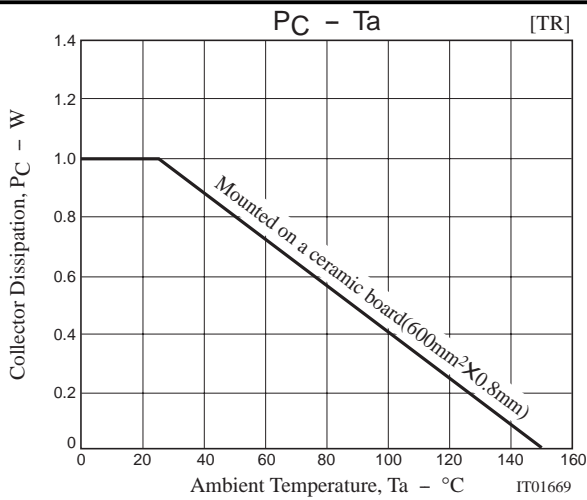
[Di]



# MCH6702



# MCH6702



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