



SANYO Semiconductors

## DATA SHEET

**MCH6732**NPN Epitaxial Planar Silicon Transistor  
Schottky Barrier Diode**DC / DC Converter Applications****Features**

- Composite type with a NPN transistor and a Schottky barrier diode contained in one package facilitating high-density mounting.
- Ultrasmall package permitting applied sets to be small and slim (mounting height 0.85mm).

**Specifications****Absolute Maximum Ratings** at Ta=25°C

Parameter	Symbol	Conditions	Ratings	Unit
[TR]				
Collector-to-Base Voltage	V <sub>CBO</sub>		20	V
Collector-to-Emitter Voltage	V <sub>CEO</sub>		15	V
Emitter-to-Base Voltage	V <sub>EBO</sub>		5	V
Collector Current	I <sub>C</sub>		1	A
Collector Current (Pulse)	I <sub>CP</sub>		2	A
Collector Dissipation	P <sub>C</sub>	Mounted on a ceramic board (600mm <sup>2</sup> X0.8mm)	0.7	W
Junction Temperature	T <sub>J</sub>		150	°C
Storage Temperature	T <sub>stg</sub>		-55 to +125	°C
[SBD]				
Repetitive Peak Reverse Voltage	V <sub>RRM</sub>		15	V
Non-repetitive Peak Reverse Surge Voltage	V <sub>RSM</sub>		15	V
Average Output Current	I <sub>O</sub>		0.5	A
Surge Current	I <sub>FSM</sub>	50Hz sine wave, 1 cycle	2	A
Junction Temperature	T <sub>J</sub>		-55 to +125	°C
Storage Temperature	T <sub>stg</sub>		-55 to +125	°C

Marking : PG

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

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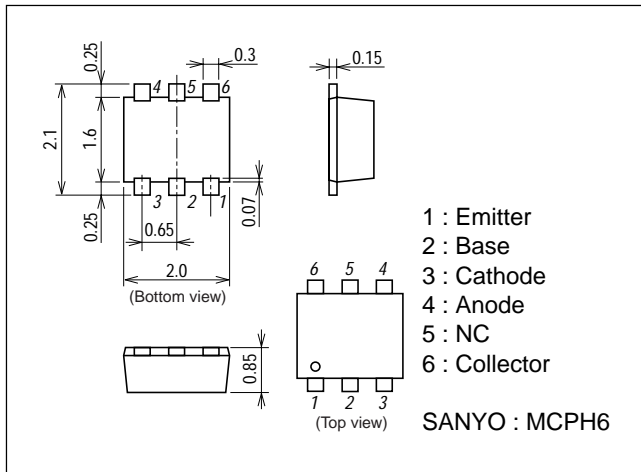
# MCH6732

## Electrical Characteristics at Ta=25°C

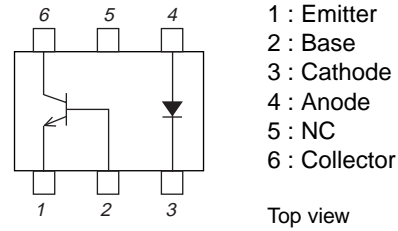
Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
[TR]						
Collector Cutoff Current	$I_{CBO}$	$V_{CB}=12V, I_E=0$			0.1	$\mu A$
Emitter Cutoff Current	$I_{EBO}$	$V_{EB}=4V, I_C=0$			0.1	$\mu A$
DC Current Gain	$h_{FE}$	$V_{CE}=2V, I_C=50mA$	300		800	
Gain-Bandwidth Product	$f_T$	$V_{CE}=2V, I_C=50mA$		440		MHz
Output Capacitance	$C_{ob}$	$V_{CB}=10V, f=1MHz$		4		pF
Collector-to-Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C=400mA, I_B=20mA$		140	280	mV
Base-to-Emitter Saturation Voltage	$V_{BE(sat)}$	$I_C=400mA, I_B=20mA$		0.9	1.2	V
Collector-to-Base Breakdown Voltage	$V_{(BR)CBO}$	$I_C=10\mu A, I_E=0$	20			V
Collector-to-Emitter Breakdown Voltage	$V_{(BR)CEO}$	$I_C=1mA, R_{BE}=\infty$	15			V
Emitter-to-Base Breakdown Voltage	$V_{(BR)EBO}$	$I_E=10\mu A, I_C=0$	5			V
Turn-ON Time	$t_{on}$	See specified Test Circuit.		30		ns
Storage Time	$t_{stg}$	See specified Test Circuit.		165		ns
Fall Time	$t_f$	See specified Test Circuit.		25		ns
[Di]						
Reverse Voltage	$V_R$	$I_R=0.5mA$	12			V
Forward Voltage	$V_F$	$I_F=0.5A$		0.40	0.45	V
Reverse Current	$I_R$	$V_R=6V$			90	$\mu A$
Interterminal Capacitance	$C$	$V_R=10V, f=1MHz$		13		pF
Reverse Recovery Time	$t_{rr}$	$I_F=I_R=100mA$ , See specified Test Circuit.			10	ns

### Package Dimensions

unit : mm  
2232

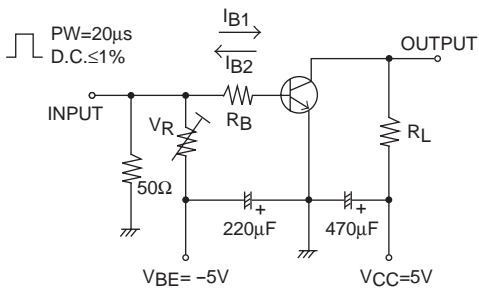


### Electrical Connection



### Switching Time Test Circuit

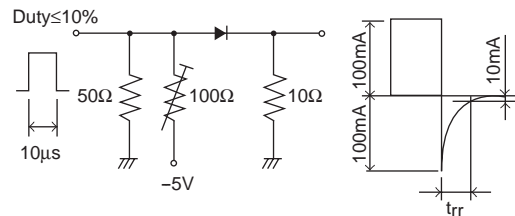
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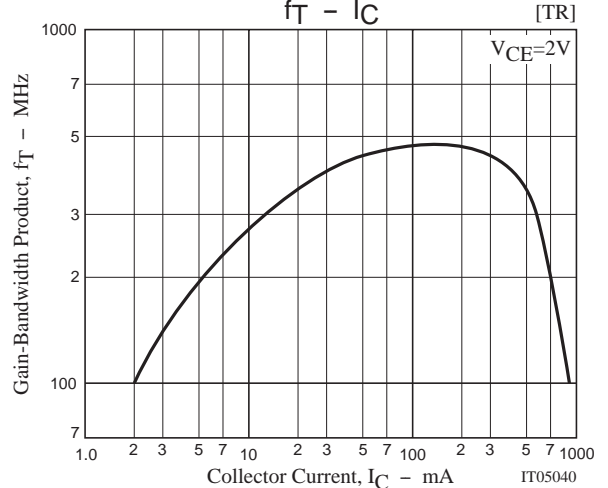
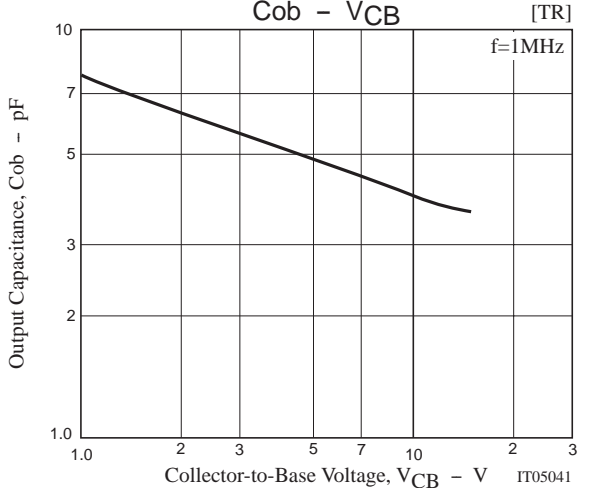
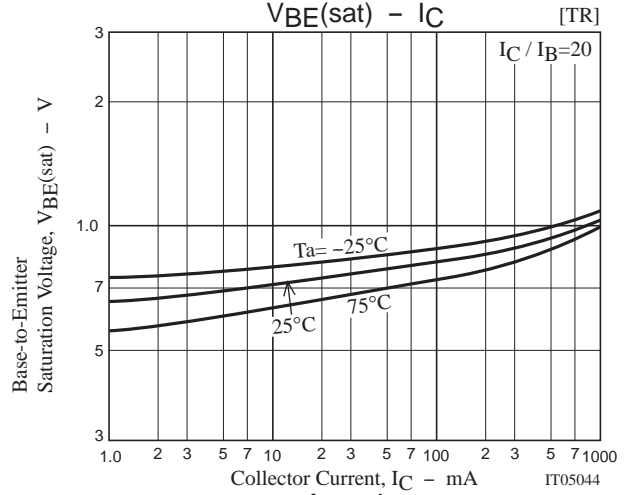
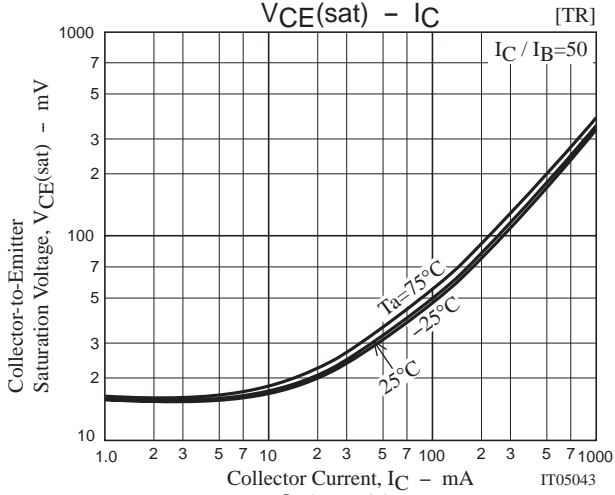
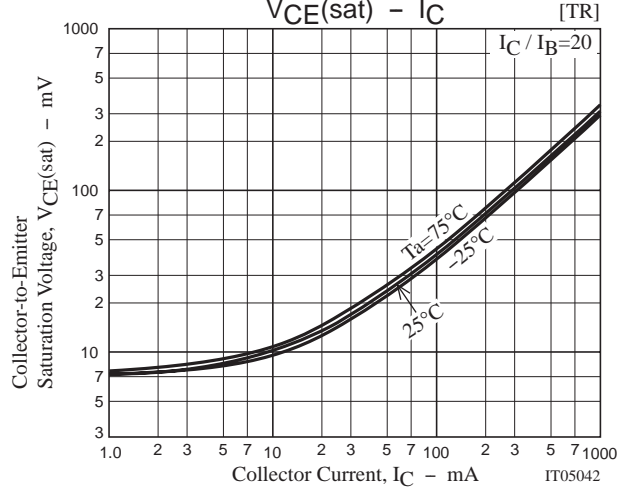
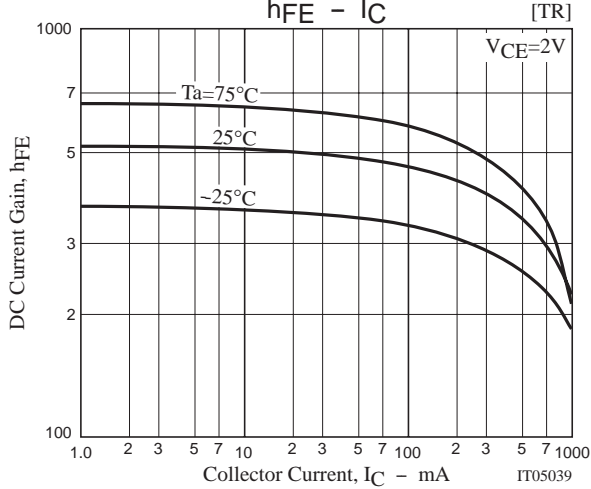
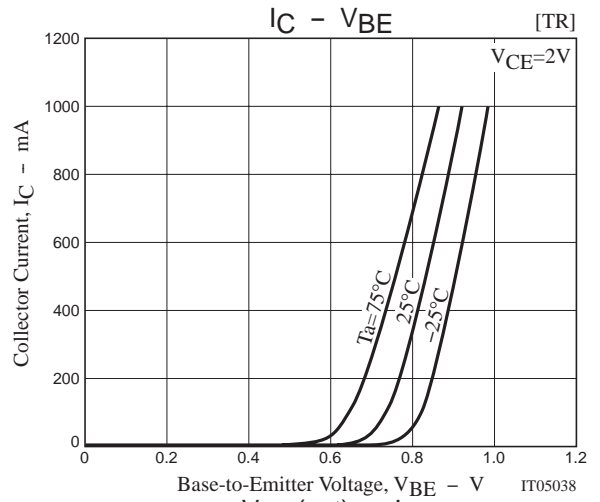
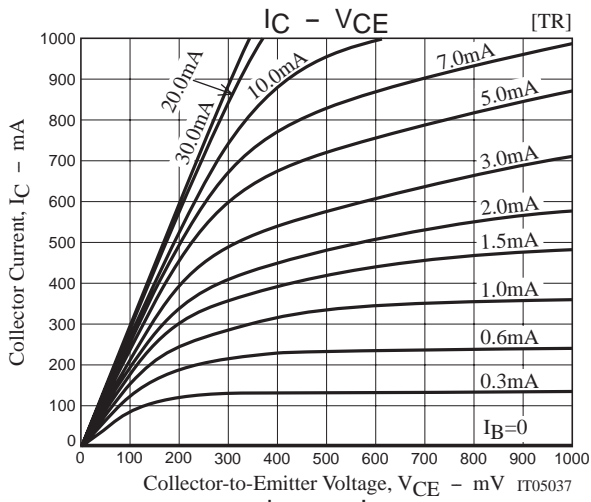
$$I_C=20I_{B1}=-20I_{B2}=400mA$$

### $t_{rr}$ Specified Circuit

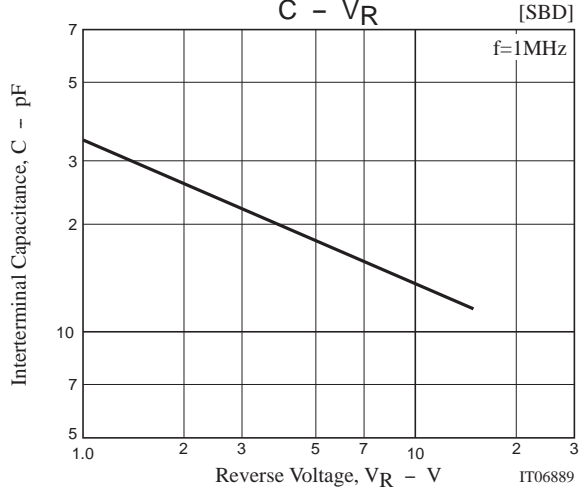
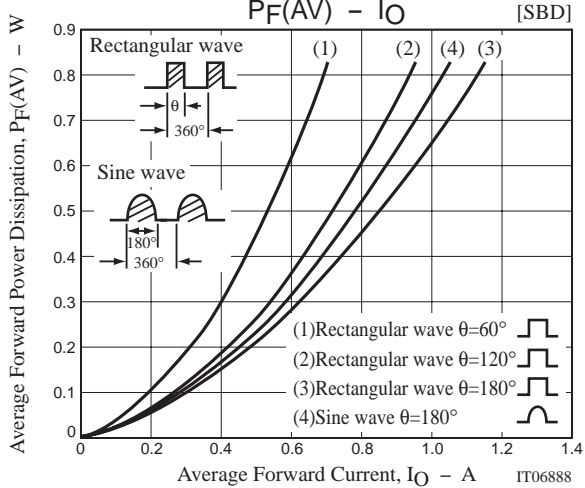
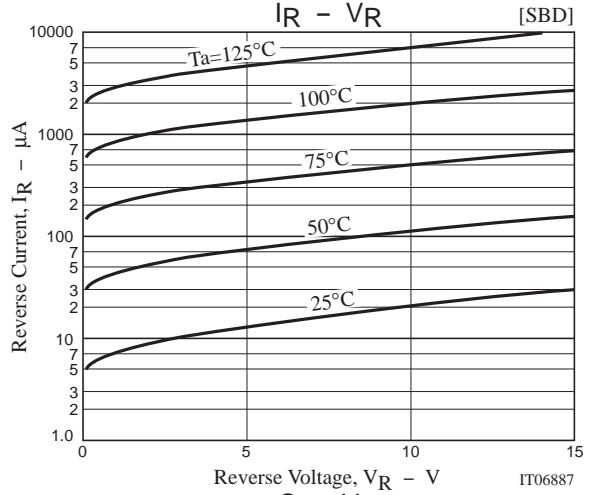
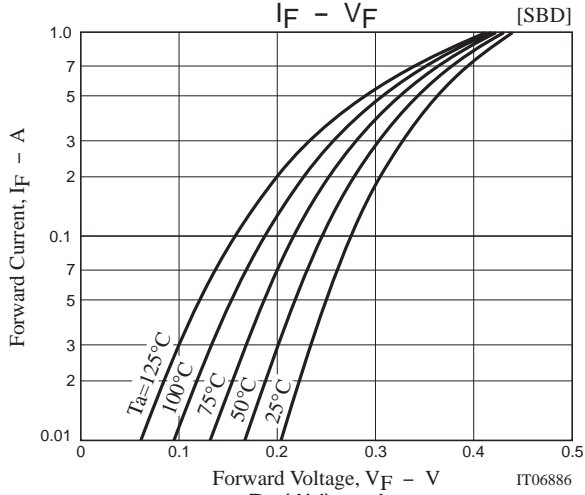
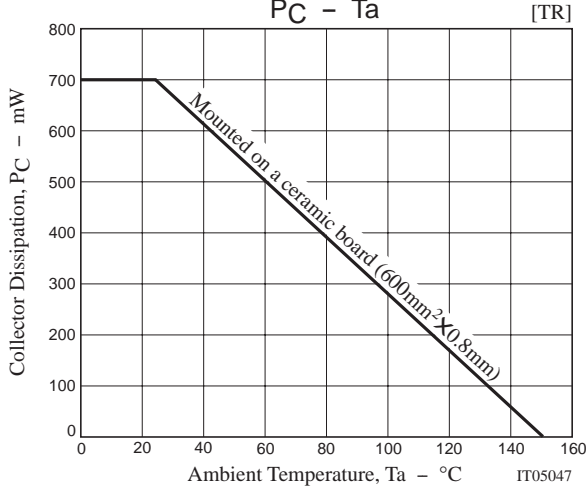
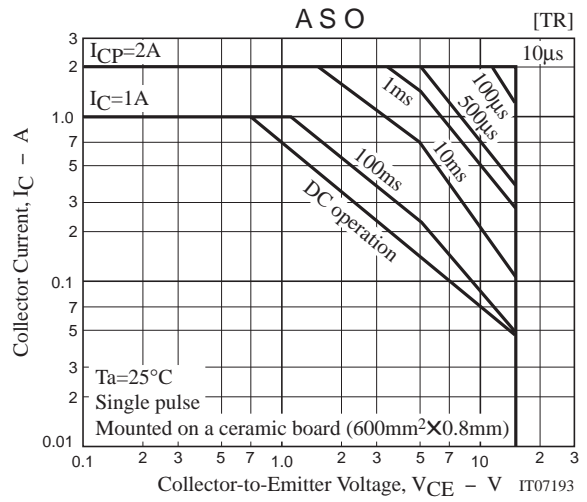
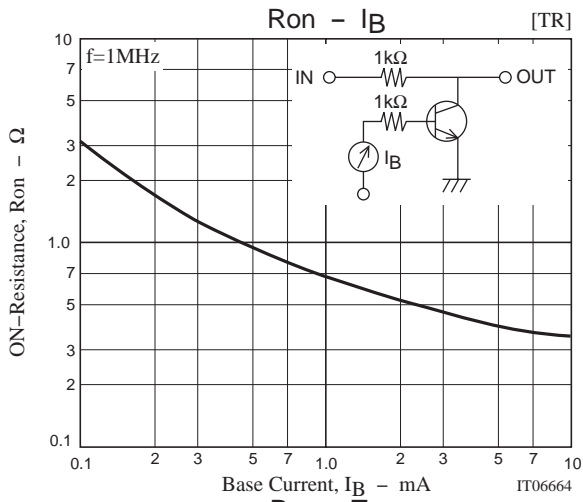
[Di]



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