



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 _{CBO}		20	V
Collector-to-Emitter Voltage	V _{CEO}		15	V
Emitter-to-Base Voltage	V _{EBO}		5	V
Collector Current	I _C		1	A
Collector Current (Pulse)	I _{CP}		2	A
Collector Dissipation	P _C	Mounted on a ceramic board (600mm ² ×0.8mm)	0.7	W
Junction Temperature	T _J		150	°C
Storage Temperature	T _{stg}		-55 to +125	°C
[SBD]				
Repetitive Peak Reverse Voltage	V _{RRM}		15	V
Non-repetitive Peak Reverse Surge Voltage	V _{RSM}		15	V
Average Output Current	I _O		0.5	A
Surge Current	I _{FSM}	50Hz sine wave, 1 cycle	2	A
Junction Temperature	T _J		-55 to +125	°C
Storage Temperature	T _{stg}		-55 to +125	°C

Marking : PG

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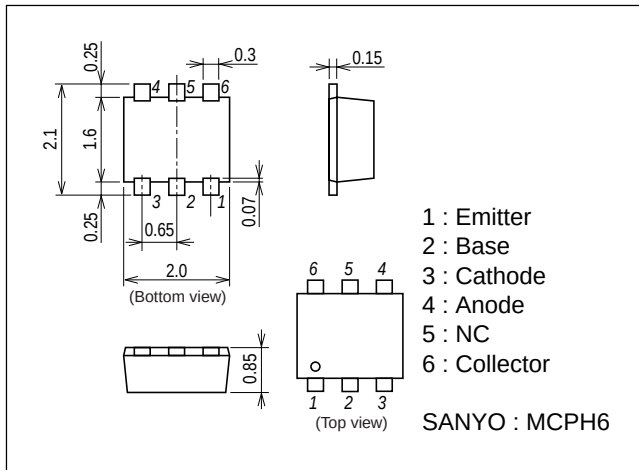
TOKYO OFFICE Tokyo Bldg., 1-10, 1 Chome, Ueno, Taito-ku, TOKYO, 110-8534 JAPAN

Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
[TR]						
Collector Cutoff Current	I _{CBO}	V _{CB} =12V, I _E =0			0.1	μA
Emitter Cutoff Current	I _{EBO}	V _{EB} =4V, I _C =0			0.1	μA
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 =10μA, I _E =0	20			V
Collector-to-Emitter Breakdown Voltage	V(BR)CEO	I _C =1mA, R _{BE} =∞	15			V
Emitter-to-Base Breakdown Voltage	V(BR)EBO	I _E =10μA, 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	μA
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

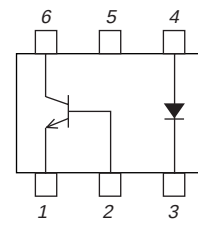
Package Dimensions

unit : mm

2232



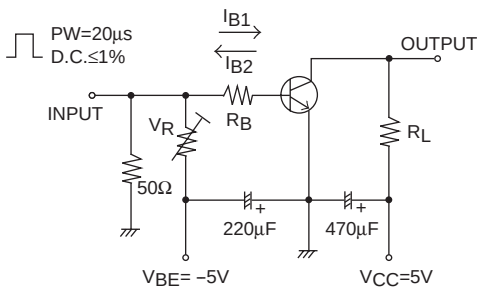
Electrical Connection



- 1 : Emitter
 2 : Base
 3 : Cathode
 4 : Anode
 5 : NC
 6 : Collector
- Top view

Switching Time Test Circuit

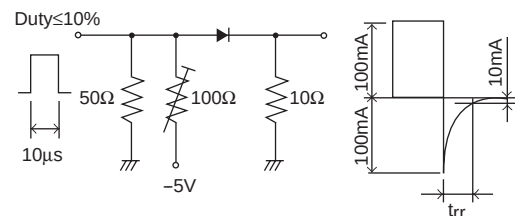
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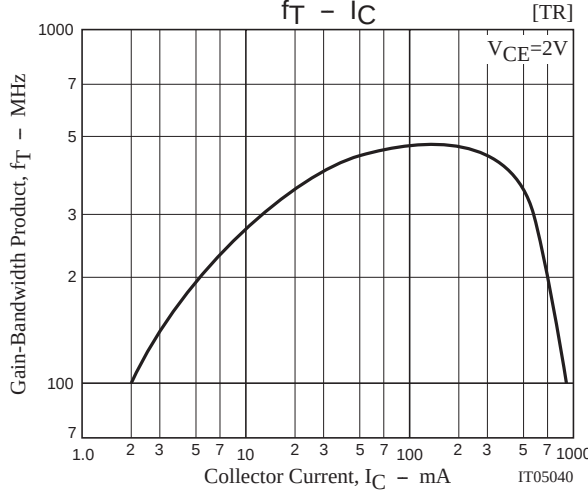
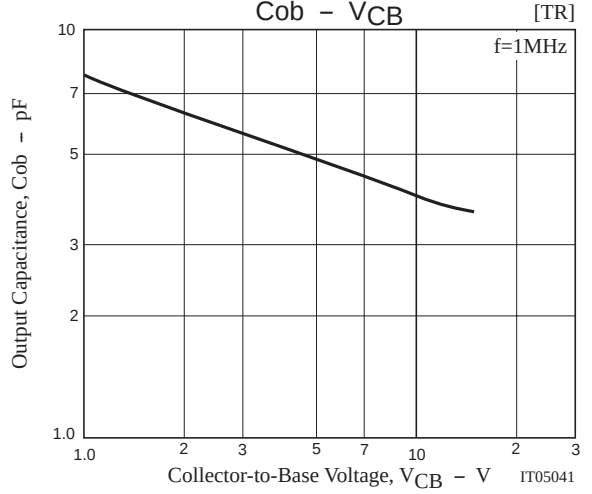
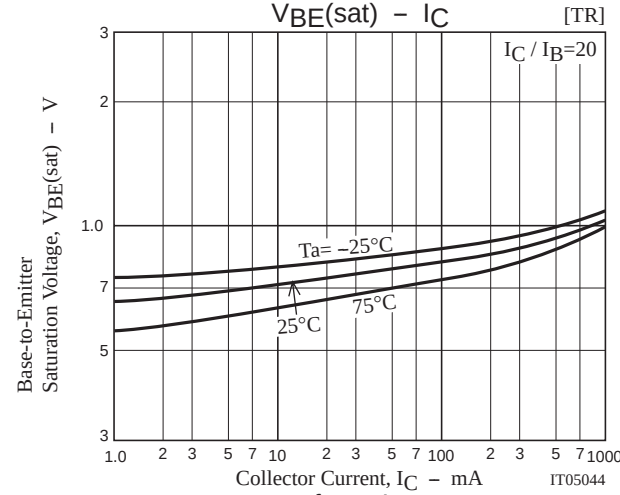
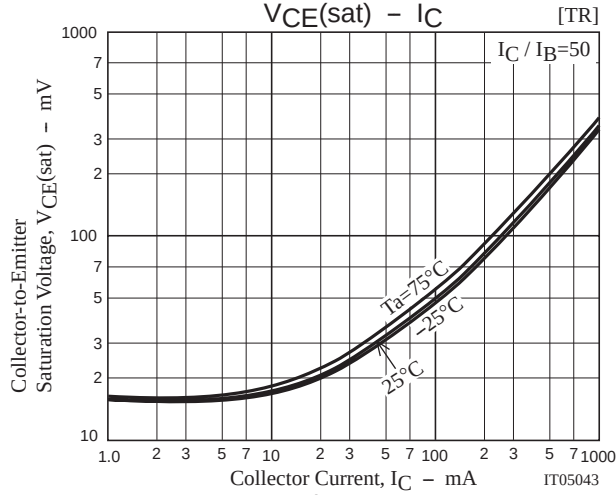
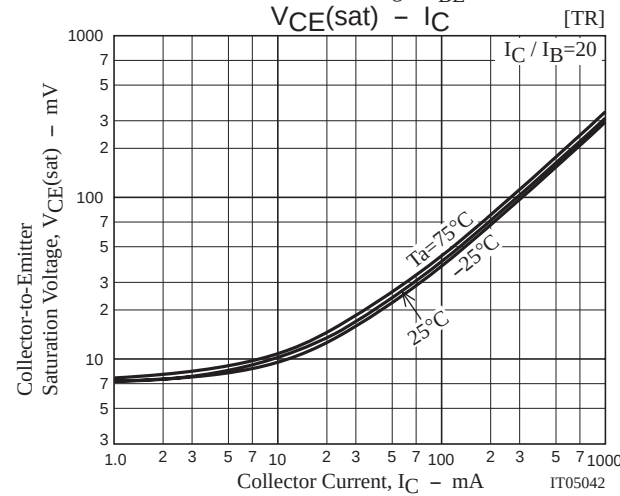
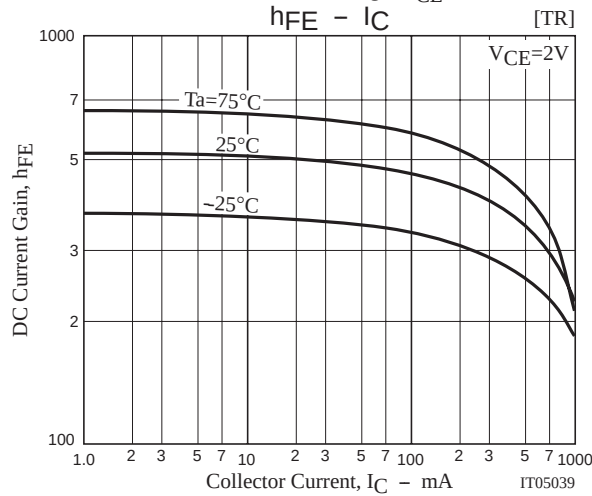
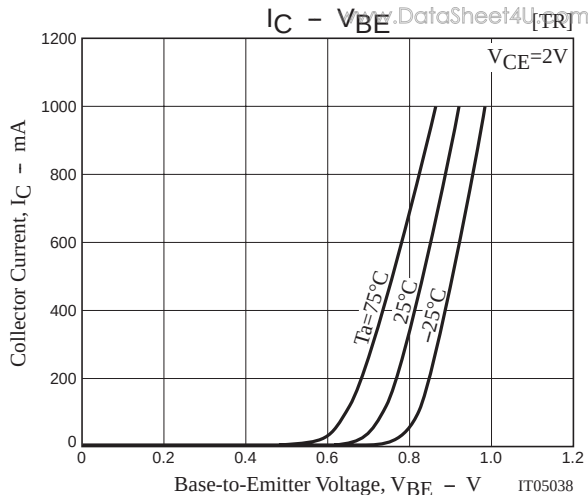
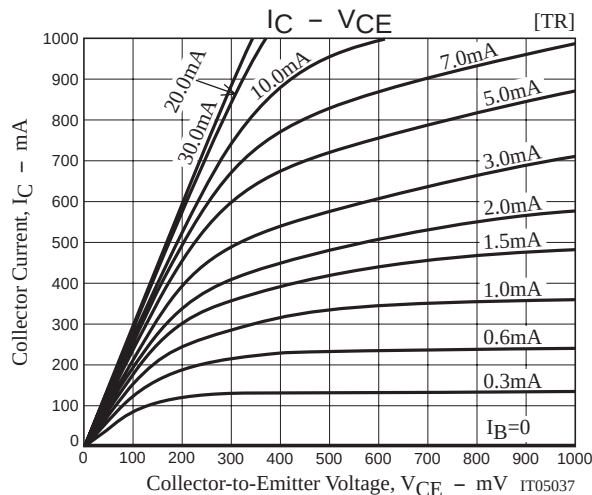


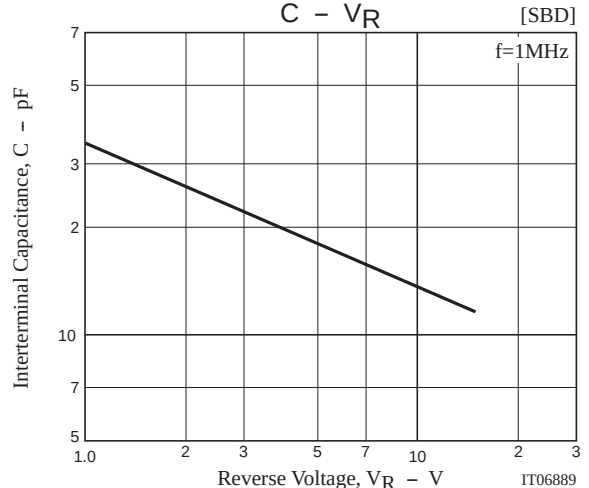
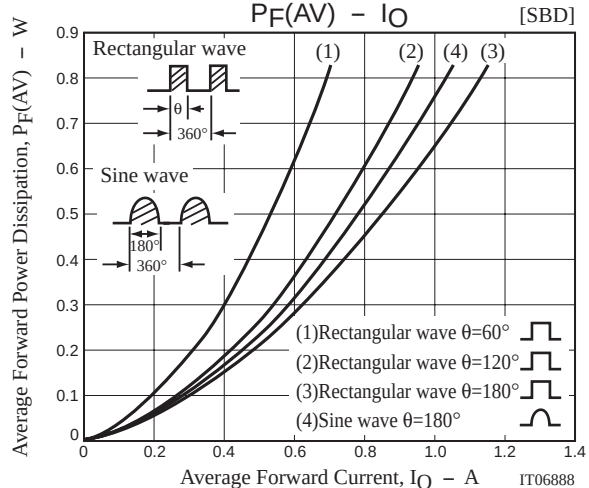
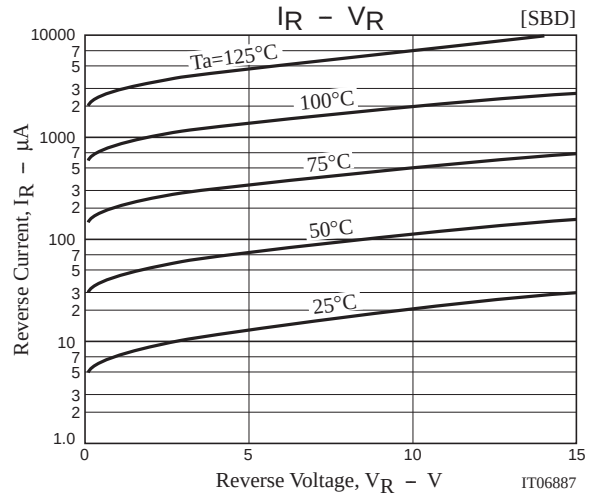
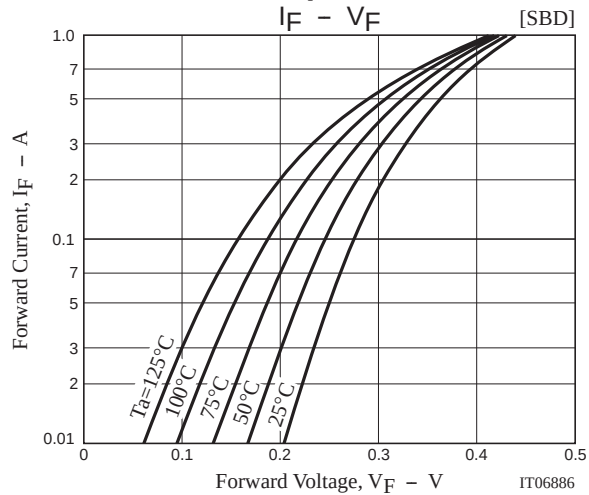
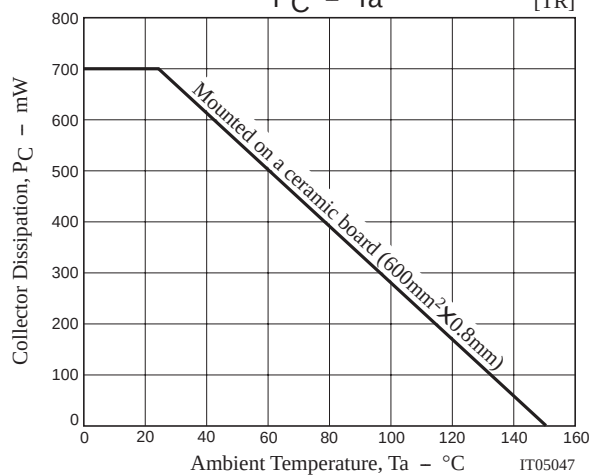
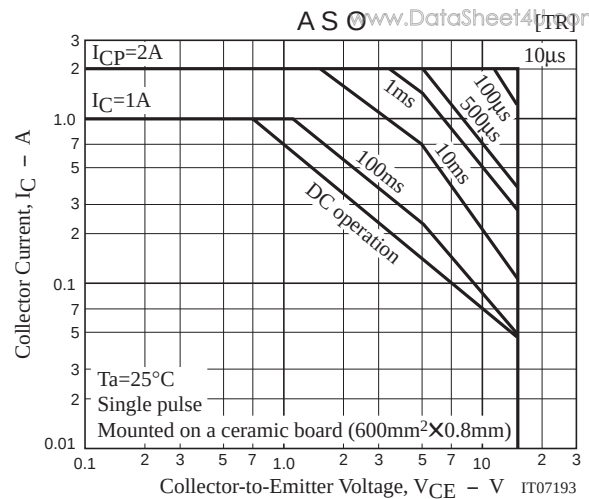
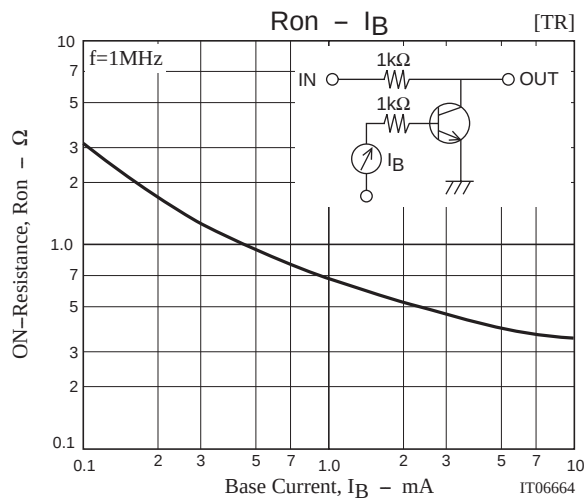
$$I_C=20I_{B1}=-20I_{B2}=400mA$$

 t_{rr} Specified Circuit

[Di]







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