General purpose (Dual digital transistors) MP6H1

Features

- High hre. hre=300(Min.)(Vce/ lc=2V/500mA)
- Low saturation voltage.
 Vce(sat)=400mV(Max.) (Ic/Iв=500mA/5mA)
- 3) Built in Zener diode for protection against surges when connected to inductive load.

●Structure

NPN silicon epitaxial planar transistor (Resistor built-in type)

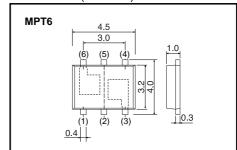
Applications

Driver

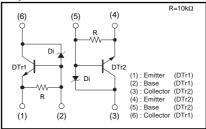
●Packaging specifications and hFE

Туре	Package	MPT6
	Packaging style	Taping
	Code	TR
	Basic ordering unit(pieces)	1000
MP6H1		0

●Dimensions (Unit: mm)



●Equivalent circuit



● Absolute maximum ratings (Ta=25°C)

《DTR1》《DTR2》

Parameter	Symbol	Limits	Unit	
Collector-base voltage	V_{CBO}	60±10	V	
Collector-emitter voltage	V_{CEO}	60±10	V	
Emitter-base voltage	V_{EBO}	5	V	
Collector current	Continuous	Ic	1	Α
Collector current	Pulsed	I _{CP *1}	2	Α
Power dissipation	P _{D*2}	2.0	W/TOTAL	
	' D*2	1.4	W/ELEMENT	
Junction temperature	Τj	150	°C	
Storage temperature	Tstg	-55 to +150	°C	

^{*1} Pw=10ms, Single pulse

^{*2} Each terminal mounted on a ceramic board

●Electrical characteristics (Ta=25°C)

《DTR1》《DTR2》

Parameter	Symbol	Min.	Тур.	Max.	Unit	Test Conditions
Collector-emitter breakdown voltage	BV_{CEO}	50	-	70	V	I _C =1mA
Collector-base breakdown voltage	BV_{CBO}	50	-	70	V	I _C =50μA
Emitter-base breakdown voltage	BV_{EBO}	5	-	-	V	I _E =720μA
Collector cutoff current	I _{CBO}	-	-	500	nA	V _{CB} =40V
Emitter cutoff current	I _{EBO}	300	-	580	μΑ	V _{EB} =4V
Collector-emitter saturation voltage	$V_{CE(sat)}$	-	-	400	mV	$I_{\rm C}/I_{\rm B}$ =500mA/5mA
DC current gain	hfe	300	-	-	-	V _{CE} =2V,I _C =500mA
Emitter-base resistance	R	7	10	13	kΩ	
Transition frequency	f _T ∗	=	80	-	MHz	V _{CE} =5V,I _E =-100mA,f=30MH

^{*} Characteristics of built-in transistor.

•Electrical characteristic curves

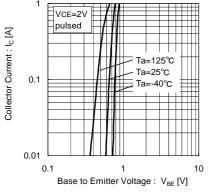


Fig.1 Grounded Emitter Propagation Characteristics

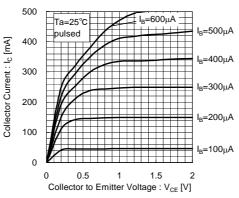


Fig.2 Typical Output Characteristics

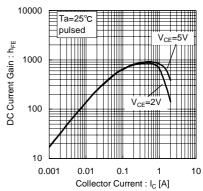


Fig.3 DC Current Gain vs Collector Current I

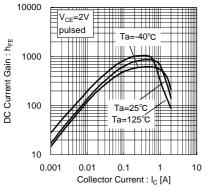


Fig.4 DC Current Gain vs Collector Current II

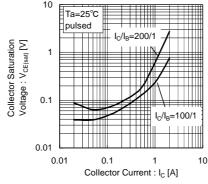


Fig.5 Collector-Emitter Saturation Voltage vs Collector Current I

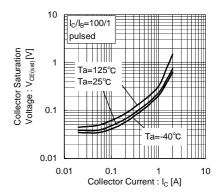


Fig.6 Collector-Emitter Saturation

Voltage vs Collector Current II

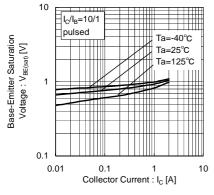


Fig.7 Base-Emitter Saturation Voltage vs Collector Current

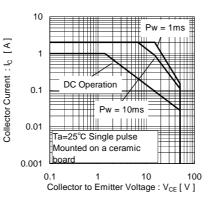


Fig.8 Maximum Safe Operating Area

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