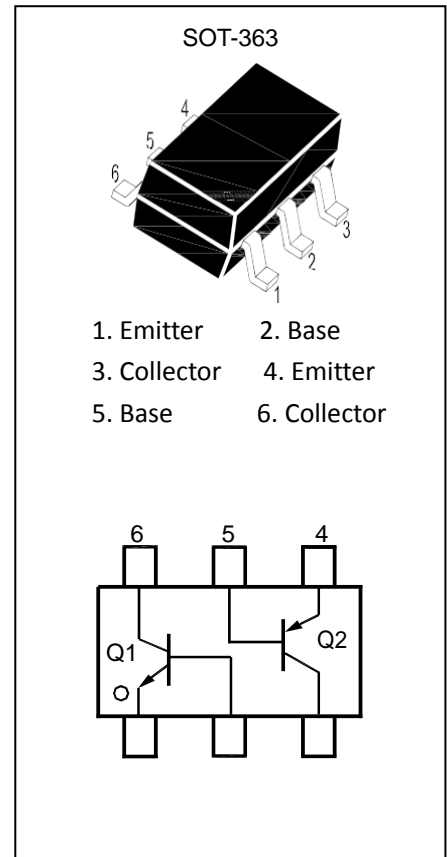


MMBT3946DW Transistor(NPN/PNP)

Q1 MAXIMUM RATINGS (T_a=25°C unless otherwise noted)

Parameter	Symbol	Value	Unit
Collector-Base Voltage	V _{CBO}	60	V
Collector-Emitter Voltage	V _{CEO}	40	V
Emitter-Base Voltage	V _{EBO}	6	V
Collector Current -Continuous	I _c	0.2	A
Power Dissipation	P _d	0.2	W
Junction Temperature	T _J	150	°C
Storage Temperature	T _{STG}	-55~ +150	°C



Q2 MAXIMUM RATINGS (T_a=25°C unless otherwise noted)

Parameter	Symbol	Value	Unit
Collector-Base Voltage	V _{CBO}	-40	V
Collector-Emitter Voltage	V _{CEO}	-40	V
Emitter-Base Voltage	V _{EBO}	-6	V
Collector Current -Continuous	I _c	-0.2	A
Power Dissipation	P _d	0.2	W
Junction Temperature	T _J	150	°C
Storage Temperature	T _{STG}	-55~ +150	°C

Q1 ELECTRICAL CHARACTERISTICS(T_a=25°C unless otherwise noted)

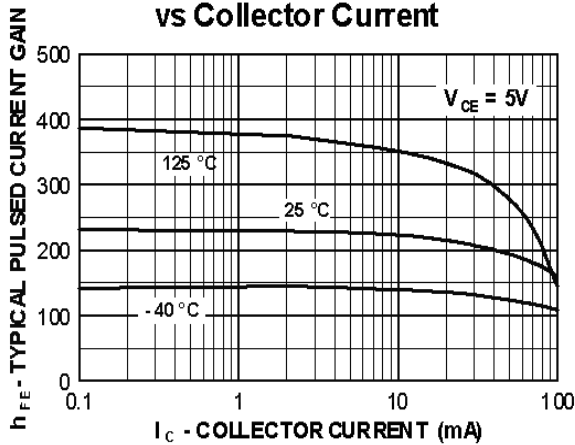
Parameter	Symbol	Test Condition	Min	Max	Unit
Collector-base breakdown voltage	V _{(BR)CBO}	I _C =10μA, I _E =0	60		V
Collector-emitter breakdown voltage	V _{(BR)CEO}	I _C =1mA, I _B =0	40		V
Emitter-base breakdown voltage	V _{(BR)EBO}	I _E =10μA, I _C =0	6		V
Collector cut-off current	I _{CBO}	V _{CB} =60V, I _E =0		50	nA
Emitter cut-off current	I _{EBO}	V _{EB} =6V, I _C =0		50	nA
DC current gain	h _{FE1}	V _{CE} =1V, I _C =0.1mA	40		
	h _{FE2}	V _{CE} =1V, I _C =1mA	70		
	h _{FE3}	V _{CE} =1V, I _C =10mA	100	300	
	h _{FE4}	V _{CE} =1V, I _C =50mA	60		
	h _{FE5}	V _{CE} =1V, I _C =100mA	30		
Collector-emitter saturation voltage	V _{CE(sat)}	I _C =10mA, I _B =1mA		0.2	V
		I _C =50mA, I _B =5mA		0.3	V
Base-emitter saturation voltage	V _{BE(sat)}	I _C =10mA, I _B =1mA	0.65	0.85	V
		I _C =50mA, I _B =5mA		0.95	V
Transition frequency	f _T	V _{CE} = 20V, I _C =10mA, f=100MHz	300		MHZ
Collector Output Capacitance	C _{pd}	V _{CB} = 5V, I _E =0mA, f=1MHz		4	pF
Delay Time	t _d	V _{CC} =3V, I _C = 10mA,		35	ns
Rise Time	t _r	V _{BE(off)} =-0.5V, I _{B1} =1mA		35	ns
Storage Time	t _s	V _{CC} =3V, I _C =10mA,		200	ns
Fall Time	t _f	I _{B1} = I _{B2} =1mA		50	ns

Q2 ELECTRICAL CHARACTERISTICS(T_a=25°C unless otherwise noted)

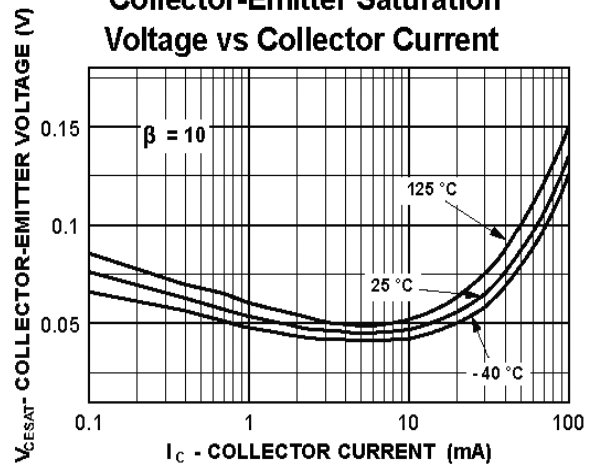
Parameter	Symbol	Test Condition	Min	Max	Unit
Collector-base breakdown voltage	V _{(BR)CBO}	IC=-10μA ,IE=0	-40		V
Collector-emitter breakdown voltage	V _{(BR)CEO}	IC=-1mA , IB=0	-40		V
Emitter-base breakdown voltage	V _{(BR)EBO}	IE=-10μA,IC=0	-6		V
Collector cut-off current	I _{CBO}	V _{CB} =-30V, IE=0		-50	nA
Emitter cut-off current	I _{EBO}	V _{CE} =-30V, V _{EB(OFF)} =-3V		-50	nA
DC current gain	h _{FE1}	V _{CE} =-1V, IC=-0.1mA	60		
	h _{FE2}	V _{CE} =-1V, IC=-1mA	80		
	h _{FE3}	V _{CE} =-1V, IC=-10mA	100	300	
	h _{FE4}	V _{CE} =-1V, IC=-50mA	60		
	h _{FE5}	V _{CE} =-1V, IC=-100mA	30		
Collector-emitter saturation voltage	V _{CE(sat)}	IC=-10mA, IB= -1mA		-0.25	V
		IC=-50mA, IB= -5mA		-0.4	V
Base-emitter saturation voltage	V _{BE(sat)}	IC=-10mA, IB= -1mA	-0.65	-0.85	V
		IC=-50mA, IB= -5mA		-0.95	V
Transition frequency	f _T	V _{CE} = -20V, IC=-10mA, f =100MHz	250		MHZ
Output Capacitance	C _{obo}	V _{CB} =-5.0V, f = 1.0MHz, IE = 0		4.5	pf
Delay Time	t _d	V _{CC} =-3.0V, IC = -10mA,		35	ns
Rise Time	t _r	V _{BE(off)} = 0.5V, IB1 = -1.0mA		35	ns
Storage Time	t _s	V _{CC} = -3.0V, IC = -10mA,		225	ns
Fall Time	t _f	IB1 = IB2 = -1.0mA		75	ns

Typical Characteristics (Q1)

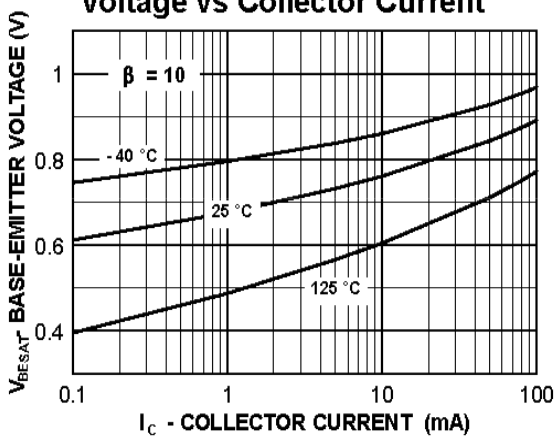
Typical Pulsed Current Gain vs Collector Current



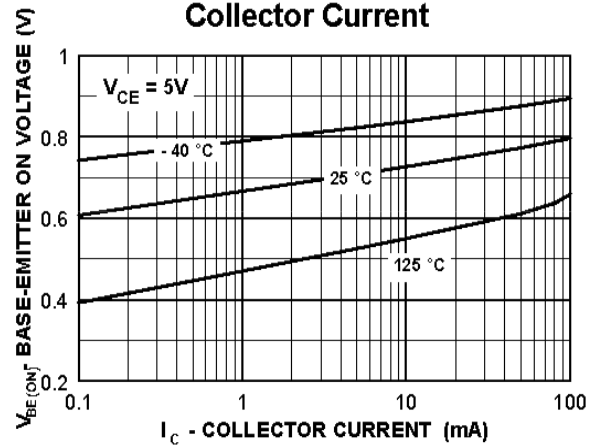
Collector-Emitter Saturation Voltage vs Collector Current



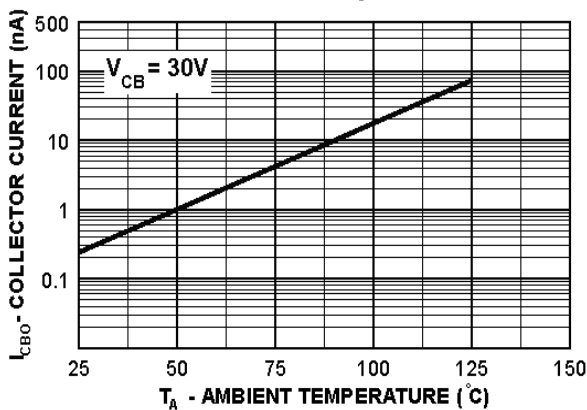
Base-Emitter Saturation Voltage vs Collector Current



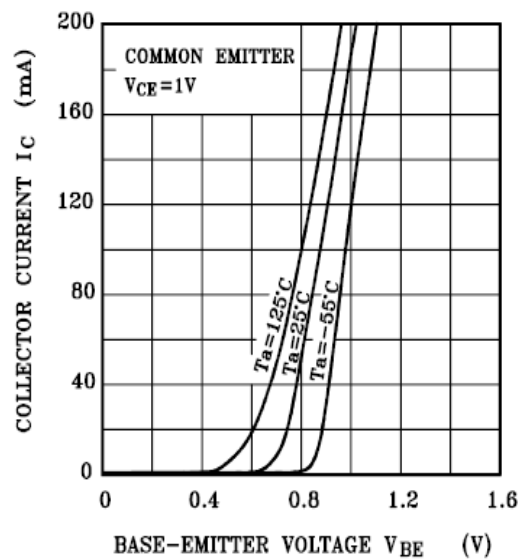
Base-Emitter ON Voltage vs Collector Current



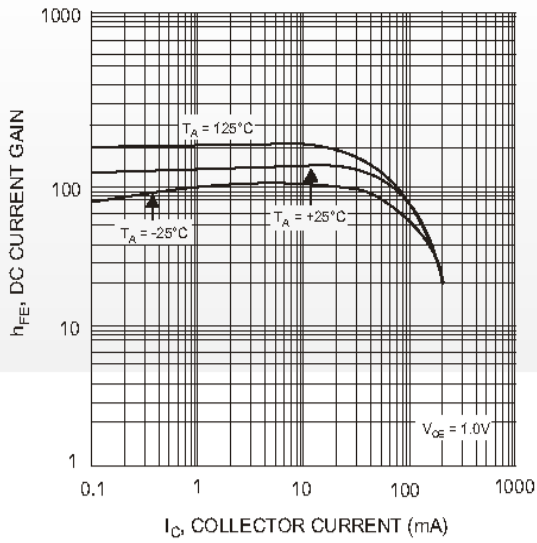
Collector-Cutoff Current vs Ambient Temperature



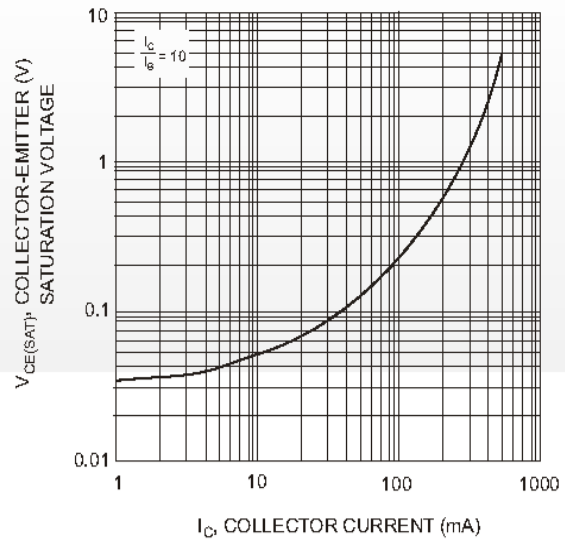
$I_C - V_{BE}$



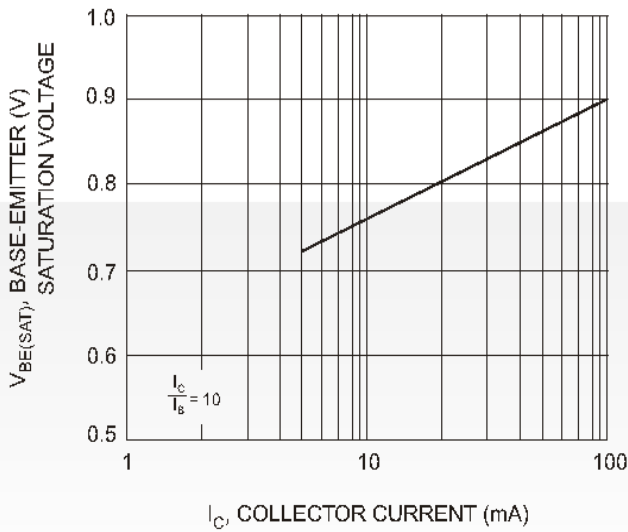
Typical Characteristics (Q2)



Typical DC Current Gain vs Collector Current

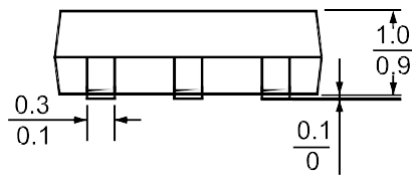
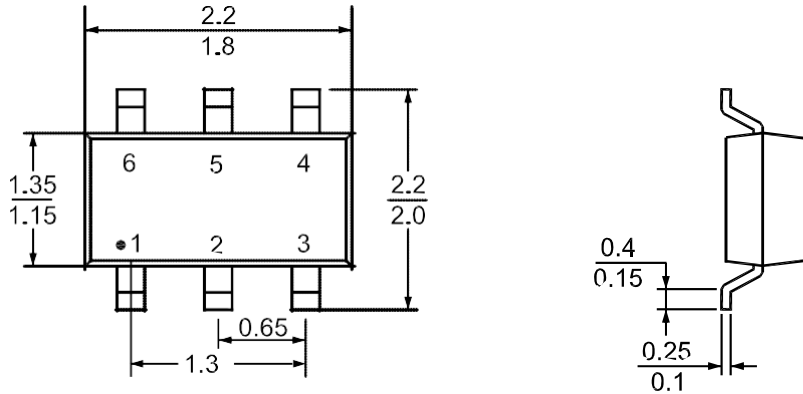


Typical Collector-Emitter Saturation Voltage vs. Collector Current

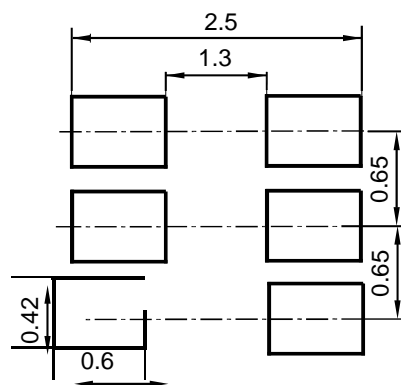


Typical Base-Emitter Saturation Voltage vs. Collector Current

SOT-363 Package Information



RECOMMENDED SOLDERING FOOTPRINT



SOT-363

单击下面可查看定价，库存，交付和生命周期等信息

[>>GP\(格瑞宝\)](#)