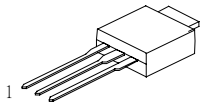
UTC 2SA1700 PNP EPITAXIAL SILICON TRANSISTOR

HIGH VOLTAGE DRIVER APPLICATION

FEATURES

*High breakdown voltage.

*Excellent h_{FE} linearity.



TO-251

1: BASE 2:COLLECTOR 3:EMITTER

ABSOLUTE MAXIMUM RATINGS (Ta=25°C)

PARAMETER	SYMBOL	RATING	UNIT
Collector-Base Voltage	V_{CBO}	-400	V
Collector-Emitter Voltage	V_{CEO}	-400	V
Emitter-Base Voltage	V_{EBO}	-5	V
Collector Current	Ic	-200	mA
Collector Current (PULSE)	Icp	-400	mA
Collector Power Dissipation	Pc	1	W
		10(Tc=25°C)	W
Junction Temperature	T_j	150	°C
Storage Temperature	T_{stg}	-55 ~ +150	°C

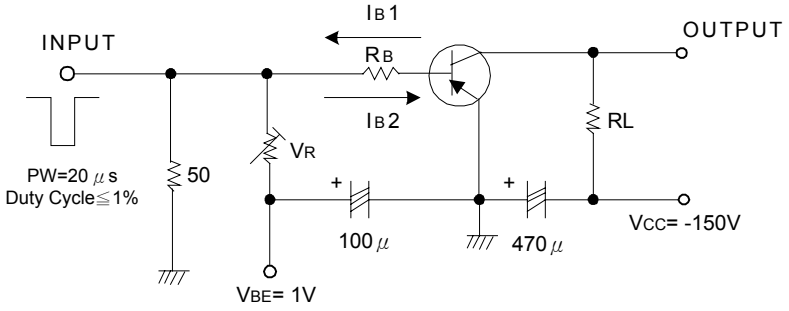
ELECTRICAL CHARACTERISTICS (Ta=25°C, unless otherwise specified)

PARAMETER	SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
Collector-Base Breakdown Voltage	BV_{CBO}	I_C= -10μA,I_E=0	-400			V
Collector-Emitter Breakdown Voltage	BV_{CEO}	I_C= -1mA, I_B=0, R_{BE}=∞	-400			V
Emitter-Base Breakdown Voltage	BV_{EBO}	I_E= -10μA,I_C=0	-5			V
Collector Cutoff Current	I_{CBO}	V_{CB}= -300V,I_E=0			-0.1	μA
Emitter Cutoff Current	I_{EBO}	V_{EB}= -4V,I_C=0			-0.1	μA
DC Current Transfer Ratio	hFE	V_{CE}= -10V, Ic= -50mA	60		200	
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$	I_C= -50mA,I_B= -5mA			-0.8	V
Base-Emitter Saturation Voltage	$V_{BE(sat)}$	I_C= -50mA,I_B= -5mA			-1.0	V
Output Capacitance	Cob	V_{CB}= -30V,f=1MHz		5		pF
Reverse Transfer Capacitance	Cre	V_{CB}= -30V,f=1MHz		4		pF
Gain-Bandwidth Product	f_T	V_{CE}= -30V,I_C= -10mA		70		MHz
Turn-on Time	ton	See test circuit		0.25		μs
Turn-off Time	toff	See test circuit		5		μs

CLASSIFICATION OF hFE

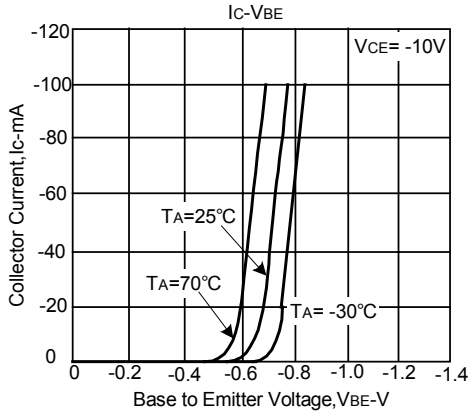
RANK	D	E
RANGE	60-120	100-200

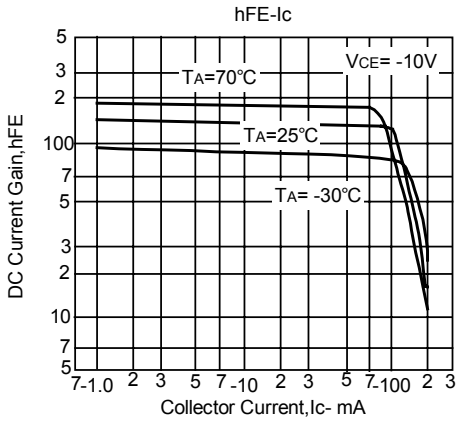
TEST CIRCUIT(Unit : (resistance : Ω, capacitance : F)

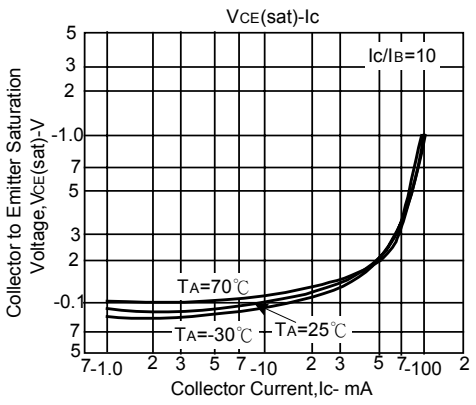


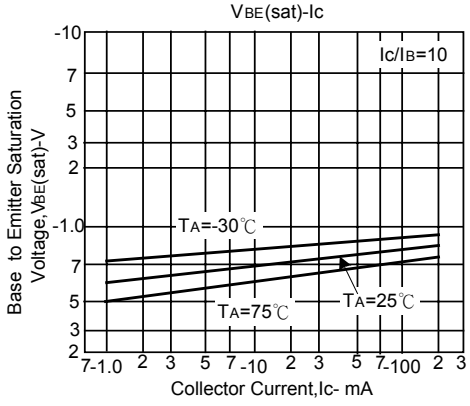
-10IB1= 10IB2=Ic= -50mA
RL=3kΩ,RB=200Ω at Ic= -50mA

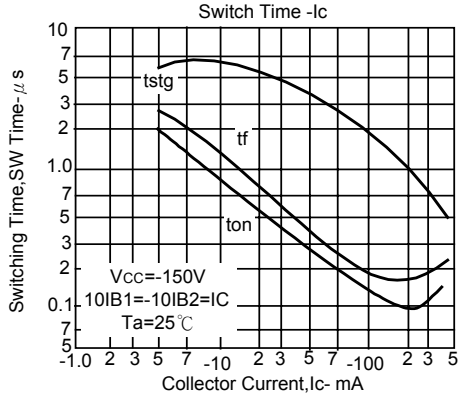
ELECTRICAL CHARACTERISTICS CURVES

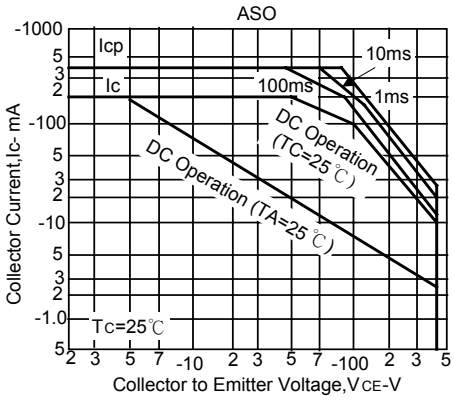


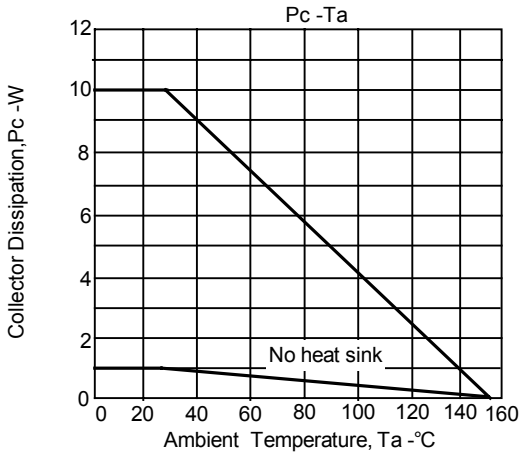



VCE(sat)-Ic
Ic/IB=10
TA=70℃
TA=-30℃
TA=25℃
Collector to Emitter Saturation Voltage,VCE(sat)-V
Collector Current,Ic- mA


VBE(sat)-Ic
Ic/IB=10
TA=-30℃
TA=75℃
TA=25℃
Base to Emitter Saturation Voltage,VBE(sat)-V
Collector Current,Ic- mA


Switch Time -Ic
tstg
tf
ton
VCC=-150V
10IB1=-10IB2=IC
Ta=25℃
Switching Time,SW Time-μs
Collector Current,Ic- mA


ASO
Icp
Ic
10ms
100ms
1ms
DC Operation (TC=25℃)
DC Operation (TA=25℃)
TC=25℃
Collector Current,Ic- mA
Collector to Emitter Voltage,VCE-V


Pc -Ta
No heat sink
Collector Dissipation,Pc -W
Ambient Temperature, Ta -℃