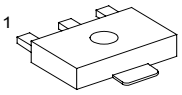
UTC 2SA1740 PNP EPITAXIAL SILICON TRANSISTOR

HIGH VOLTAGE DRIVER APPLICATION

FEATURES

*High breakdown voltage.
*Excellent h_{FE} linearity.



SOT-89

1:EMITTER 2:COLLECTOR 3:BASE

ABSOLUTE MAXIMUM RATINGS (Ta=25°C ,unless otherwise specified)

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	I_C	-200	mA
Collector Current (PULSE)	I_{CP}	-400	mA
Collector Power Dissipation	P_C	1.3	W
Junction Temperature	T_J	150	°C
Storage Temperature	T_{STG}	-55 ~ +150	°C

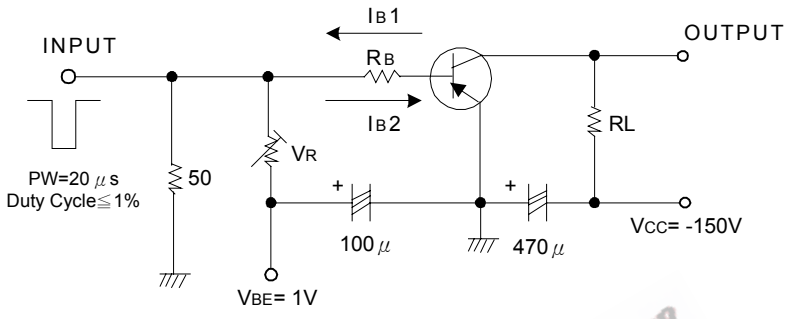
ELECTRICAL CHARACTERISTICS (Ta=25°C, unless otherwise specified)

PARAMETER	SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
Collect-Base Breakdown Voltage	BV_{CBO}	I_C= -10μA,I_E=0	-400			V
Collect-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	h_{FE}	V_{CE}= -10V, I_C= -50mA	60		200	
Collect-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		5.0		μs

CLASSIFICATION OF hFE

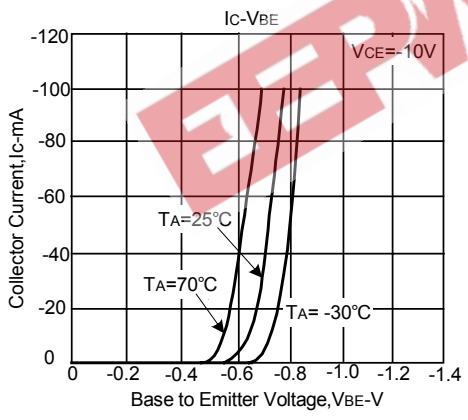
RANK	D	E
RANGE	60-120	100-200

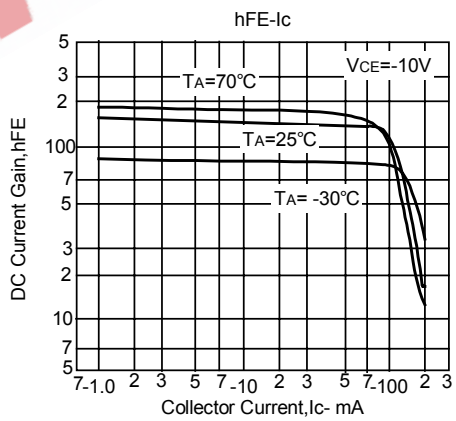
TEST CIRCUIT (Unit : (resistance : Ω, capacitance : F)

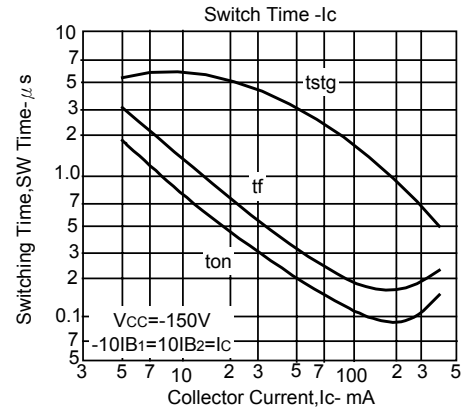


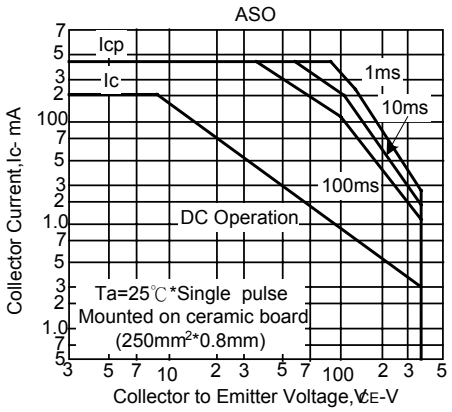
-10IB1= 10IB2=Ic= -50mA
RL=3kΩ,RB=200Ω at Ic= -50mA

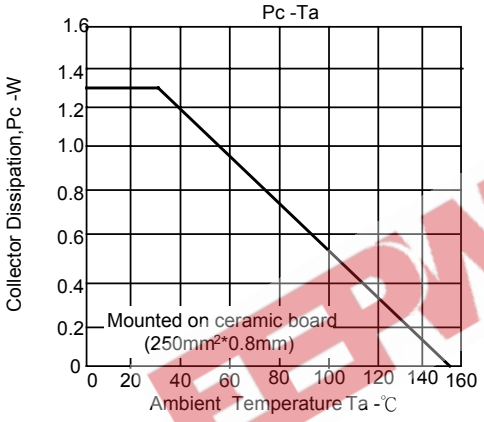
ELECTRICAL CHARACTERISTICS CURVES

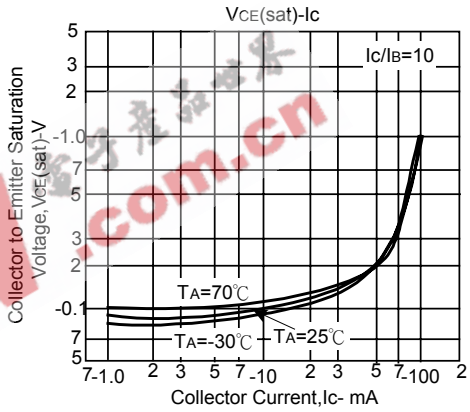


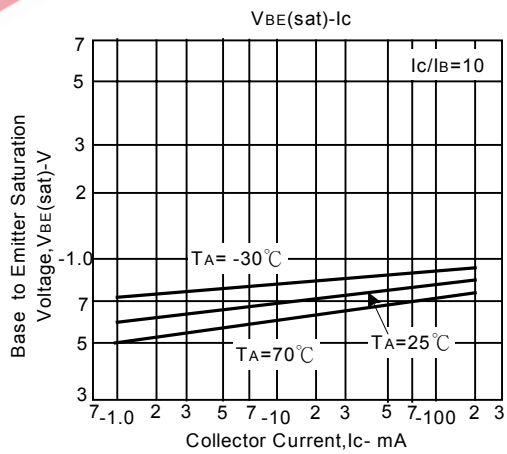



Switch Time -Ic
Switching Time,SW Time-μs
tstg
tf
ton
VCC=-150V
-10IB1=10IB2=IC
Collector Current,Ic- mA


ASO
Icp
Ic
1ms
10ms
100ms
DC Operation
Ta=25℃*Single pulse
Mounted on ceramic board
(250mm²*0.8mm)
Collector Current,Ic- mA
Collector to Emitter Voltage,VCE-V


Pc -Ta
Collector Dissipation,Pc -W
Mounted on ceramic board
(250mm²*0.8mm)
Ambient Temperature Ta -℃


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=70℃
TA=25℃
Base to Emitter Saturation Voltage,VBE(sat)-V
Collector Current,Ic- mA