

UTC2SD1802 NPN EPITAXIAL PLANAR SILICON TRANSISTOR

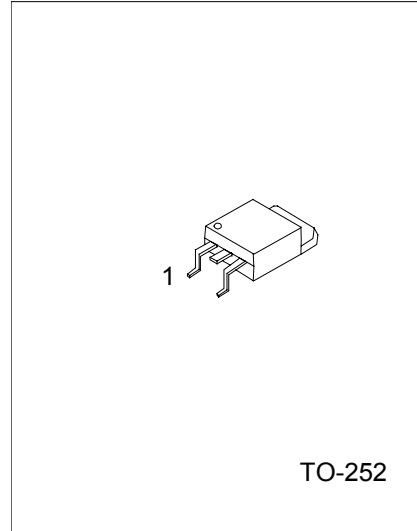
HIGH CURRENT SWITCHING APPLICATION

DESCRIPTION

The UTC 2SD1802 applies to voltage regulators, relay drivers, lamp drivers, and electrical equipment.

FEATURES

- *Adoption of FBET, MBIT processes
- *Large current capacity and wide ASO
- *Low collector-to-emitter saturation voltage
- *Fast switching speed



1: BASE 2: COLLECTOR 3: EMITTER

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

PARAMETER	SYMBOL	VALUE	UNIT
Collector-Base Voltage	V _{CB0}	60	V
Collector-Emitter Voltage	V _{CEO}	50	V
Emitter-Base Voltage	V _{EB0}	6	V
Collector Power Dissipation	P _c	1	W
T _c =25°C		15	W
Collector Current(DC)	I _c	3	A
Collector Current(PULSE)	I _{cp}	6	A
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 Cutoff Current	I _{CBO}	V _{CB} =40V, I _E =0			1	μA
Emitter Cutoff Current	I _{EBO}	V _{EB} =4V, I _C =0			1	μA
DC Current Gain (note)	h _{FE1} h _{FE2}	V _{CE} =2V, I _C =100mA V _{CE} =2V, I _C =3A	100 35		560	
Gain-Bandwidth Product	f _T	V _{CE} =10V, I _C =50mA		150		MHz
Output Capacitance	C _{ob}	V _{CB} =10V, f=1MHz		25		pF
C-E Saturation Voltage	V _{CE(sat)}	I _C =2A, I _B =100mA		0.19	0.5	V
B-E Saturation Voltage	V _{BE(sat)}	I _C =2A, I _B =100mA		0.94	1.2	V
C-B Breakdown Voltage	V _{(BR)CBO}	I _C =10μA, I _E =0	60			V
C-E Breakdown Voltage	V _{(BR)CEO}	I _C =1mA, R _{BE} =∞	50			V
E-B Breakdown Voltage	V _{(BR)EBO}	I _E =10μA, I _C =0	6			V
Turn-on Time	t _{on}	See test circuit		70		ns

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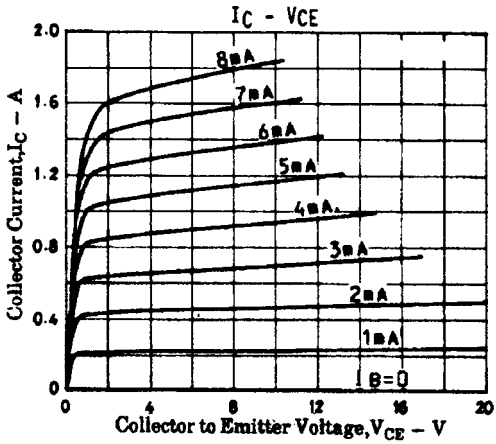
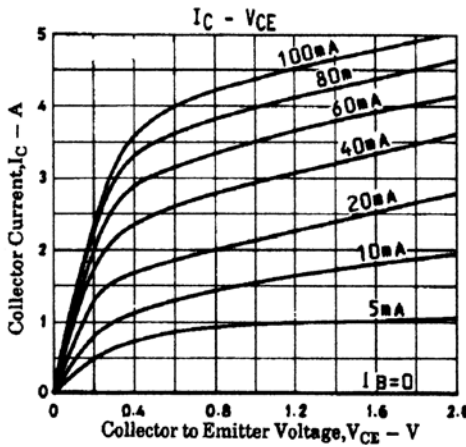
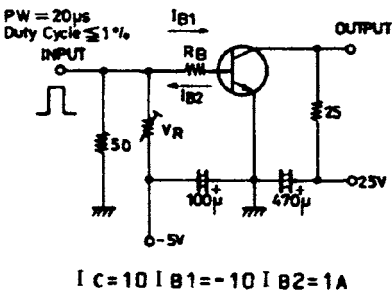
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PARAMETER	SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
Storage Time	tstg	See test circuit		650		ns
Fall Time	tf	See test circuit		35		ns

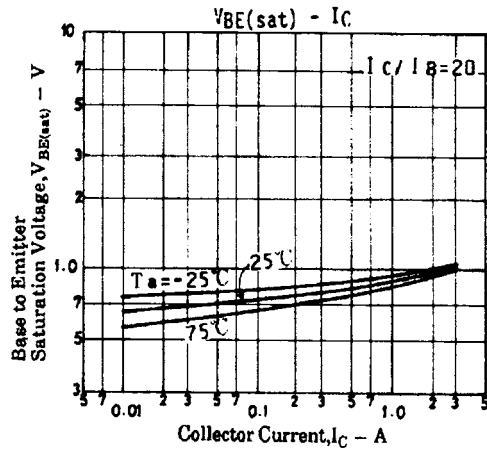
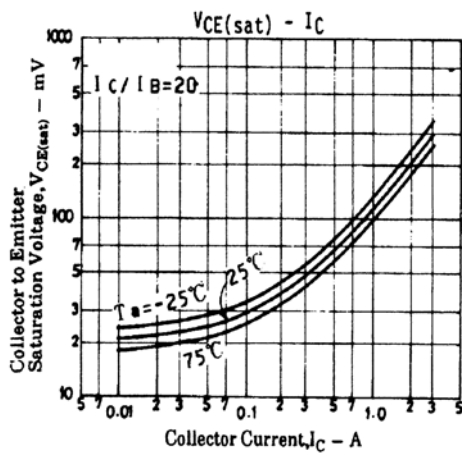
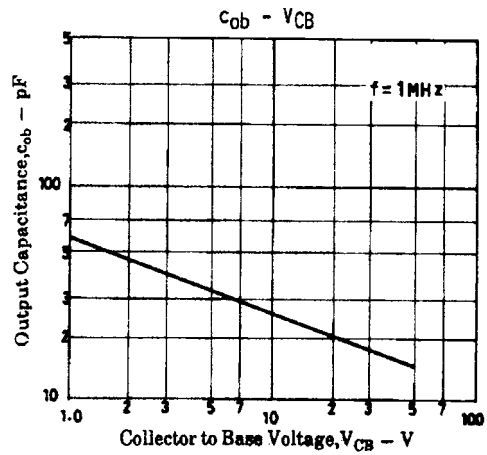
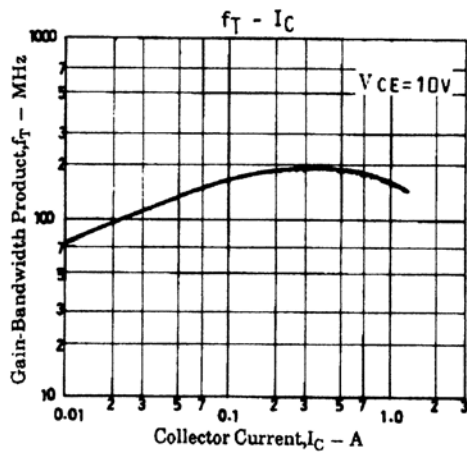
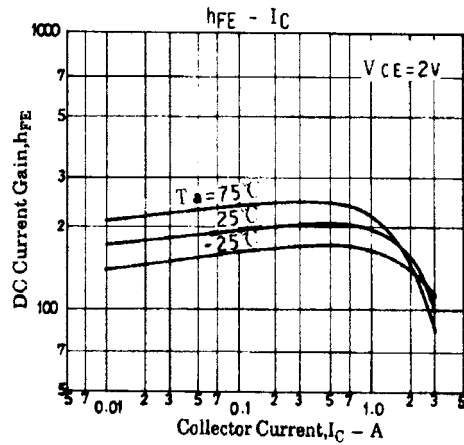
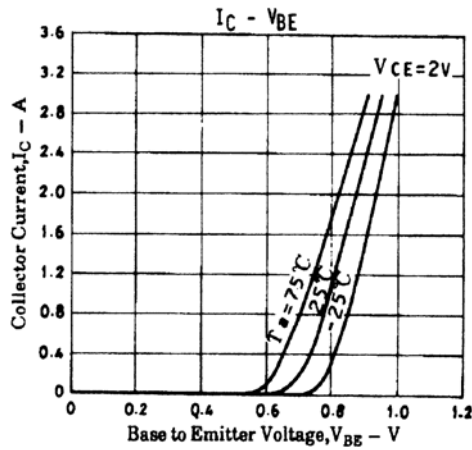
CLASSIFICATION OF h_{FE1}

RANK	R	S	T	U
RANGE	100-200	140-280	200-400	280-560

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



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