

2SD1803

NPN EPITAXIAL SILICON TRANSISTOR

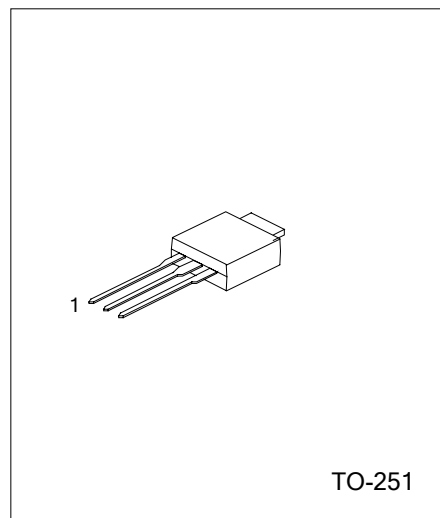
HIGH CURRENT SWITCHING APPLICATION

■ DESCRIPTION

The UTC 2SD1803 applies to relay drivers, high-speed inverters, converters, and other general high-current switching applications.

■ FEATURES

- *Low collector-to-emitter saturation voltage.
- *High current and high f_T .
- *Excellent linearity of h_{FE} .
- *Fast switching time.



*Pb-free plating product number: 2SD1803L

■ PIN CONFIGURATION

PIN NO.	PIN NAME
1	BASE
2	COLLECTOR
3	EMITTER

■ ORDERING INFORMATION

Order Number		Package	Packing
Normal	Lead free		
2SD1803-TM3-T	2SD1803L-TM3-T	TO-251	Tube

■ ABSOLUTE MAXIMUM RATINGS (Ta = 25°C)

PARAMETER		SYMBOL	RATINGS	UNIT
Collector-Base Voltage		V _{CBO}	60	V
Collector-Emitter Voltage		V _{CEO}	50	V
Emitter-Base Voltage		V _{EBO}	6	V
Collector Current	DC	I _C	5	A
	PULSE	I _{CM}	8	A
Power Dissipation	Tc=25℃	P _D	20	W
	Ta=25℃		1	W
Junction Temperature		T _J	+150	℃
Storage Temperature		T _{STG}	-40 ~ +150	℃

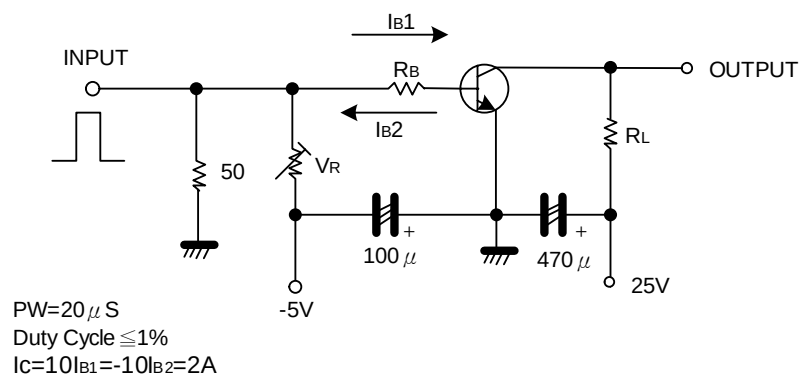
■ ELECTRICAL CHARACTERISTICS (Ta = 25°C, unless otherwise specified.)

PARAMETER	SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
Collector-Base Breakdown Voltage	BV _{CBO}	I _C =10μA, I _E =0	60			V
Collector-Emitter Breakdown Voltage	BV _{CEO}	I _C =1mA, R _{BE} =∞	50			V
Emitter-Base Breakdown Voltage	BV _{EBO}	I _E =10μA, I _C =0	6			V
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	h _{FE1}	V _{CE} =2V, I _C =0.5A	70		400	
	h _{FE2}	V _{CE} =2V, I _C =4A	35			
Gain-Bandwidth Product	f _T	V _{CE} =5V, I _C =1A		180		MHz
Output Capacitance	C _{ob}	V _{CB} =10V, f=1MHz		40		pF
C-E Saturation Voltage	V _{CE(sat)}	I _C =3A, I _B =0.15A		220	400	mV
B-E Saturation Voltage	V _{BE(sat)}	I _C =3A, I _B =0.15A		0.95	1.3	V
Turn-on Time	t _{ON}	See Test Circuit		50		ns
Storage Time	t _S	See Test Circuit		500		ns
Fall Time	t _F	See Test Circuit		20		ns

■ CLASSIFICATION OF hFE 1

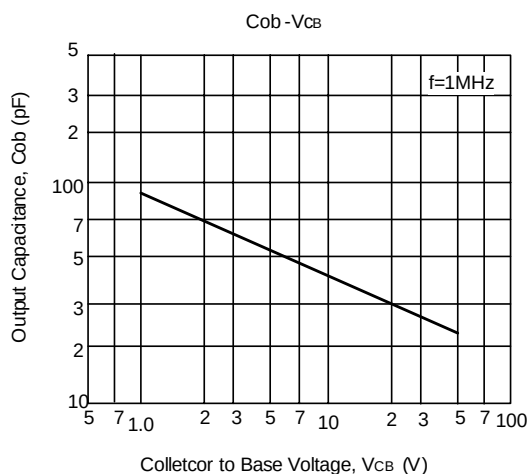
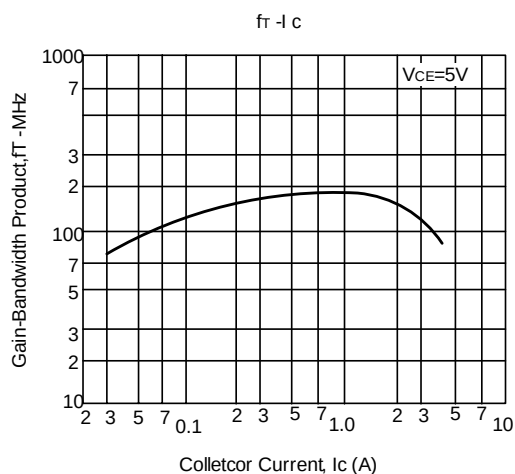
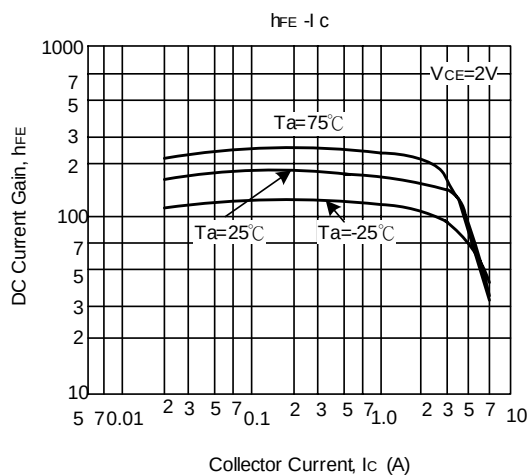
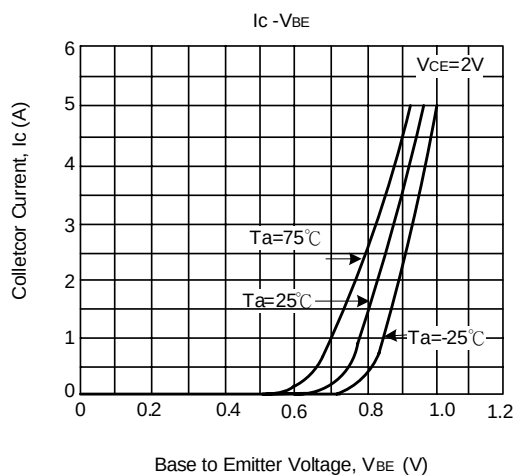
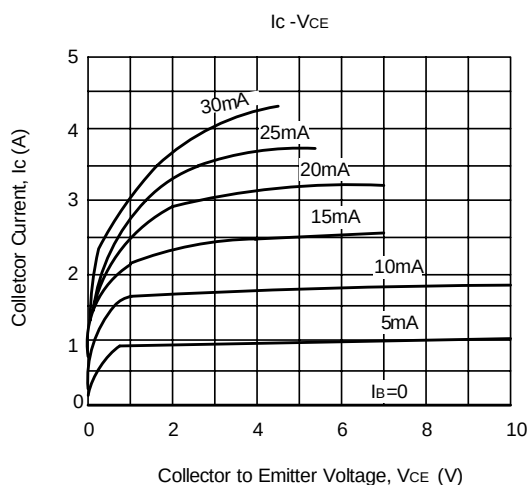
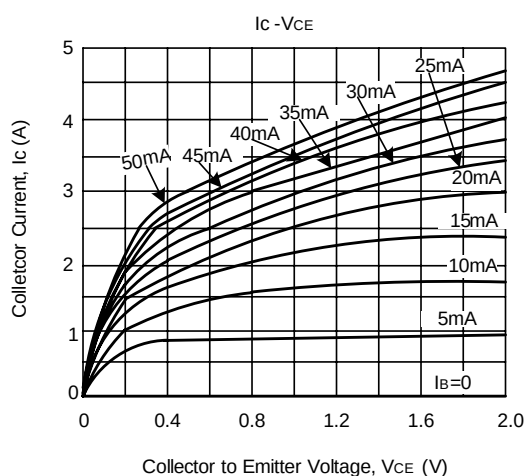
RANK	Q	R	S	T
RANGE	70 ~ 140	100 ~ 200	140 ~ 280	200 ~ 400

■ TEST CIRCUIT

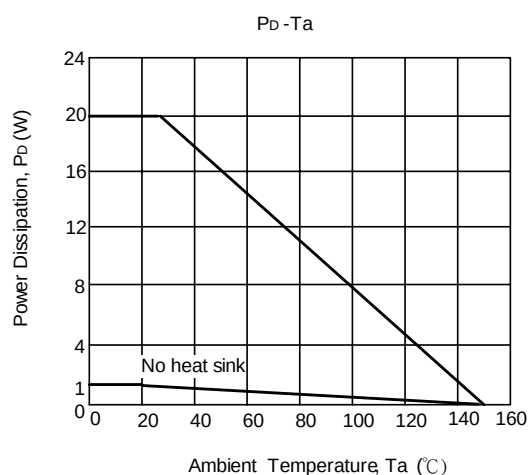
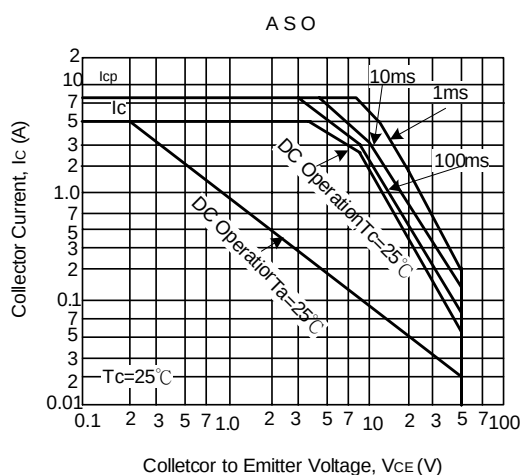
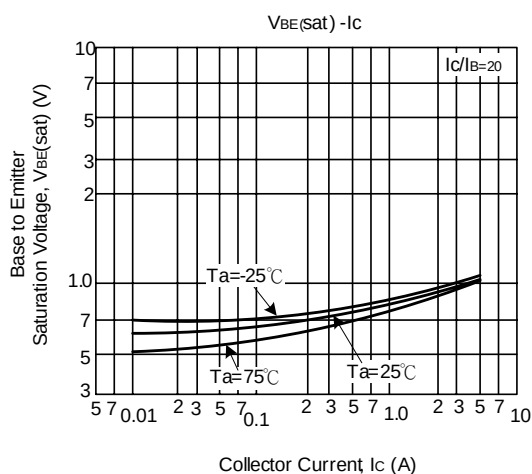
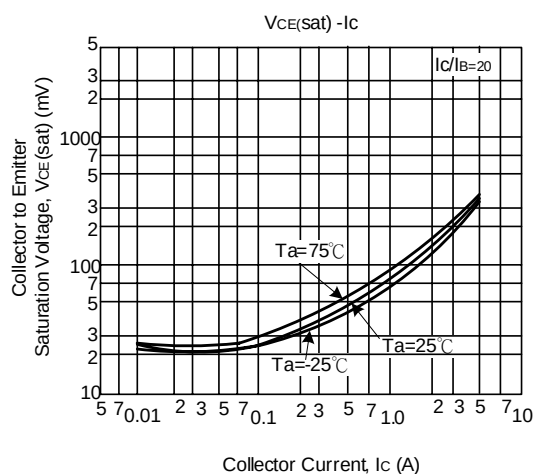


(Unit : (resistance : Ω , capacitance : F))

■ TYPICAL CHARACTERISTICS



■ TYPICAL CHARACTERISTICS(cont.)



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