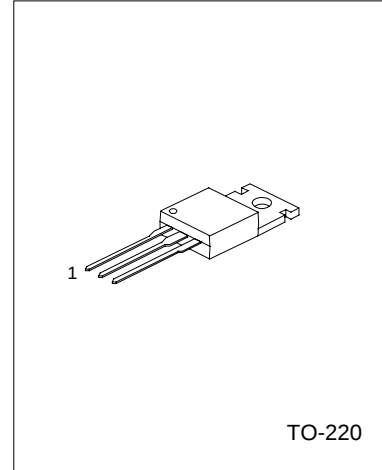


UTCMJE13005 NPN EPITAXIAL SILICON TRANSISTOR

SILICON NPN TRIPLE DIFFUSED MESA TYPE

APPLICATIONS

* Electronic transformers, power switching circuit



1: BASE 2: COLLECTOR 3: EMITTER

ABSOLUTE MAXIMUM RATINGS

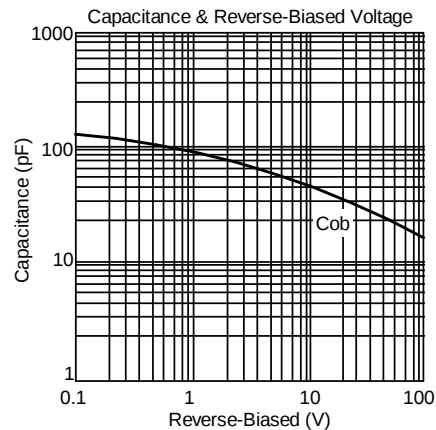
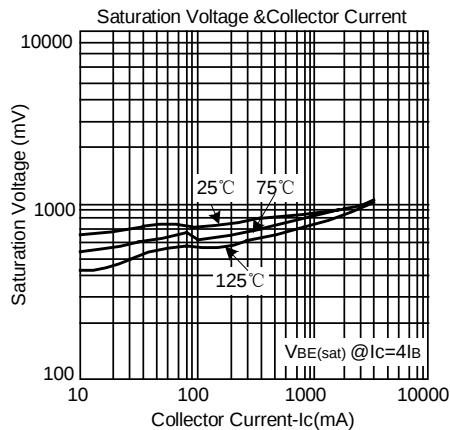
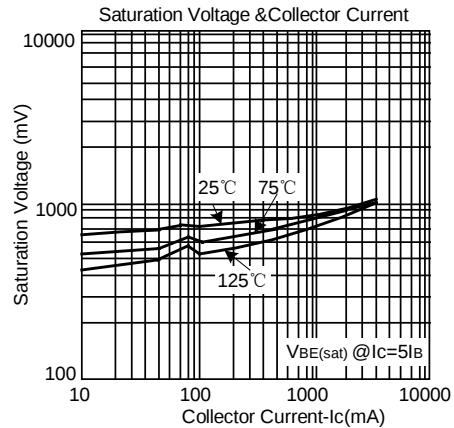
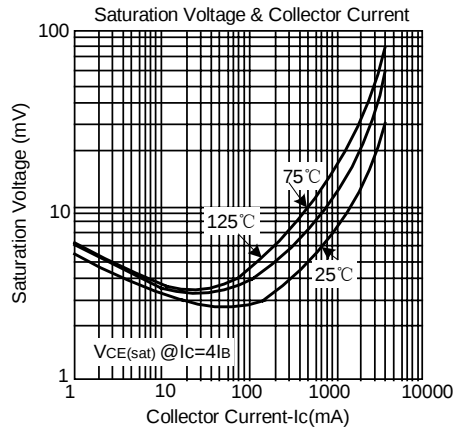
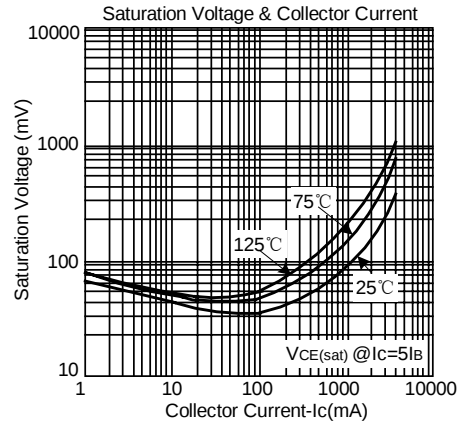
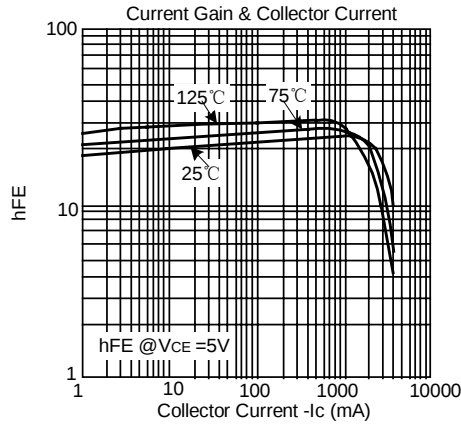
PARAMETER	SYMBOL	RATING	UNIT
Collector-base voltage	V_{CBO}	700	V
Collector-emitter voltage	V_{CEO}	400	V
Emitter-base voltage	V_{EBO}	9	V
Collector current	I_C	4	A
Collector power dissipation ($T_c=25^\circ\text{C}$)	P_c	75	W
Junction Temperature	$T(v_j)$	150	$^\circ\text{C}$
Storage Temperature	T_{STG}	-55 ~ +150	$^\circ\text{C}$

ELECTRICAL CHARACTERISTICS ($T_c=25^\circ\text{C}$)

PARAMETER	SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
Collector-emitter sustaining voltage	$V_{CEO(sus)}$	$I_C=10\text{mA}$, $I_B=0$	400			V
Collector-base breakdown voltage	$V_{(BR)CBO}$	$I_E=0$, $I_C=1\text{mA}$	700			V
Emitter-base breakdown voltage	$V_{(BR)EBO}$	$I_E=1\text{mA}$, $I_C=0$	9			V
Collector cut-off current	I_{CBO}	$V_{CB}=700\text{V}$, $I_E=0$			100	μA
Collector-emitter cut off current	I_{CEO}	$V_{CE}=400\text{V}$, $I_B=0$			50	μA
Emitter-base cut-off current	I_{EBO}	$V_{EB}=7\text{V}$, $I_C=0$			10	μA
Small-signal current gain	h_{FE1}	$V_{CE}=10\text{V}$, $I_C=0.5\text{A}$	8		60	
	h_{FE2}	$V_{CE}=5\text{V}$, $I_C=2\text{A}$	5		40	
Collector-emitter saturation voltage	$V_{CE(sat1)}$	$I_C=1\text{A}$, $I_B=0.2\text{A}$			0.8	V
	$V_{CE(sat2)}$	$I_C=4\text{A}$, $I_B=1\text{A}$			2	
Base-emitter saturation voltage	$V_{BE(sat)}$	$I_C=2\text{A}$, $I_B=0.5\text{A}$			1.6	V
Turn-On Time	t_{on}	$V_{CC}=125\text{V}$, $I_C=2\text{A}$, $I_{B1}=I_{B2}=0.4\text{A}$			0.8	μS
Storage time	t_{stg}	$V_{CC}=125\text{V}$, $I_C=2\text{A}$, $I_{B1}=I_{B2}=0.4\text{A}$			4	μS
Fall time	t_f	$V_{CC}=125\text{V}$, $I_C=2\text{A}$, $I_{B1}=I_{B2}=0.4\text{A}$			0.9	μS
Frequency characteristics	f_r	$V_{CE}=10\text{V}$, $I_C=0.5\text{A}$, $f=1\text{MHz}$	4			MHz

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CHARACTERISTICS CURVE



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