

UTC MMBT5551 NPN EPITAXIAL SILICON TRANSISTOR

HIGH VOLTAGE SWITCHING TRANSISTOR

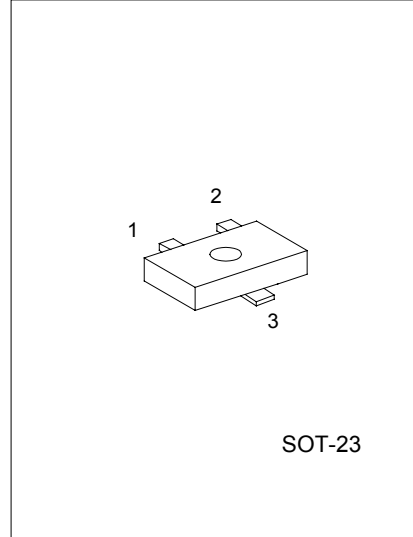
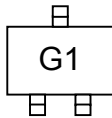
FEATURES

- * High Collector-Emitter Voltage:
 $V_{CE0}=160V$
- * High current gain

APPLICATIONS

- * Telephone switching circuit
- * Amplifier

MARKING



1:EMITTER 2:BASE 3:COLLECTOR

ABSOLUTE MAXIMUM RATINGS ($T_a=25^{\circ}C$,unless otherwise specified)

PARAMETERS	SYMBOL	RATING	UNIT
Collector-base voltage	V_{CB0}	180	V
Collector-emitter voltage	V_{CE0}	160	V
Emitter-base voltage	V_{EB0}	6	V
Collector dissipation	P_c	350	mW
Collector current	I_c	600	mA
Junction Temperature	T_j	150	$^{\circ}C$
Storage Temperature	T_{STG}	-55 ~ +150	$^{\circ}C$

ELECTRICAL CHARACTERISTICS($T_a=25^{\circ}C$, unless otherwise specified)

PARAMETER	SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
Collector-base breakdown voltage	BV_{CB0}	$I_c=100\mu A, I_E=0$	180			V
Collector-emitter breakdown voltage	BV_{CE0}	$I_c=1mA, I_B=0$	160			V
Emitter-base breakdown voltage	BV_{EB0}	$I_E=10\mu A, I_c=0$	6			V
Collector cut-off current	I_{CBO}	$V_{CB}=120V, I_E=0$			50	nA
Emitter cut-off current	I_{EBO}	$V_{BE}=4V, I_c=0$			50	nA
DC current gain(note)	h_{FE}	$V_{CE}=5V, I_c=1mA$ $V_{CE}=5V, I_c=10mA$ $V_{CE}=5V, I_c=50mA$	80 80 80	160	400	
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_c=10mA, I_B=1mA$ $I_c=50mA, I_B=5mA$			0.15 0.2	V
Base-emitter saturation voltage	$V_{BE(sat)}$	$I_c=10mA, I_B=1mA$ $I_c=50mA, I_B=5mA$			1 1	V
Current gain bandwidth product	f_T	$V_{CE}=10V, I_c=10mA, f=100MHz$	100		300	MHz

UTC UNISONIC TECHNOLOGIES CO., LTD. 1

QW-R206-010,A

UTC MMBT5551 NPN EPITAXIAL SILICON TRANSISTOR

(continued)

PARAMETER	SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
Output capacitance	Cob	V _{CB} =10V, I _E =0 f=1MHz			6.0	pF
Noise Figure	NF	I _C =0.25mA, V _{CE} =5V R _s =1k Ω , f=10Hz to 15.7kHz			8	dB

Note: Pulse test: PW<300 μ s, Duty Cycle<2%

TYPICAL CHARACTERISTIC CURVES

Fig.1 Collector output Capacitance

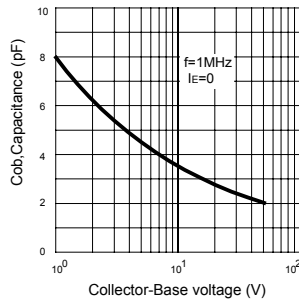


Fig.2 DC current Gain

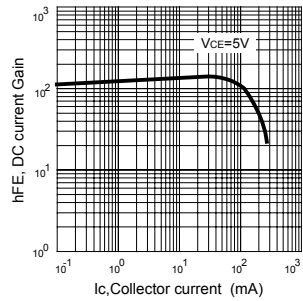


Fig.3 Base-Emitter on Voltage

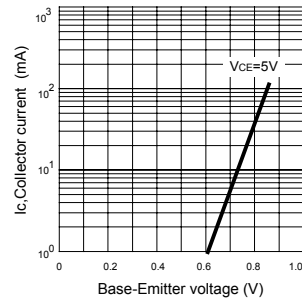


Fig.4 Saturation voltage

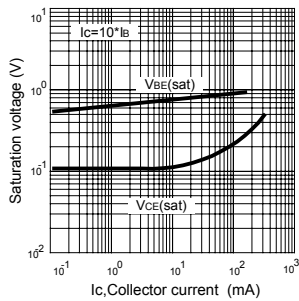


Fig.5 Current gain-bandwidth product

