



# NPN EPITAXIAL SILICON TRANSISTORS

WMBT3904

## High Voltage Transistor

SOT—23

- ◆ Power Dissipation: 225mW
- ◆ Collector Current: Max. 0.2A



1. BASE
2. EMITTER
3. COLLECTOR

### GUARANTEED PROBED CHARACTERISTICS (T<sub>A</sub>=25°C)

Characteristic	Symbol	Test Conditions	Limits		Units
			MIN.	MAX.	
Collector-emitter Breakdown Voltage	BV <sub>CEO</sub>	I <sub>C</sub> =1mA	40		V
Collector-Base Breakdown Voltage	BV <sub>CBO</sub>	I <sub>C</sub> =100μA	60		V
Emitter-Base Breakdown Voltage	BV <sub>EBO</sub>	I <sub>E</sub> =10μA	6.0		V
Collector Cut-off Current	I <sub>CEX</sub>	V <sub>CE</sub> =30V, V <sub>BE</sub> =3V		50	nA
DC Current Gain	h <sub>FE1</sub>	V <sub>CE</sub> =1V, I <sub>C</sub> =100μA	40		
	h <sub>FE2</sub>	V <sub>CE</sub> =1V, I <sub>C</sub> =1mA	70		
	h <sub>FE3</sub>	V <sub>CE</sub> =1V, I <sub>C</sub> =10mA	100	300	
	h <sub>FE4</sub>	V <sub>CE</sub> =1V, I <sub>C</sub> =50mA	60		
	h <sub>FE5</sub>	V <sub>CE</sub> =1V, I <sub>C</sub> =100mA	30		
Base-Emitter Saturation Voltage	BV <sub>ESAT1</sub>	I <sub>C</sub> =10mA, I <sub>B</sub> =1mA	650	850	mV
	BV <sub>ESAT2</sub>	I <sub>C</sub> =50mA, I <sub>B</sub> =5mA		950	mV
Collector-Emitter Saturation Voltage	V <sub>CE(SAT)1</sub>	I <sub>C</sub> =10mA, I <sub>B</sub> =1mA		200	mV
	V <sub>CE(SAT)2</sub>	I <sub>C</sub> =50mA, I <sub>B</sub> =5mA		200	mV
Transition Frequency	f <sub>T</sub>	I <sub>C</sub> =10, V <sub>CE</sub> =20V f=100MHz	300		MHz
Collector-Base Capacitance	C <sub>OB</sub>	V <sub>CB</sub> =5V, f=1MHz		4	PF

**NOTES:** Due to probe testing limitations, only the DC parameters are tested.