

Rev.A Mar.-2023



DATA SHEET

VRW056 M M QSQ æ M ç s ll 1 Silicon NPN transistor in a SOT-23 Plastic Package.

Low $V_{CE(sat)}$, high current, Qualified to AEC-Q101 Standards for High Reliability, HF Product.

[illegible]

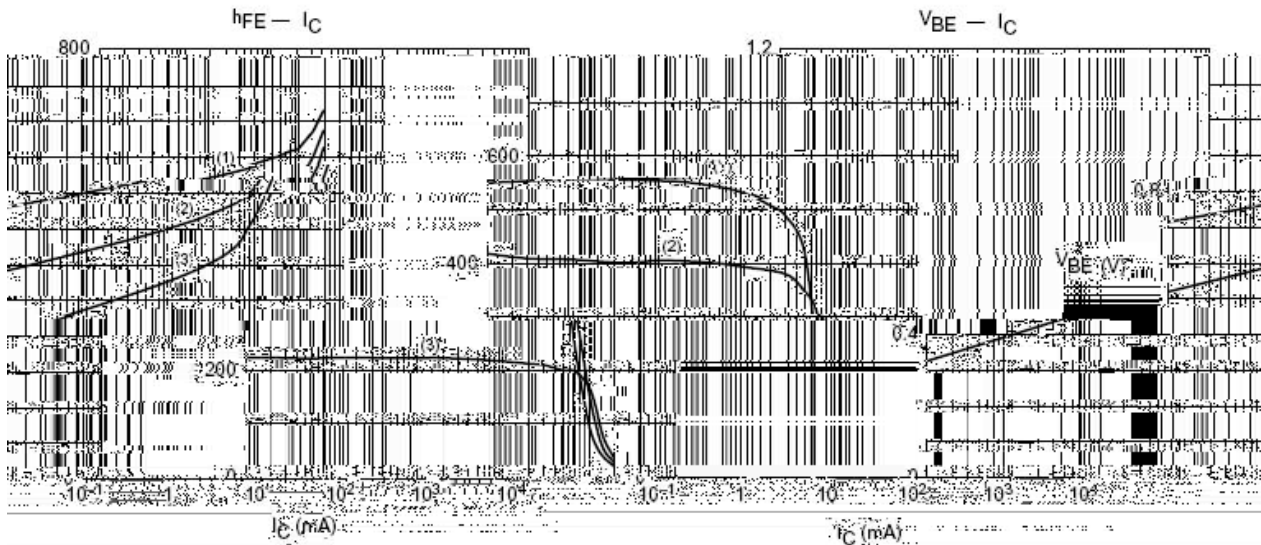
1. Absolute Maximum Ratings(Ta=25℃ ;)

Parameter	Symbol	Rating	Unit
Collector to Base Voltage	V _{CBO}	80	V
Collector to Emitter Voltage	V _{CEO}	60	V
Emitter to Base Voltage	V _{EBO}	5	V
Collector Current	I _C	1	A
Peak Collector Current	I _{CM}	2	A
Base Current	I _B	0.3	A
Peak Base Current	I _{BM}	1	A
Collector Power Dissipation	P _C	400	mW
Junction Temperature	T _j	150	
Storage Temperature Range	T _{stg}	-55 ~ 150	

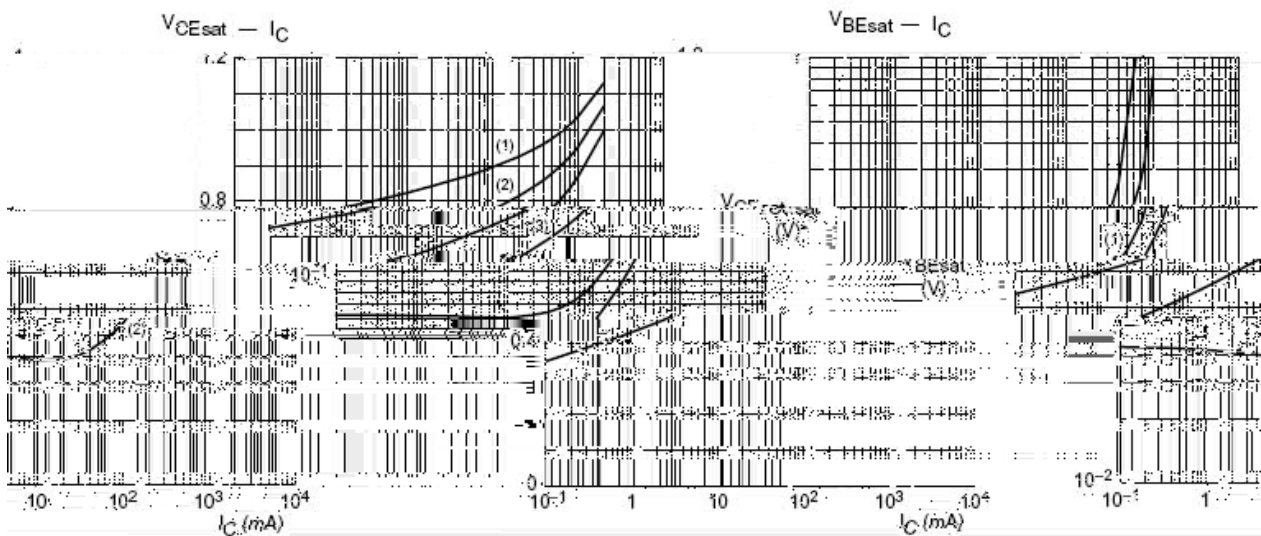
2. Typical Characteristics (Ta=25℃ ;)

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Collector Cut-Off Current	I _{CBO}	V _{CB} =60V I _E =0A			100	nA
		V _{CB} =60V I _E =0A T _j =150℃			50	μA
Collector Cut-Off Current	I _{CES}	V _{CE} =60V V _{BE} =0V			100	nA
Emitter Cut-Off Current	I _{EBO}	V _{EB} =5.0V I _C =0A			100	nA
DC Current Gain	h _{FE(1)}	V _{CE} =5.0V I _C =500mA	200	350		
	h _{FE(2)}	V _{CE} =5.0V I _C =1.0mA	250	400		
	h _{FE(3)}	V _{CE} =5.0V I _C =1.0A	100	150		
Collector-Emitter Saturation Voltage	V _{CE(sat)(1)}	I _C =100mA I _B =1.0mA		90	110	mV
	V _{CE(sat)(2)}	I _C =500mA I _B =50mA		110	140	mV
	V _{CE(sat)(3)}	I _C =1.0A I _B =100mA		200	250	mV
Base-Emitter Saturation Voltage	V _{BE(sat)}	I _C =1.0A I _B =50mA		0.95	1.1	V
Base-Emitter Voltage	V _{BE}	V _{CE} =5.0V I _C =1.0A		0.82	0.9	V
Transition Frequency	f _T	V _{CE} =10V I _C =50mA f=100MHz	150	220		MHz
Output Capacitance	C _C	V _{CB} =10V I _E =0 f=1.0MHz		5.5	10	pF

Electrical Characteristic Curve

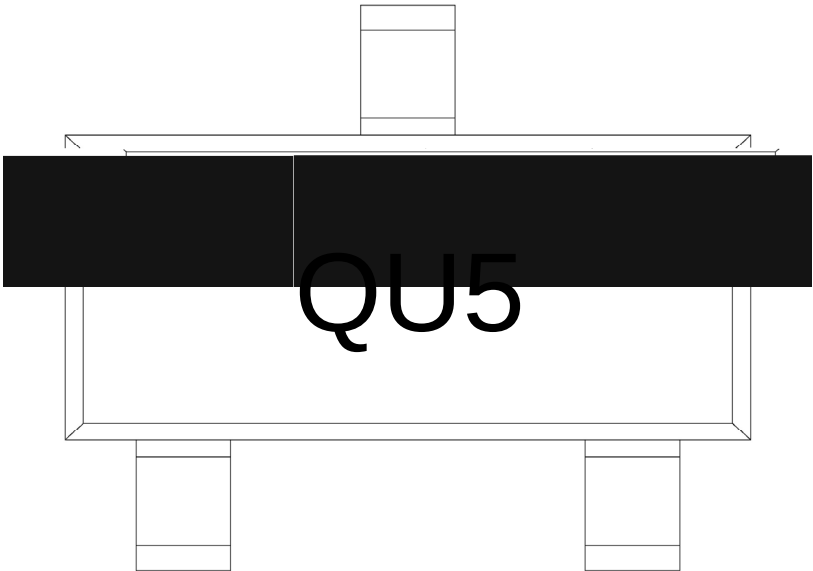


$V_{CE} = 6V$
 $I_B = 20\mu A$
 (1) $T_{amb} = 100^\circ\text{C}$
 (2) $T_{amb} = 25^\circ\text{C}$
 (3) $T_{amb} = -55^\circ\text{C}$



$I_C/I_B = 20$
 (1) $T_{amb} = 100^\circ\text{C}$
 (2) $T_{amb} = 25^\circ\text{C}$
 (3) $T_{amb} = -55^\circ\text{C}$

, M y / Marking Instructions



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U5 X 𐄂 𐄂 N 𐄂

Note:

Q: Automobile halogen-free product Code

U5 X Product Type Code

BRPBSS4160TQ
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