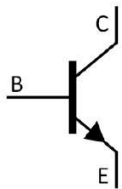


WR0553 M M QSQ æ M y s ll 1 Silicon NPN transistor in a TO-220 Plastic Package.

лъ WLS65 Й,
Complement to TIP32.

Medium power linear switching applications.



PIN1 χ Base PIN 2 χ Collector PIN 3 χ Emitter

/ h_{FE} Classifications & Marking

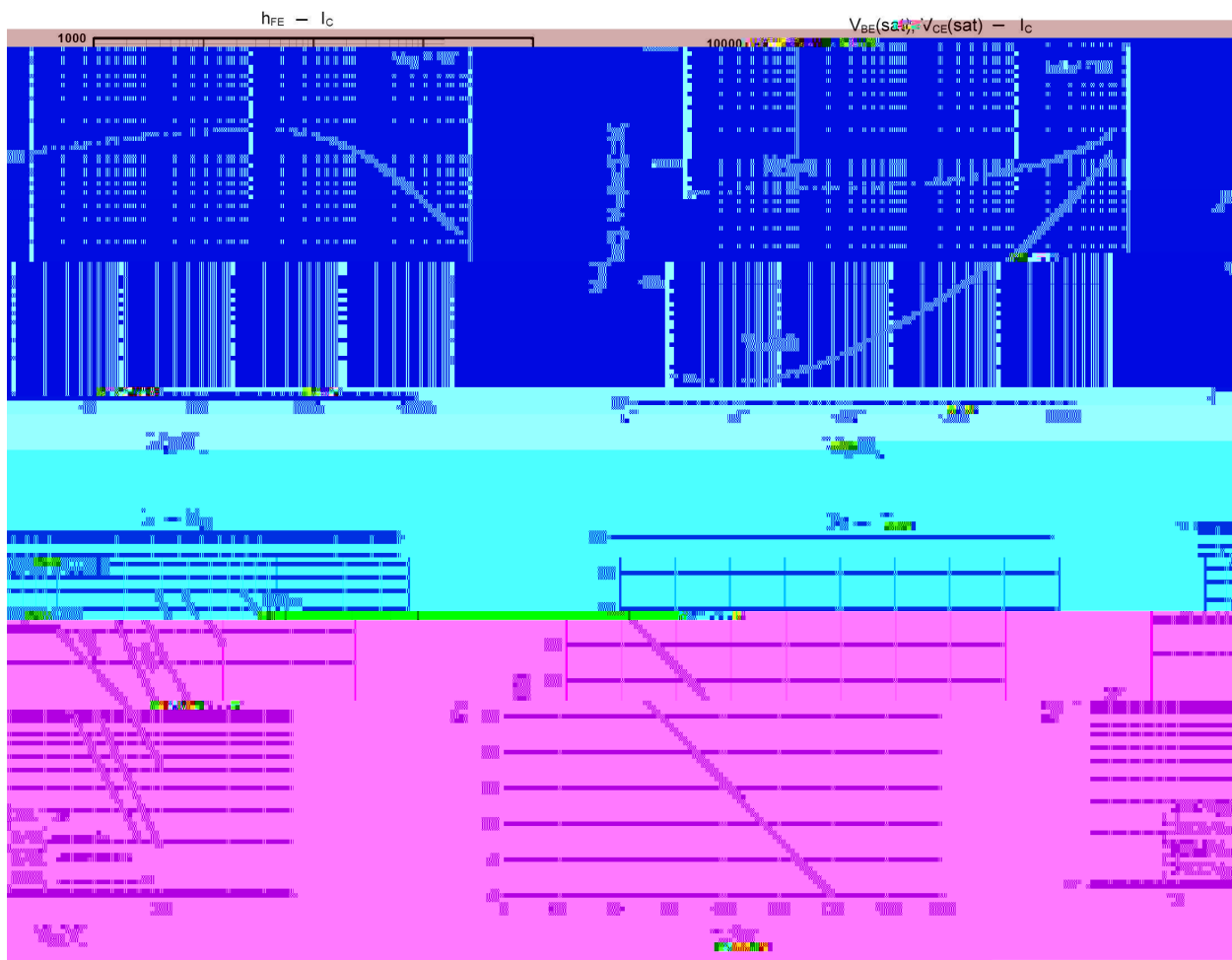
/ Absolute Maximum Ratings(Ta=25)

Parameter	Symbol	Rating				Unit
		TIP31	TIP31A	TIP31B	TIP31C	
Collector to Base Voltage	V_{CBO}	40	60	80	100	V
Collector to Emitter Voltage	V_{CEO}	40	60	80	100	V
Emitter to Base Voltage	V_{EBO}	5.0				V
Collector Current - Continuous	I_C	3.0				A
Peak Collector Current	I_{CP}	5.0				A
Base Current - Continuous	I_B	1.0				A
Collector Power Dissipation	P_C	2.0				W
Collector Power Dissipation	$P_C(T_c=25)$	40				W
Junction Temperature	T_j	150				
Storage Temperature Range	T_{sag}	-55 150				

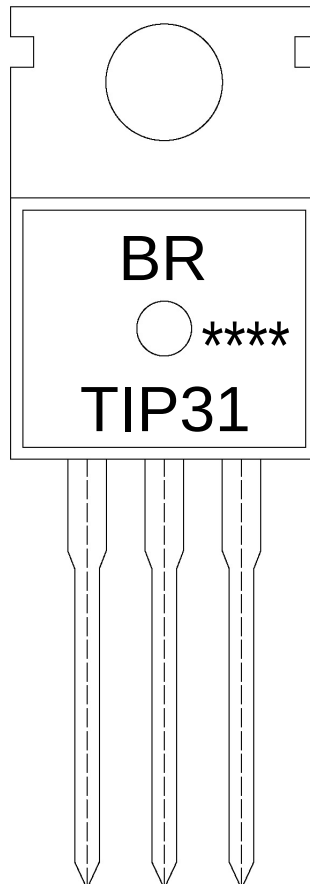
/ Electrical Characteristics(Ta=25)

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Collector to Emitter Breakdown Voltage	V_{CEO}	$I_C=30mA$ $I_B=0$	40			V
			60			
			80			
			100			
Collector Cut-Off Current	I_{CEO}	$V_{CE}=30V$ $I_B=0$			0.3	mA
		$V_{CE}=60V$ $I_B=0$			0.3	
Collector Cut-Off Current	I_{CES}	$V_{CE}=40V$ $V_{EB}=0$			200	μA
		$V_{CE}=60V$ $V_{EB}=0$			200	
		$V_{CE}=80V$ $V_{EB}=0$			200	
		$V_{CE}=100V$ $V_{EB}=0$			200	
Emitter Cut-Off Current	I_{EBO}	$V_{EB}=5.0V$ $I_C=0$			1.0	mA
DC Current Gain	$h_{FE(1)}$	$V_{CE}=4.0V$ $I_C=3.0A$	10		70	
	$h_{FE(2)}$	$V_{CE}=4.0V$ $I_C=1.0A$	25			
Collector to Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C=3.0A$ $I_B=375mA$			1.2	V
Base to Emitter Voltage	V_{BE}	$I_C=3.0A$ $V_{CE}=4.0V$			1.8	V
Transition Frequency	f_T	$V_{CE}=10V$ $I_C=500mA$	3.0			MHz

/ Electrical Characteristic Curve



/ Marking Instructions



” X

BR X

TIP31 X

---- X

Note:

BR:

TIP31:

****:

公司代码

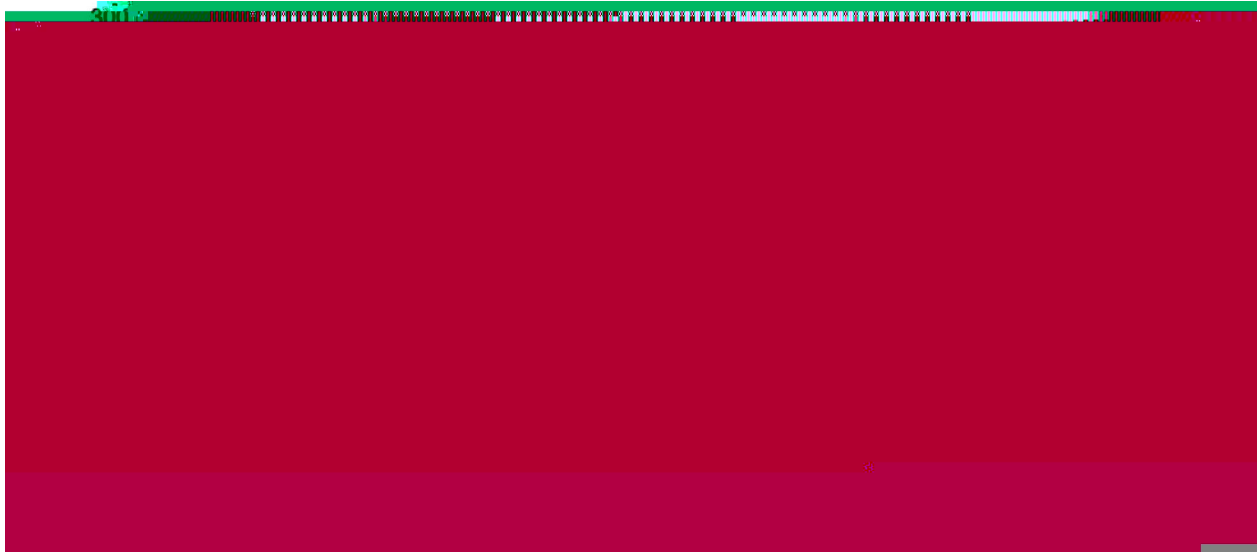
产品代码

Lot No. Code, code change with Lot No.

Company Code

Product Type.

Lot No. Code, code change with Lot No.


() / Temperature Profile for Dip Soldering(Pb-Free)


” X

- 1 25~150 ℃ 60~90sec;
- 2 255±5 ℃ 5~0.5sec;
- 3 2~10 ℃/sec.

Note:

- 1.Preheating:25~150 ℃ , Time:60~90sec.
- 2.Peak Temp.:255±5 ℃ , Duration:5~0.5sec.
3. Cooling Speed: 2~10 ℃/sec.

/ Resistance to Soldering Heat Test Conditions

270±5 ℃ 10±1 sec. Temp.:270±5 Time:10±1 sec

/ Packaging SPEC.

” Q T Y / BULK

Package Type	Units					Dimension (unit mm ³)		
	Units/Bag /	Bags/Inner Box /	Units/Inner Box /	Inner Boxes/Outer Box /	Units/Outer Box /	Bag	Inner Box	Outer Box
TO-220/F	200	10	2,000	5	10,000	135×190	237×172×102	560×245×195

” 1 Y / TUBE

Package Type	Units					Dimension (unit mm ³)		
	Units/Tube /	Tubes/Inner Box /	Units/Inner Box /	Inner Boxes/Outer Box /	Units/Outer Box /	Tube	Inner Box	Outer Box
TO-220/F	50	20	1,000	5	5,000	532×31.4×5.5	555×164×50	575×290×180

/ Notices