

TIP41

Rev. G Nov.-2017

/ Descriptions

TO-220 NPN Silicon NPN transistor in a TO-220 Plastic Package.

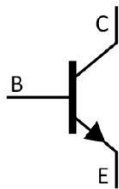
/ Features

TIP42
Complement to TIP42.

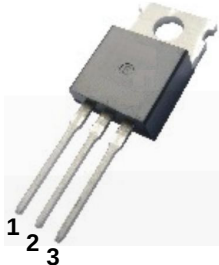
/ Applications

Medium power linear switching applications.

/ Equivalent Circuit



/ Pinning



PIN1 Base PIN 2 Collector PIN 3 Emitter

/ h_{FE} Classifications & Marking

See Marking Instructions.

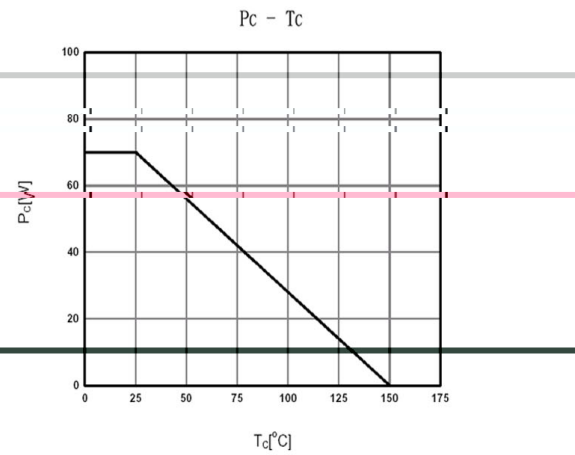
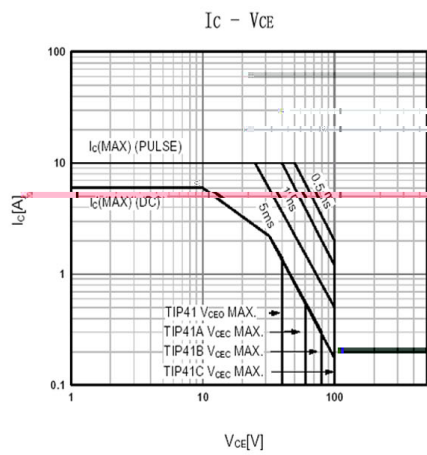
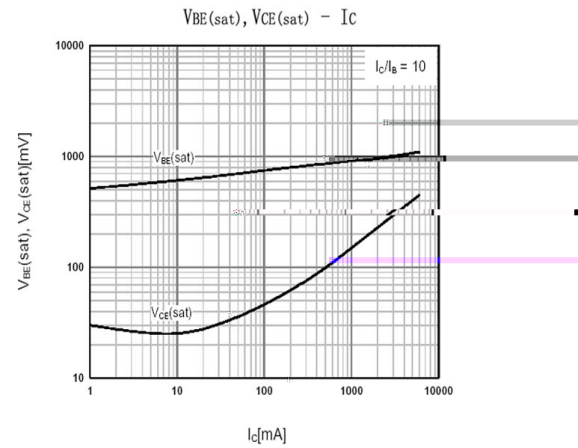
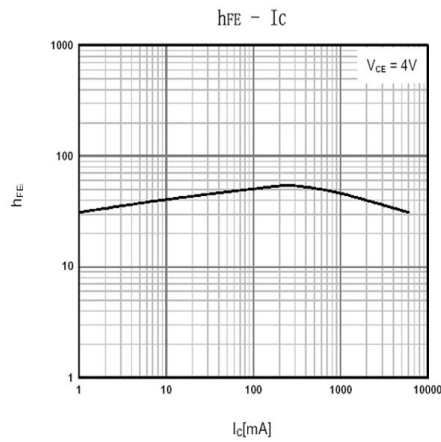
/ Absolute Maximum Ratings(Ta=25)

Parameter	Symbol	Rating				Unit
		TIP41	TIP41A	TIP41B	TIP41C	
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				V
Collector Current - Continuous	I_C	6				A
Peak Collector Current	I_{CP}	10				A
Base Current - Continuous	I_B	2				A
Collector Power Dissipation	P_C	2				W
Collector Power Dissipation	P_C ($T_c=25^{\circ}C$)	65				W
Junction Temperature	T_j	150				$^{\circ}C$
Storage Temperature Range	T_{sag}	-55~150				$^{\circ}C$

/ Electrical Characteristics(Ta=25)

Parameter	Symbol		Test Conditions	Min	Typ	Max	Unit
Collector to Emitter Breakdown Voltage	V_{CEO}	TIP41	$I_C=30mA$ $I_B=0$	40			V
		TIP41A		60			
		TIP41B		80			
		TIP41C		100			
Collector Cut-Off Current	I_{CEO}	TIP41 TIP41A	$V_{CE}=30V$ $I_B=0$			0.7	mA
		TIP41B TIP41C	$V_{CE}=60V$ $I_B=0$				
Collector Cut-Off Current	I_{CES}	TIP41	$V_{CE}=40V$ $V_{EB}=0$			400	μA
		TIP41A	$V_{CE}=60V$ $V_{EB}=0$				
		TIP41B	$V_{CE}=80V$ $V_{EB}=0$				
		TIP41C	$V_{CE}=100V$ $V_{EB}=0$				
Emitter Cut-Off Current	I_{EBO}		$V_{EB}=5V$ $I_C=0$			1	mA
DC Current Gain	$h_{FE(1)}$		$V_{CE}=4V$ $I_C=3A$	15		75	
	$h_{FE(2)}$		$V_{CE}=4V$ $I_C=0.3A$	30			
Collector to Emitter Saturation Voltage	$V_{CE(sat)}$		$I_C=6A$ $I_B=0.6A$			1.5	V
Base to Emitter Voltage	V_{BE}		$I_C=6A$ $V_{CE}=4V$			2	V
Transition Frequency	f_T		$V_{CE}=10V$ $I_C=500mA$	3			MHz

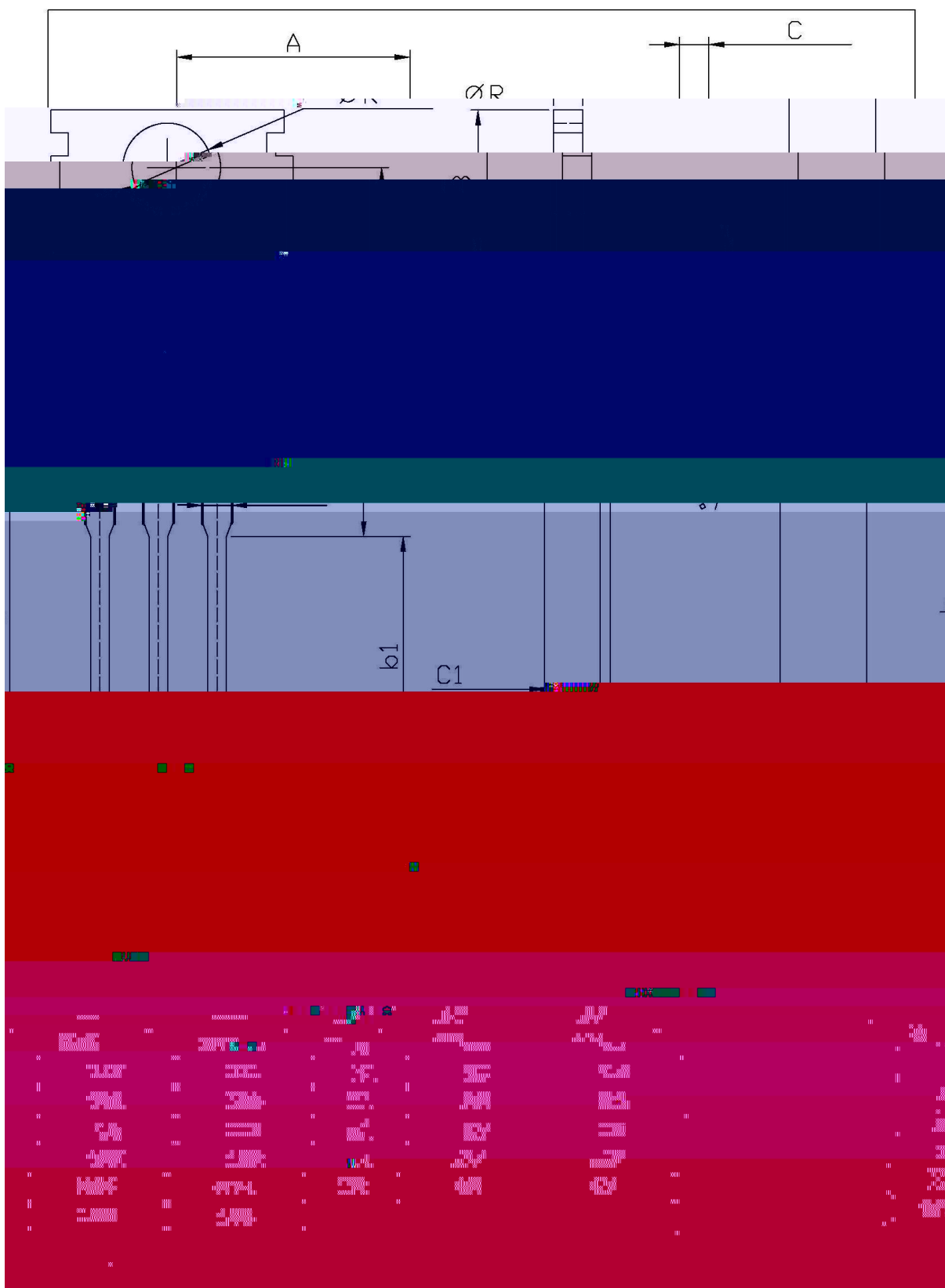
/ Electrical Characteristic Curve



/ Package Dimensions

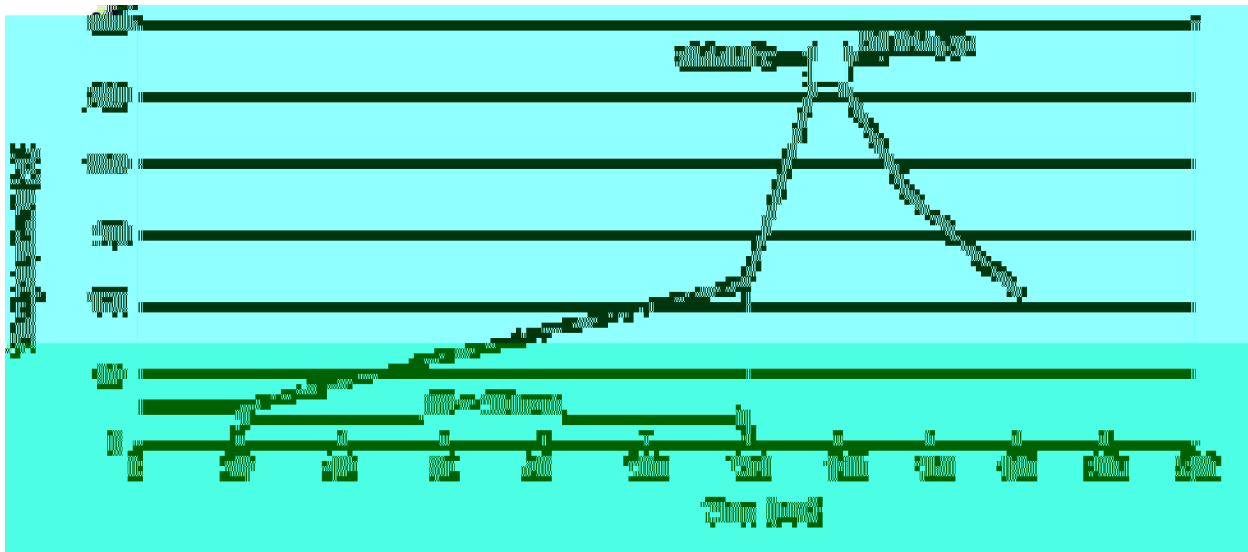
T0-220

单位: mm



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


Note:

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

/ Resistance to Soldering Heat Test Conditions

270±5	10±1 sec.	Temp.:270±5	Time:10±1 sec
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/ Packaging SPEC.
/ BULK

Package Type 封装形式	Units 包装数量					Dimension 包装尺寸 (unit: mm ³)		
	Units/Bag 只/袋	Bags/Inner Box 袋/盒	Units/Inner Box 只/盒	Inner Boxes/Outer Box 盒/箱	Units/Outer Box 只/箱	Bag 袋	Inner Box 盒	Outer Box 箱
TO-220/F	200	10	2,000	5	10,000	135×190	237×172×102	560×245×195

/ TUBE

Package Type 封装形式	Units 包装数量					Dimension 包装尺寸 (unit: mm ³)		
	Units/Tube 只/套管	Tubes/Inner Box 套管/盒	Units/Inner Box 只/盒	Inner Boxes/Outer Box 盒/箱	Units/Outer Box 只/箱	Tube 套管	Inner Box 盒	Outer Box 箱
TO-220/F	50	20	1,000	5	5,000	532×31.4×5.5	555×164×50	575×290×180

/ Notices