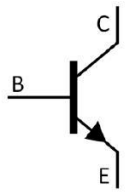
TO-252 NPN

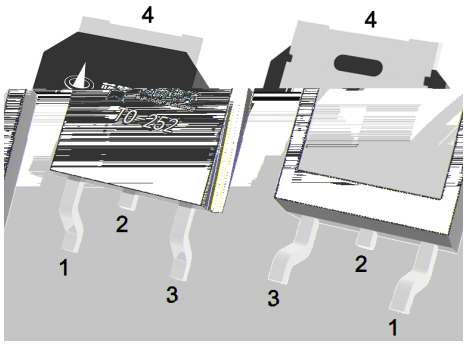
Silicon NPN transistor in a TO-252 Plastic Package.

BRMJD42CQ AEC-Q101

Complement to BRMJD42CQ, Qualified to AEC-Q101 Standards for High Reliability, HF Product.

Medium power linear switching applications, Meet the stringent requirements of automotive applications.





PIN1 Base PIN 2,4 Collector PIN 3 Emitter

/ Absolute Maximum Ratings(Ta=25)

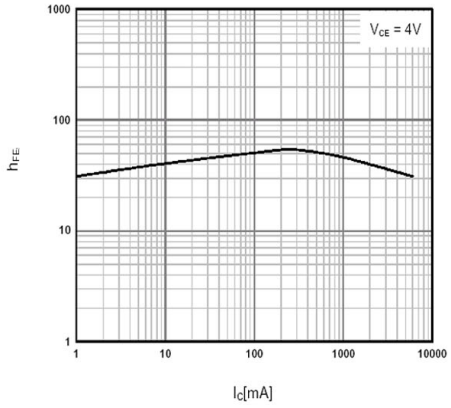
Parameter	Symbol	Rating	Unit
Collector to Base Voltage	V_{CBO}	100	V
Collector to Emitter Voltage	V_{CEO}	100	V
Emitter to Base Voltage	V_{EBO}	5.0	V
Collector Current - Continuous	I_C	6.0	A
Base Current - Continuous	I_B	2.0	A
Collector Power Dissipation	P_D	1.75	W
Collector Power Dissipation	$P_D(T_C=25$)	20	W
Junction Temperature	T_j	150	
Storage Temperature Range	T_{stg}	-55 150	

/ Electrical Characteristics(Ta=25)

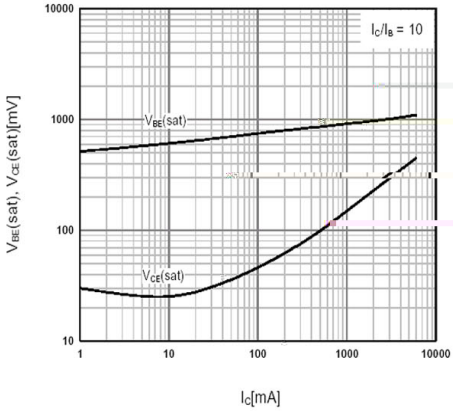
Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Collector to Emitter Breakdown Voltage	V_{CEO}	I_C=30mA I_B=0	100			V
Collector Cut-Off Current	I_{CEO}	V_{CE}=60V I_B=0			50	μA
Collector Cut-Off Current	I_{CES}	V_{CE}=100V V_{BE}=0			10	μA
Emitter Cut-Off Current	I_{EBO}	V_{BE}=5.0V I_C=0			0.5	mA
DC Current Gain	$h_{FE(1)}$	V_{CE}=4.0V I_C=3.0A	15		75	
	$h_{FE(2)}$	V_{CE}=4.0V I_C=0.3A	30			
Collector to Emitter Saturation Voltage	$V_{CE(sat)}$	I_C=6.0A I_B=600mA			1.5	V
Base to Emitter On Voltage	$V_{BE(on)}$	V_{CE}=6.0V I_C=4.0A			2.0	V
Current- Gain Bandwidth Product	f_T	V_{CE}=10V I_C=500mA	3			MHz

/ Electrical Characteristic Curve

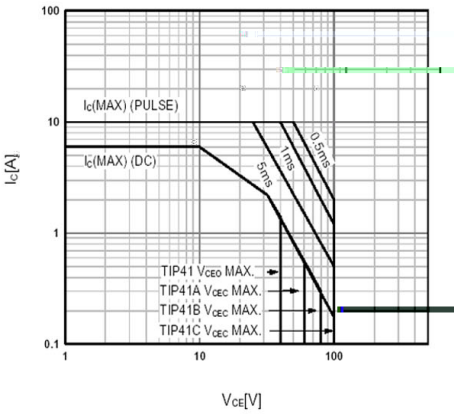
hFE - Ic



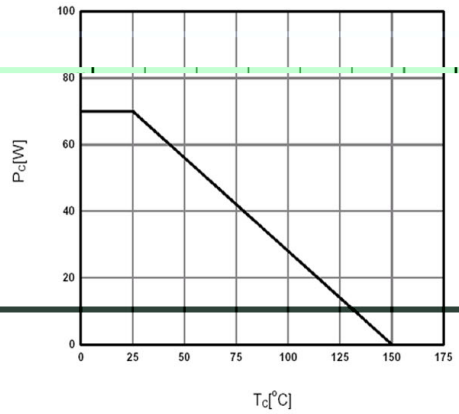
VBE(sat), VCE(sat) - Ic



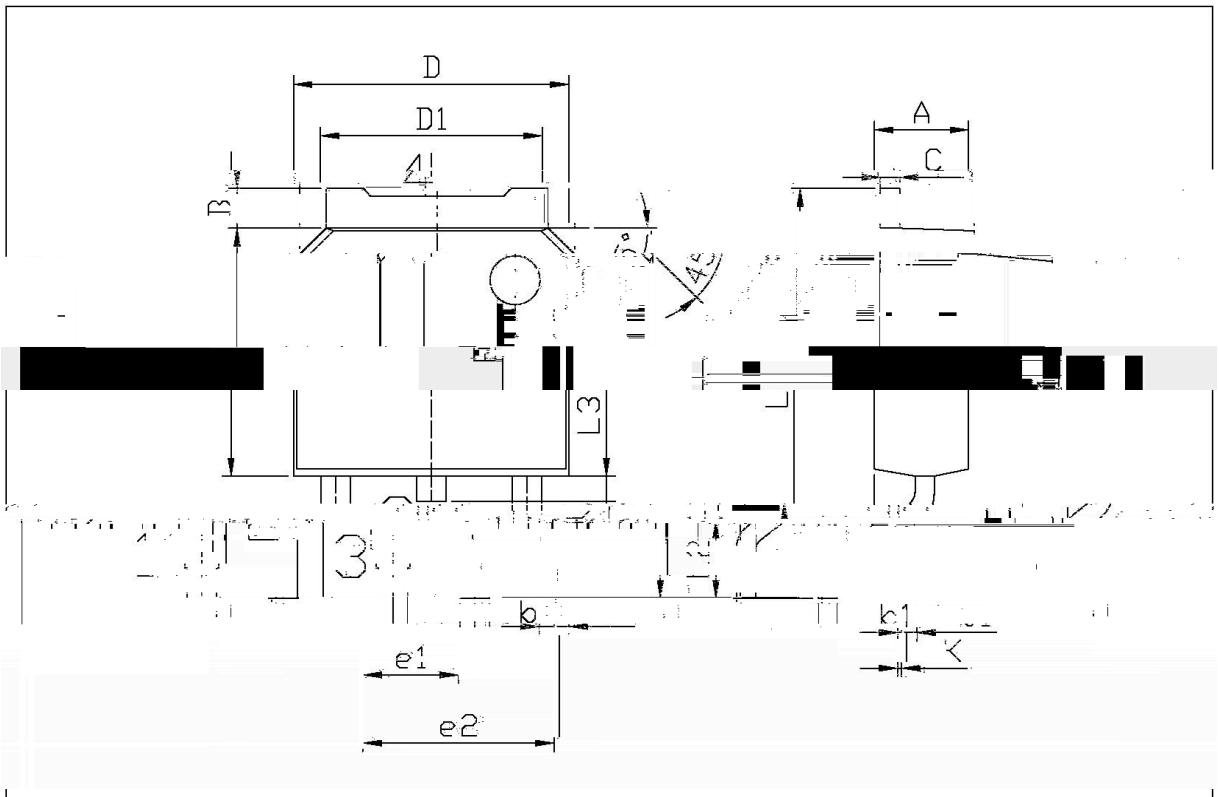
Ic - VCE



PC - TC



/ Package Dimensions

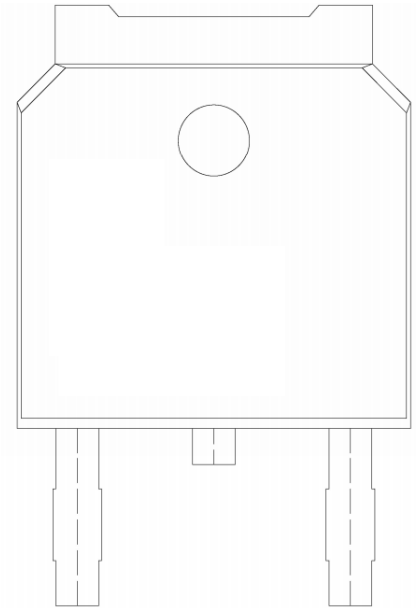


单位：mm

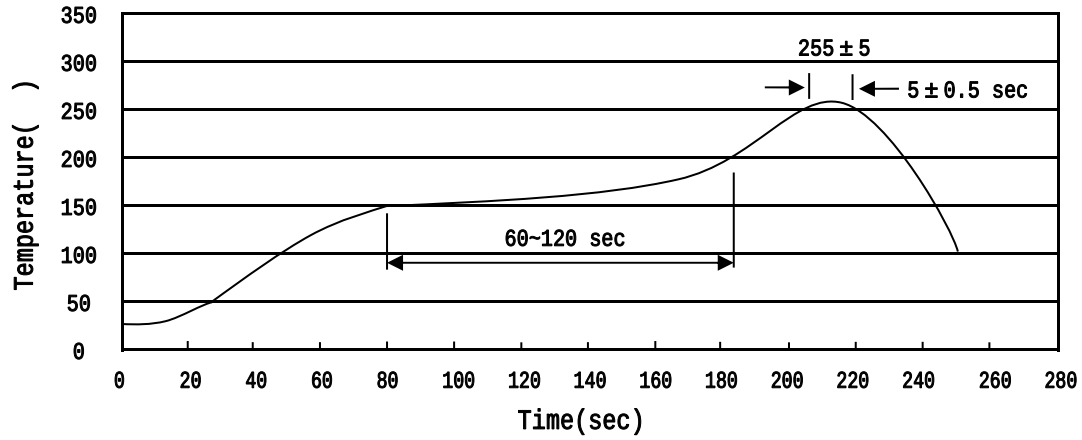
Symbol	Dimensions In Millimeters		Symbol	Dimensions In Millimeters	
	Min	Max.		Min	Max
D	6.25		A	2.20	2.40
D1	2.34		B	0.95	1.25
b			b1	0.45	0.55
C			L2		
L	0.90		D1	6.45	6.75
L3					

TO-252

41CQ(2.26	**5mn6.1Tarking**



( ) / Temperature Profile for IR Reflow Soldering(Pb-Free)



Note:

1	150	200	60	120sec;	1.Preheating:150~200 , Time:60~120sec.
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

260±5 10±1 sec. Temp.:260±5 Time:10±1 sec

/ Packaging SPEC.

/ REEL

Package Type	Units					Dimension		(unit mm³)
	Units/Reel /	Reels/Inner Box /	Units/Inner Box /	Inner Boxes/Outer Box /	Units/Outer Box /	Reel	Inner Box	Outer Box
TO-252	2,500	2	5,000	6	30,000	13 ×16	360×360×50	380×335×366

/ TUBE

Package Type	Units					Dimension		(unit mm³)
	Units/Tube /	Tubes/Inner Box /	Units/Inner Box /	Inner Boxes/Outer Box /	Units/Outer Box /	Tube	Inner Box	Outer Box
TO-251/252	75	48	3,600	5	18,000	526×20.5×5.25	555×164×50	575×290×180

/ Notices