

/ Descriptions

TO-252

NPN

Silicon NPN transistor in a TO-252 Plastic Package.

/ Features

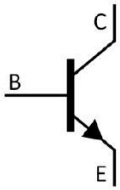
AEC-Q101

High collector-Emitter breakdown voltage, Suitable for transformer, Qualified to AEC-Q101 Standards for High Reliability, HF Product.

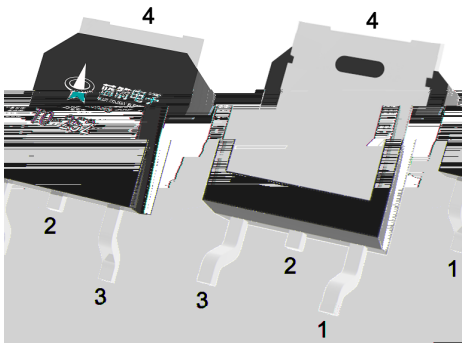
/ Applications

High voltage general purpose applications, Meet the stringent requirements of automotive applications.

/ Equivalent Circuit



/ Pinning



PIN1 Base

PIN 2,4 Collector

PIN 3 Emitter

/ h_{FE} Classifications & Marking

See Marking Instructions.

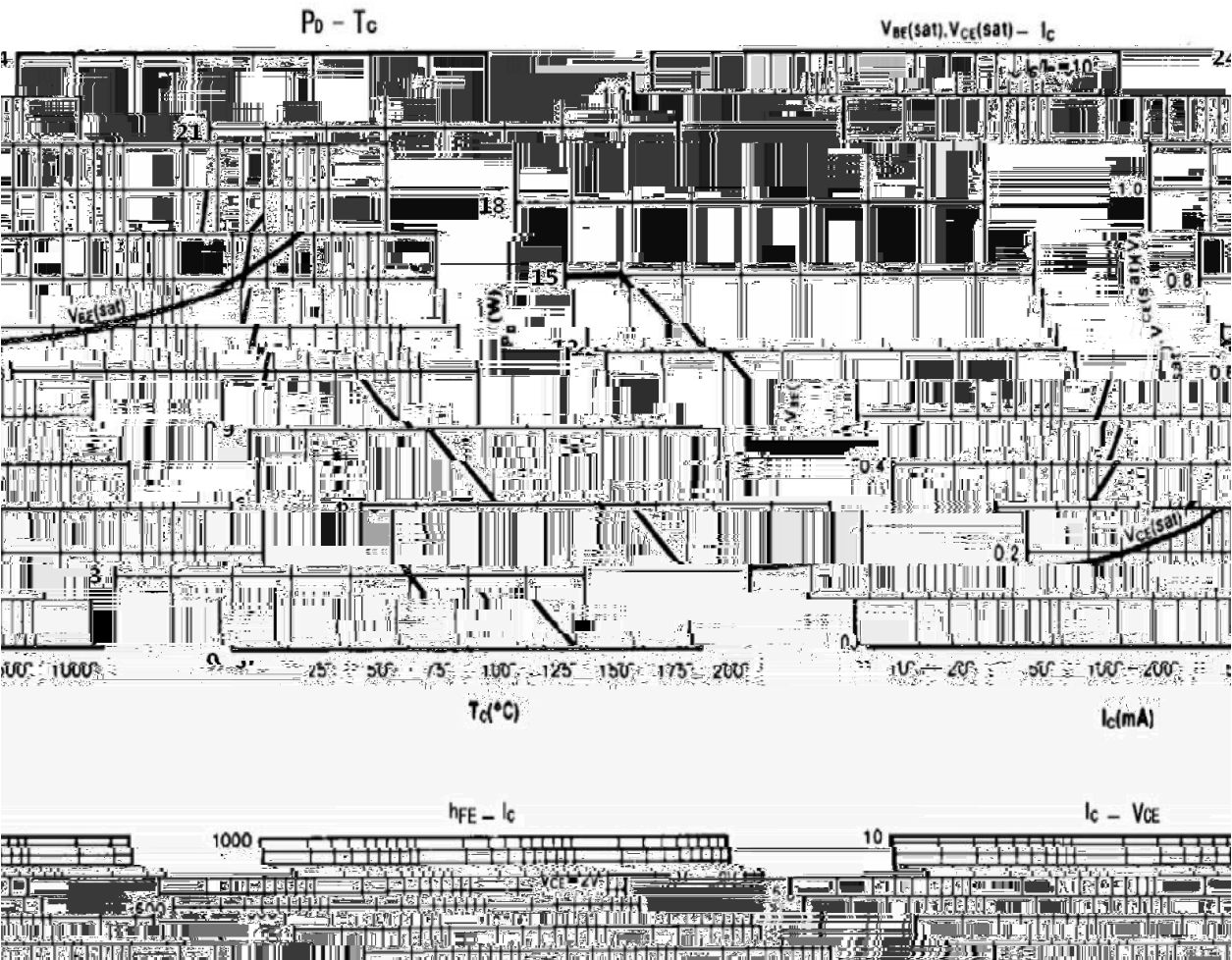
/ Absolute Maximum Ratings($T_a=25^\circ\text{C}$)

Parameter	Symbol	Rating	Unit
Collector to Base Voltage	V_{CBO}	300	V
Collector to Emitter Voltage	V_{CEO}	300	V
Emitter to Base Voltage	V_{EBO}	5.0	V
Collector Current - Continuous	I_C	500	mA
Collector Power Dissipation	P_C	1.56	W
Collector Power Dissipation	$P_C(T_C=25^\circ\text{C})$	15	W
Junction Temperature	T_j	150	
Storage Temperature Range	T_{stg}	-55 ~ 150	

/ Electrical Characteristics($T_a=25^\circ\text{C}$)

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Collector to Base Breakdown Voltage	V_{CBO}	$I_C=0.1\text{mA}$ $I_E=0$	300			V
Collector to Emitter Breakdown Voltage	V_{CEO}	$I_C=1.0\text{mA}$ $I_B=0$	300			V
Emitter to Base Breakdown Voltage	V_{EBO}	$I_E=0.1\text{mA}$ $I_C=0$	5.0			V
Collector Cut-Off Current	I_{CBO}	$V_{CB}=300\text{V}$ $I_E=0$			100	μA
Emitter Cut-Off Current	I_{EBO}	$V_{CE}=3\text{V}$ $I_C=0$			100	μA
DC Current Gain	h_{FE}	$V_{CE}=10\text{V}$ $I_C=50\text{mA}$	30		240	
Collector to Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C=50\text{mA}$ $I_B=5.0\text{mA}$			1.0	V
Base to Emitter Saturation Voltage	$V_{BE(sat)}$	$I_C=50\text{mA}$ $I_B=5.0\text{mA}$			1.2	V

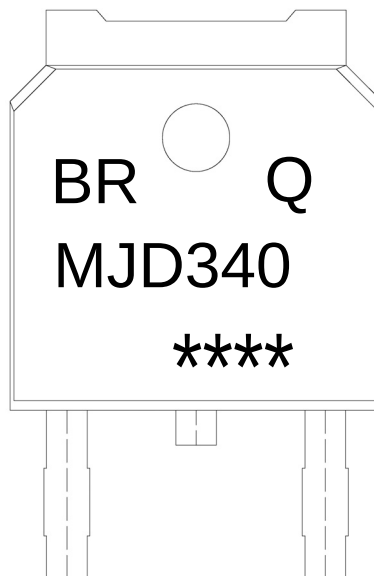
/ Electrical Characteristic Curve



C		Dimensions In Millimeters		Dimensions In Millimeters	
Max	Min	Max	Min	Max	Min
6.25	A	2.20	2.40	E	5.95
2.34	B	0.95	1.25	e1	2.24
0.72	h	0.70	0.90	e2	4.43
10.35	h1	0.45	0.55	L1	9.85
C		0.45	0.55	L2	2.00
0.90	D1	6.45	6.75	L3	0.60
0.10	D11	5.10	5.50	K	0.00

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/ Marking Instructions



BR

Q

MJD340

Note:

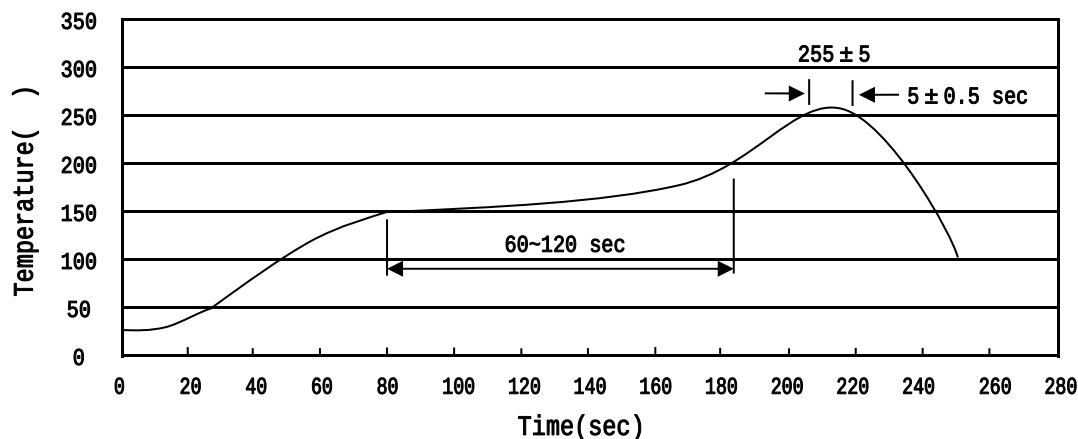
BR: Company Code

Q: Automobile halogen-free product Code

MJD340: Product Type

****: Lot No. Code, code change with Lot No

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



Note:

1. Preheating: 150~200 °C, Time: 60~120sec.
2. Peak Temp.: 255±5 °C, Duration: 5±0.5sec.
3. Cooling Speed: 2~10 °C/sec.

/ Resistance to Soldering Heat Test Conditions

260±5 °C, 10±1 sec., Temp.: 260±5 °C, Time: 10±1 sec

/ Packaging SPEC.

/ REEL

Package Type	Units					Dimension (unit mm ³)		
	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 mm ³)		
	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