

PRODUCT CATALOG



Devices, Inc.

VERY HIGH VOLTAGE, FAST SWITCHING

CHIP NUMBER

142



.190"
(4.83mm)

.190"
(4.83mm)

Base: .045" x .047" (1.14mm x 1.2mm)
Emitter: .015" x .119" (0.38mm x 3.02mm)

NPN TRIPLE DIFFUSED PLANAR POWER TRANSISTOR
(FORMERLY 42)
CONTACT METALLIZATION

Base and emitter: > 30,000 Å Aluminum

Collector: Gold

(Polished silicon or "Chrome Nickel Silver" also available)

Also available on:

MOLY PEDESTAL

Size: .250" x .312" (6.35mm x 7.93mm)

Thickness: .010" (0.25mm)

BeO PEDESTAL

Size: .250" x .312" (6.35mm x 7.93mm)

Thickness: .042" (1.07mm)

ASSEMBLY RECOMMENDATIONS

It is advisable that:

- the chip be eutectically mounted with gold silicon preform 98/2%.
- 8 mil (0.203mm) aluminum wire be ultrasonically attached to the base and emitter contacts.

TYPICAL ELECTRICAL CHARACTERISTICS AT 25°C

The following typical electrical characteristics apply for a completely finished component employing the chip number 142 in a TO-3 or equivalent case:

V _{CEO}	V _{CE(s)} @	I _C	I _B	h _{FE} @	I _C	V _{CE}
>200V	<0.5V	1.0A	0.1A	>10	3A	5V
>300V	<0.5V	1.0A	0.1A	>10	3A	5V
>400V	<0.5V	1.0A	0.1A	>10	3A	5V

V _{CEO}	V _{CEX}	V _{EBO}	f _T	C _{OBO}	θ _{JC}
>200V	500V	>20V	2.5MHz	<140pF	<1.0°C/W
>300V	600V	>20V	2.5MHz	<140pF	<1.0°C/W
>400V	700V	>20V	2.5MHz	<140pF	<1.0°C/W

TYPICAL DEVICE TYPES: JAN2N3902, JAN2N5157, SDT401, SDT430, 2N5466, 2N5468

h_{FE} available at I_C = 1A, V_{CE} = 5V > 20

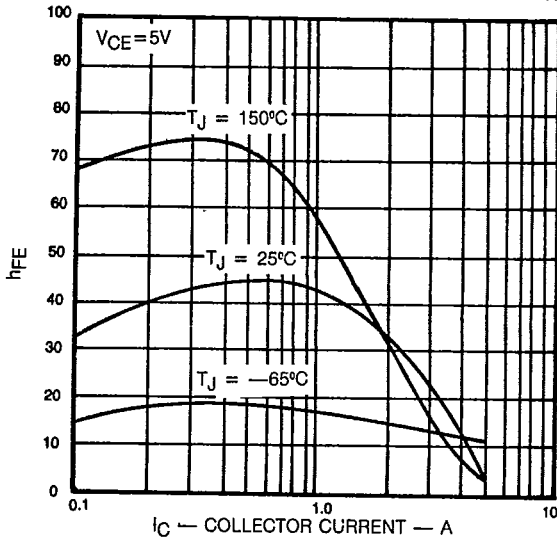


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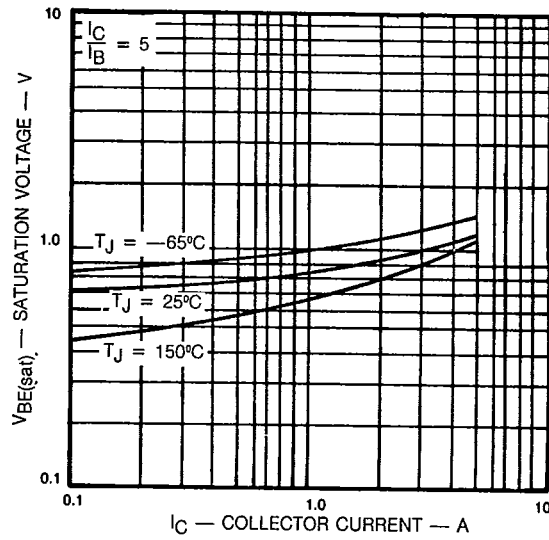
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CHIP TYPE 142

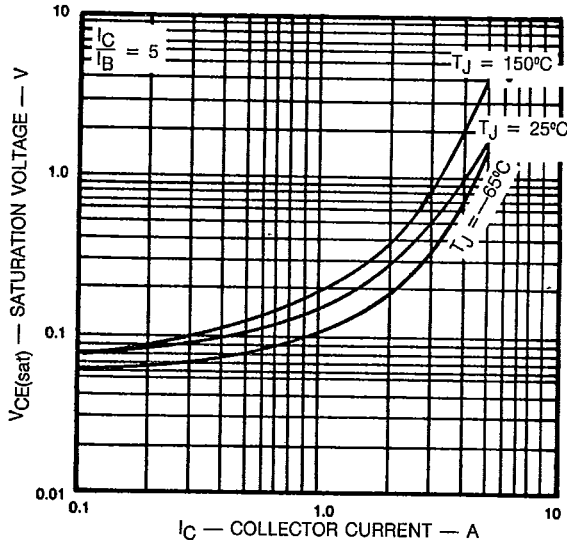
TYPICAL STATIC FORWARD CURRENT TRANSFER RATIO



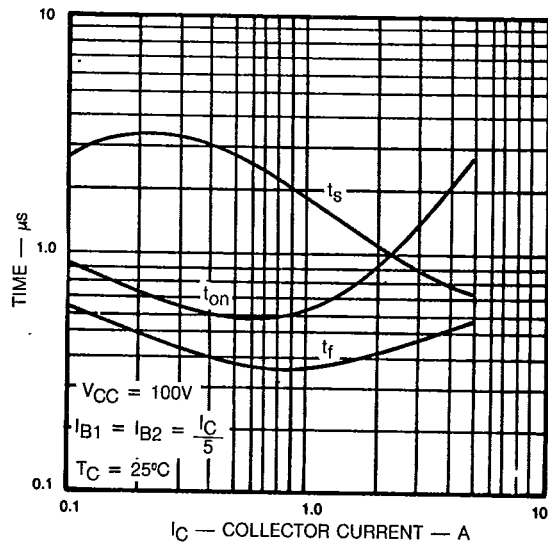
TYPICAL BASE EMITTER SATURATION VOLTAGE



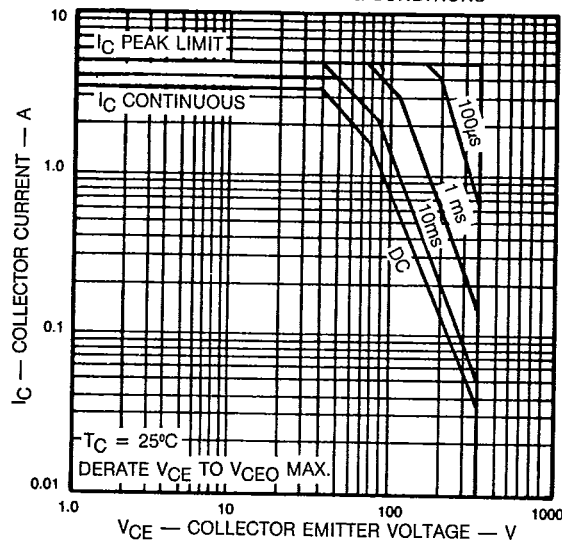
TYPICAL COLLECTOR EMITTER SATURATION VOLTAGE



TYPICAL SWITCHING TIME



MAXIMUM OPERATING CONDITIONS



NOTE:
PERFORMANCE CURVES
REPRESENT LOW TO
MIDDLE CEO VOLTAGE
RANGE OF THIS PRODUCT