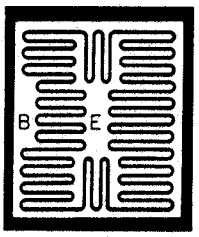
CHIP NUMBER

189



.243" (6.172mm)

.214" (5.436mm)

Base: .025" x 0.84" (0.64mm x 2.13mm)
Emitter: .024" x .084" (0.61mm x 2.13mm)

NPN EPITAXIAL PLANAR POWER TRANSISTOR**

CONTACT METALLIZATION

Base and emitter: > 50,000 Å Aluminum
Collector: Gold
(Polished silicon or "Chrome Nickel Silver" also available)
Also available on:
MOLY PEDESTAL
Size: .375" Diameter (9.53mm)
Thickness: .020" (0.51mm)
BeO PEDESTAL
Size: .250" x .312" (6.35mm x 7.93mm)
Thickness: .042" (1.07mm)

ASSEMBLY RECOMMENDATIONS

It is advisable that:
a) the chip be eutectically mounted with gold silicon preform 98/2%.
b) 12 mil (0.305mm) 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 189 in a TO-3 or equivalent case:

V_{CEO}	$V_{CE(s)}$ @	I_C	I_B	h_{FE} @	I_C	V_{CE}
> 60V	<1.0V	20A	2.0A	>10	30A	5V
> 80V	<1.0V	20A	2.0A	>10	30A	5V
>100V	<1.0V	20A	2.0A	>10	30A	5V
>120V	<1.0V	20A	2.0A	>10	30A	5V
*>150V	<1.0V	20A	2.0A	> 5	30A	5V
*>200V	<1.5V	20A	2.0A	> 5	30A	5V

V_{CEO}	V_{CEX}	V_{EBO}	f_T	C_{OBO}	θ_{JC}
> 60V	80V	>8.0V	20MHz	<700pF	<0.8°C/W
> 80V	100V	>8.0V	20MHz	<700pF	<0.8°C/W
>100V	120V	>8.0V	20MHz	<700pF	<0.8°C/W
>120V	140V	>8.0V	20MHz	<700pF	<0.8°C/W
>150V	170V	>8.0V	20MHz	<700pF	<0.8°C/W
>200V	210V	>8.0V	20MHz	<700pF	<0.8°C/W

TYPICAL DEVICE TYPES: SDT6338 - 6341

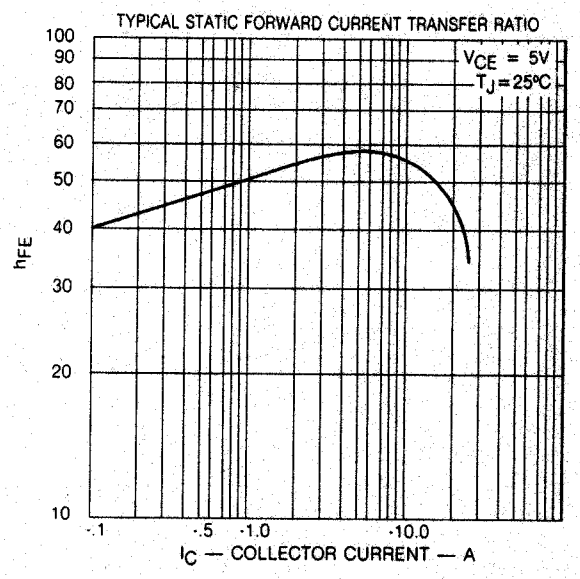
*h_{FE} available at I_C = 20A, V_{CE} = 5V, >10

**The respective PNP complement is chip number 288.

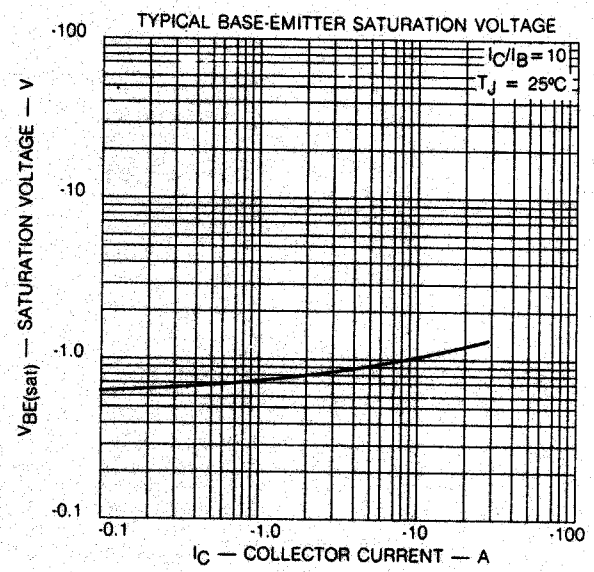
MEDIUM TO HIGH VOLTAGE, FAST SWITCHING

CHIP TYPE 189

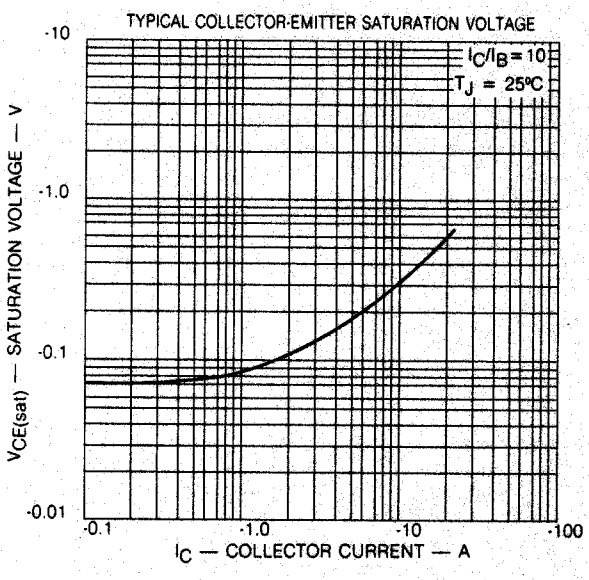
TYPICAL STATIC FORWARD CURRENT TRANSFER RATIO



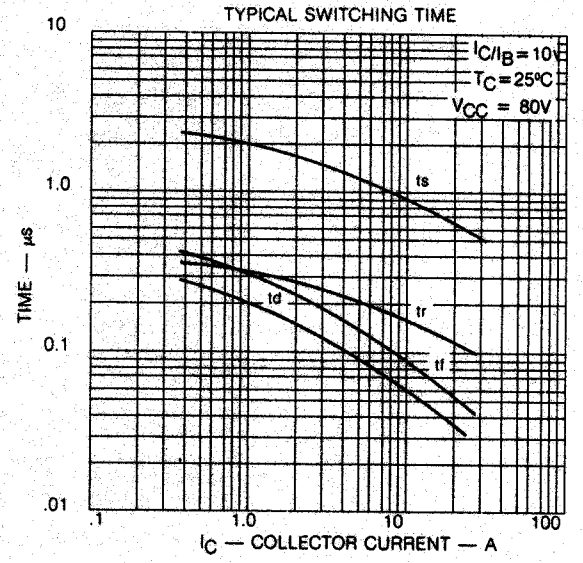
TYPICAL BASE-EMITTER SATURATION VOLTAGE



TYPICAL COLLECTOR-EMITTER SATURATION VOLTAGE



TYPICAL SWITCHING TIME



FORWARD BIASED SAFE OPERATING AREA