



CASE TO-92A



EBC

THE MPS6530 THROUGH MPS6535 ARE SILICON PLANAR EPITAXIAL TRANSISTORS FOR GENERAL PURPOSE AMPLIFIERS AND MEDIUM SPEED SWITCHING APPLICATIONS UP TO 600mA COLLECTOR CURRENT. THE MPS6530, MPS6531, MPS6532 ARE NPN AND ARE COMPLEMENTARY TO THE PNP MPS6533, MPS6534, MPS6535 RESPECTIVELY.

| ABSOLUTE MAXIMUM RATINGS | | NPN | | PNP | |
|---|-----------------------------------|-------------------------------|---------|--------------------|---------|
| | | MPS6530 MPS6531 | MPS6532 | MPS6533 MPS6534 | MPS6535 |
| Collector-Base Voltage | V _{CBO} | 60V | 50V | 40V | 30V |
| Collector-Emitter Voltage | V _{CEO} | 40V | 30V | 40V | 30V |
| Emitter-Base Voltage | V _{EBO} | 5V | 5V | 4V | 4V |
| Collector Current | I _C | 0.6A | | | |
| Total Power Dissipation (T _C ≤ 25°C) | P _{tot} | 1.2W | | | |
| | | (T _A ≤ 25°C) 500mW | | | |
| Operating Junction & Storage Temperature | T _j , T _{stg} | -55 to 150°C | | | |

ELECTRICAL CHARACTERISTICS (T_A=25°C unless otherwise noted)

| PARAMETER | SYMBOL | MIN | TYP | MAX | UNIT | TEST CONDITIONS |
|---|---------------------|-----|-----|-----|------|--|
| Collector-Base Breakdown Voltage MPS6530, MPS6531 MPS6532 MPS6533, MPS6534 MPS6535 | BV _{CBO} | 60 | | | V | I _C =0.01mA I _E =0 |
| Collector-Emitter Breakdown Voltage MPS6530, MPS6531 MPS6532 MPS6533, MPS6534 MPS6535 | LV _{CEO} * | 40 | | | V | I _C =10mA I _B =0 |
| Emitter-Base Breakdown Voltage MPS6530, 1, 2 MPS6533, 4, 5 | BV _{EBO} | 5 | | | V | I _E =0.01mA I _C =0 |
| Collector Cutoff Current MPS6530, MPS6531 MPS6532 MPS6533, MPS6534 MPS6535 | IC _{BO} | | | 50 | nA | V _{CB} =40V I _E =0 |
| | | | | 100 | nA | V _{CB} =30V I _E =0 |
| | | | | 50 | nA | V _{CB} =30V I _E =0 |
| | | | | 100 | nA | V _{CB} =20V I _E =0 |

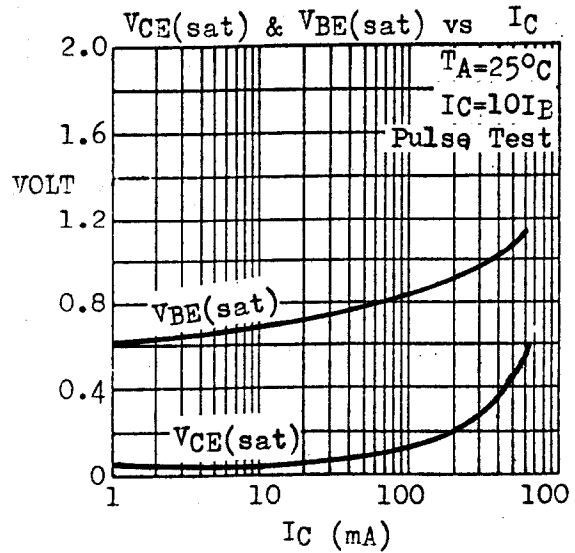
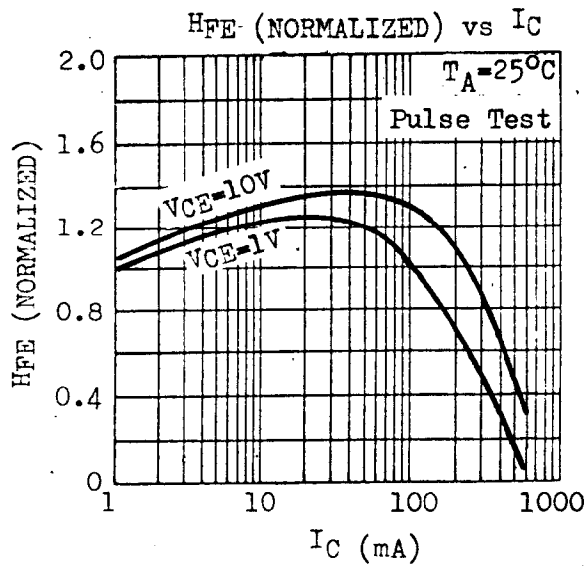
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| | | | | | | |
|--|-----------|----------------|--------------------------|--|--|-----------------------|
| Collector Cutoff Current MPS6530, MPS6531 MPS6532 MPS6533, MPS6534 MPS6535 | ICBO | | 2 5 2 5 | μ A μ A μ A μ A | VCB=40V IE=0 TA=60°C VCB=30V IE=0 TA=60°C VCB=30V IE=0 TA=60°C VCB=20V IE=0 TA=60°C | |
| Collector-Emitter Saturation Voltage MPS6530, MPS6532 MPS6531 MPS6533, MPS6535 MPS6534 | VCE(sat)* | | 0.5 0.3 0.5 0.3 | V V V V | IC=100mA IB=10mA ; | |
| Base-Emitter Saturation Voltage MPS6530, MPS6531 MPS6532 MPS6533, MPS6534 MPS6535 | VBE(sat)* | | 1.0 1.2 1.0 1.2 | V V V V | IC=100mA IB=10mA | |
| D.C. Current Gain MPS6530, MPS6533 | HFE * | 30 40 25 | 120 | | IC=10mA VCE=1V IC=100mA VCE=1V IC=500mA VCE=10V | |
| D.C. Current Gain MPS6531, MPS6534 | HFE * | 60 90 50 | 270 | | IC=10mA VCE=1V IC=100mA VCE=1V IC=500mA VCE=10V | |
| D.C. Current Gain MPS6532, MPS6535 | HFE * | 30 | | | IC=100mA VCE=1V | |
| Collector-Base Capacitance MPS6530, 1, 2 MPS6533, 4, 5 | Cob | | 3.8 4.8 | 5 6 | pF pF | VCB=10V IE=0 f=100kHz |
| Current Gain-Bandwidth Product | fT | 250 | | | MHz | IC=50mA VCE=10V |

* Pulse Test : Pulse Width=0.3ms, Duty Cycle=1%



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