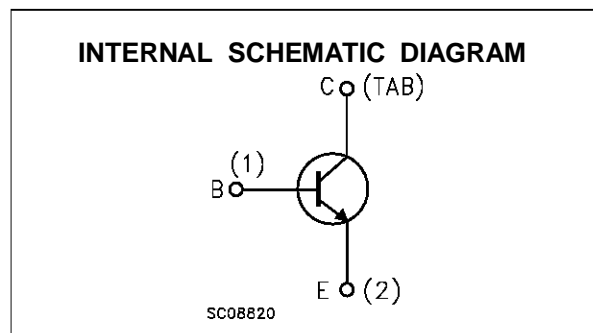
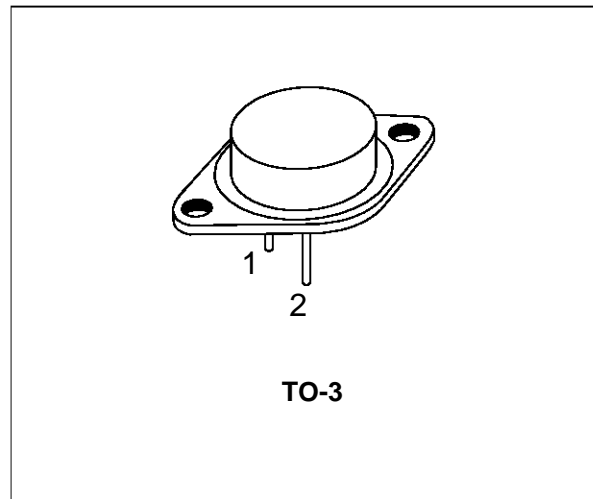


HIGH CURRENT NPN SILICON TRANSISTOR

- SGS-THOMSON PREFERRED SALESTYPE
- HIGH CURRENT CAPABILITY
- VERY LOW SATURATION VOLTAGE AT $I_C = 20A$
- FAST TURN-ON AND TURN-OFF
- HIGH FREQUENCY AND EFFICIENCY CONVERTERS
- SWITCHING REGULATORS
- MOTOR CONTROLS

DESCRIPTION

High current, high speed transistors suited for low voltage applications.


ABSOLUTE MAXIMUM RATINGS

Symbol	Parameter	Value	Unit
V_{CBO}	Collector-Base Voltage ($I_E = 0$)	120	V
V_{CEO}	Collector-Emitter Voltage ($I_B = 0$)	60	V
V_{BE0}	Emitter-Base Voltage ($I_C = 0$)	7	V
I_C	Collector Current	30	A
I_{CM}	Collector Peak Current ($t_p = < 5ms$)	45	A
I_B	Base Current	8	A
I_{BM}	Base Peak Current ($t_p = < 5ms$)	20	A
P_{tot}	Total Power Dissipation at $T_{case} < 25\text{ }^\circ\text{C}$	150	W
T_{stg}	Storage Temperature	-65 to 200	W
T_j	Max. Operating Junction Temperature	200	W

THERMAL DATA

R _{thj-case}	Thermal Resistance Junction-case	Max	1.17	°C/W
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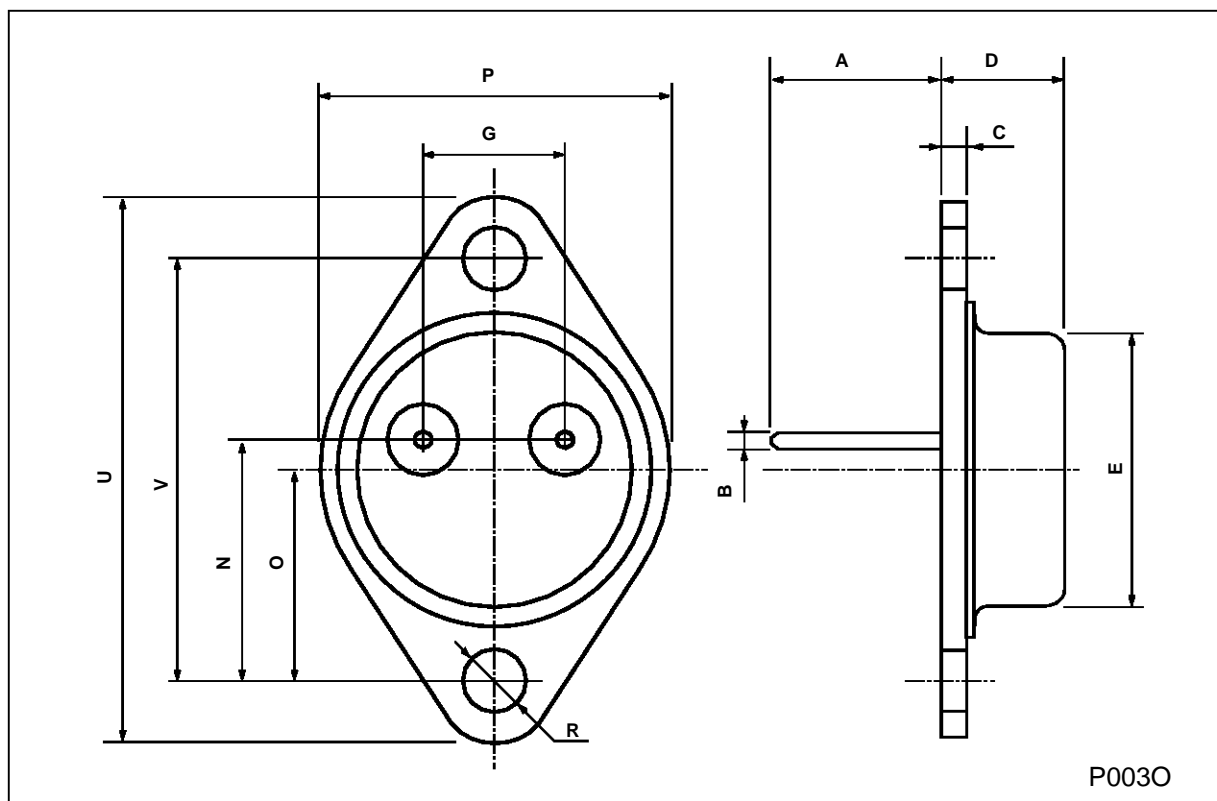
ELECTRICAL CHARACTERISTICS (T_{case} = 25 °C unless otherwise specified)

Symbol	Parameter	Test Conditions	Min.	Typ.	Max.	Unit
I _{CEX}	Collector Cut-off Current	V _{CE} = V _{CEX} V _{BE} = -1.5V V _{CE} = V _{CEX} V _{BE} = -1.5V T _C = 100°C			1 3	mA mA
I _{EBO}	Emitter Cut-off Current (I _c = 0)	V _{EB} = 5 V			1	mA
V _{CEO(sus)*}	Collector-Emitter Sustaining Voltage	I _C = 0.2 A L = 25 mH	60			V
V _{EBO}	Emitter-base Voltage (I _c = 0)	I _E = 50 mA	7			V
V _{CE(sat)*}	Collector-Emitter Saturation Voltage	I _C = 20 A I _B = 2 A I _C = 40 A I _B = 4 A			0.6 1.4	V V
V _{BE(sat)*}	Base-Emitter Saturation Voltage	I _C = 40 A I _B = 4 A			2.1	V
f _T	Transition frequency	I _C = 1 A V _{CE} = 15 V f = 10 MHz		8		MHz
t _{on} t _s t _f	RESISTIVE LOAD Turn-on Time Storage Time Fall Time	V _{CC} = 60 V I _C = 40 A I _{B1} = -I _{B2} = 4 A		1.2 0.6 0.17	1.5 1.1 0.25	μs μs μs
t _s t _f	Storage Time Fall Time	V _{CC} = 60 V I _C = 40 A I _{B1} = -I _{B2} = 4 A T _C = 125°C			1.65 0.5	μs μs

* Pulsed: Pulse duration = 300 μs, duty cycle = 2 %

TO-3 (S) MECHANICAL DATA

DIM.	mm			inch		
	MIN.	TYP.	MAX.	MIN.	TYP.	MAX.
A	11.00		13.10	0.433		0.516
B	1.47		1.60	0.058		0.063
C	1.50		1.65	0.059		0.065
D	8.32		8.92	0.327		0.351
E	19.00		20.00	0.748		0.787
G	10.70		11.10	0.421		0.437
N	16.50		17.20	0.649		0.677
P	25.00		26.00	0.984		1.023
R	4.00		4.09	0.157		0.161
U	38.50		39.30	1.515		1.547
V	30.00		30.30	1.187		1.193



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