

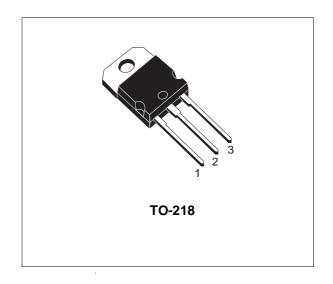
COMPLEMENTARY SILICON POWER TRANSISTORS

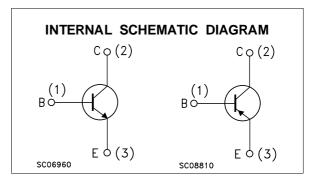
■ SGS-THOMSON PREFERRED SALESTYPES

DESCRIPTION

The TIP33C is a silicon epitaxial-base NPN power transistors in TO-218 plastic package, intented for use in linear and switching applications.

The complementary PNP types is TIP34C.





ABSOLUTE MAXIMUM RATINGS

Symbol	Parameter N		Value	Unit	
			TIP33C		
		PNP	TIP34C		
V _{CBO}	Collector-Base Voltage (I _E = 0)	140	V		
V _{CES}	Collector-Emitter Voltage (V _{BE} = 0)		140	V	
V _{CEO}	Collector-Emitter Voltage (I _B = 0)		100	V	
V _{EBO}	Emitter-Base Voltage (I _C = 0)		7	V	
Ic	Collector Current	10	А		
I _{CM}	Collector Peak Current	12	А		
Ι _Β	Base Current		3	А	
P _{tot}	Total Dissipation at T _c ≤ 25 °C		80	W	
T _{stg}	Storage Temperature		-65 to 150	°C	
Tj	Max. Operating Junction Temperature		150	°C	

October 1995 1/4

TIP33C/TIP34C

THERMAL DATA

R _{thj-case} Thermal Resistance Junction-case	Max	1.56	°C/W
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ELECTRICAL CHARACTERISTICS ($T_{case} = 25$ $^{\circ}C$ unless otherwise specified)

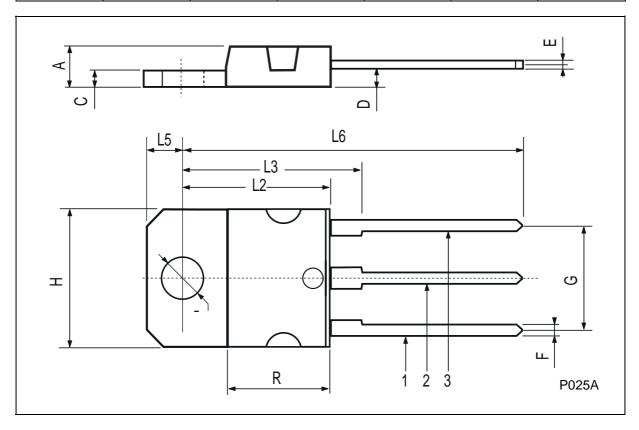
Symbol	Parameter	Test Conditions		Min.	Тур.	Max.	Unit
I _{CES}	Collector Cut-off Current (V _{BE} = 0)	V _{CE} = 140 V				400	μА
I _{CEO}	Collector Cut-off Current (I _B = 0)	V _{CE} = 60 V				0.7	mA
I _{EBO}	Emitter Cut-off Current (Ic = 0)	V _{EB} = 5 V				1	mA
V _{CEO(sus)} *	Collector-Emitter Sustaining Voltage	I _C = 30 mA		100			V
V _{CE(sat)} *	Collector-Emitter Saturation Voltage	I _C = 3 A I _C = 10 A	I _B = 0.3 A I _B = 2.5 A			1 4	V V
V _{BE(on)*}	Base-Emitter Voltage	I _C = 3 A I _C = 10 A	V _{CE} = 4 V V _{CE} = 4 V			1.6 3	V V
h _{FE} *	DC Current Gain	I _C = 1 A I _C = 3 A	V _{CE} = 4 V V _{CE} = 4 V	40 20		100	
h _{fe}	Small Signal Current Gain	I _C = 0.5 A f = 1 MHz	V _{CE} = 10 V	20			
f _T	Transition frequency	I _C = 0.5 A f = 1 MHz	V _{CE} = 10 V	3			MHz
t _{on} t _s t _f	RESISTIVE LOAD Turn-on Time Storage Time Fall Time	VCC = 30V V _{BB} = -6 V t _p = 20 μs	I _C = 6 A I _{B1} = - I _{B2} = 0.6 A		0.6 0.4 1		μs μs μs

* Pulsed: Pulse duration = 300 μs, duty cycle 1.5 % For PNP types voltage and current values are negative.



TO-218 (SOT-93) MECHANICAL DATA

DIM.	mm			inch			
Diwi.	MIN.	TYP.	MAX.	MIN.	TYP.	MAX.	
А	4.7		4.9	0.185		0.193	
С	1.17		1.37	0.046		0.054	
D		2.5			0.098		
Е	0.5		0.78	0.019		0.030	
F	1.1		1.3	0.043		0.051	
G	10.8		11.1	0.425		0.437	
Н	14.7		15.2	0.578		0.598	
L2	-		16.2	_		0.637	
L3		18			0.708		
L5	3.95		4.15	0.155		0.163	
L6		31			1.220		
R	_		12.2	_		0.480	
Ø	4		4.1	0.157		0.161	



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