

2SA1289/2SC3253

60V/5A High-Speed Switching Applications

Applications

- · Various inductance lamp drivers for electrical equipment.
- · Inverters, converters (strobo, flash, fluorescent lamp lighting circuit).
- · Power amp (high power car stereo, motor controller).
- · High-speed switching (switching regulator, driver).

Features

- · Low saturation voltage.
- · Excellent current dependence of h_{FE}.
- · Short switching time.

(): 2SA1289

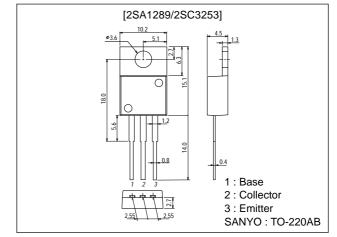
Specifications

Absolute Maximum Ratings at $Ta = 25^{\circ}C$

Package Dimensions

unit:mm

2010C



Parameter	Symbol	Conditions	Ratings	Unit
Collector-to-Base Voltage	V _{CBO}		(–)80	V
Collector-to-Emitter Voltage	VCEO		(-)60	V
Emitter-to-Base Voltage	V _{EBO}		(-)5	V
Collector Current	Ic		(-)5	Α
Collector Current Pulse	ICP		(-)7	Α
Collector Dissipation	PC	Tc=25°C	30	W
Junction Temperature	Tj		150	°C
Storage Temperature	Tstg		-55 to +150	°C

Electrical Characteristics at Ta = 25°C

Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	Offic
Collector Cutoff Current	ICBO	V _{CB} =(-)40V, I _E =0			(-)0.1	mA
Emitter Cutoff Current	I _{EBO}	V _{EB} =(-)4V, I _C =0			(-)0.1	mA
DC Current Gain	hFE	$V_{CE}=(-)2V, I_{C}=(-)1A$	70*		280*	
Gain-Bandwidth Product	f _T	V _{CE} =(-)5V, I _C =(-)1A		100		MHz
Collector-to-Emitter Saturation Voltage	V _{CE(sat)}	I _C =(-)2.5A, I _B =(-)0.125A			(-)0.4	V

^{*}: The 2SA1290/2SC3254 are classified by 1A h_{FE} as follows:

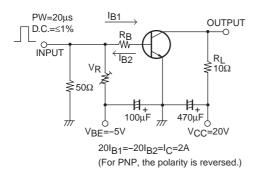
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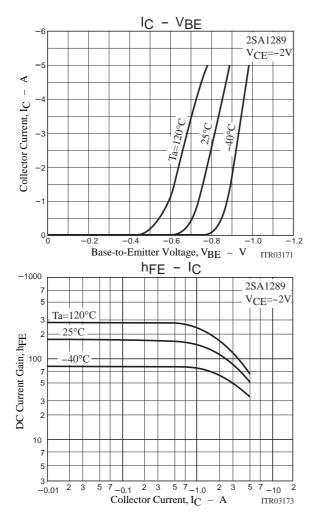
- Rank O R S 70 to 140 100 to 200 140 to 280 hFE
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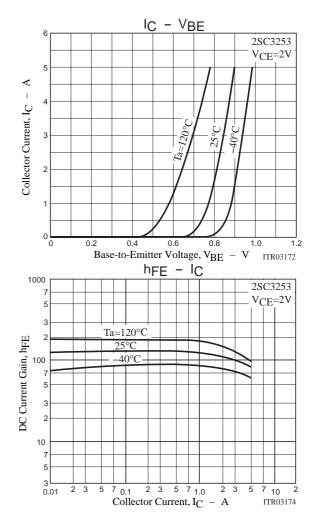
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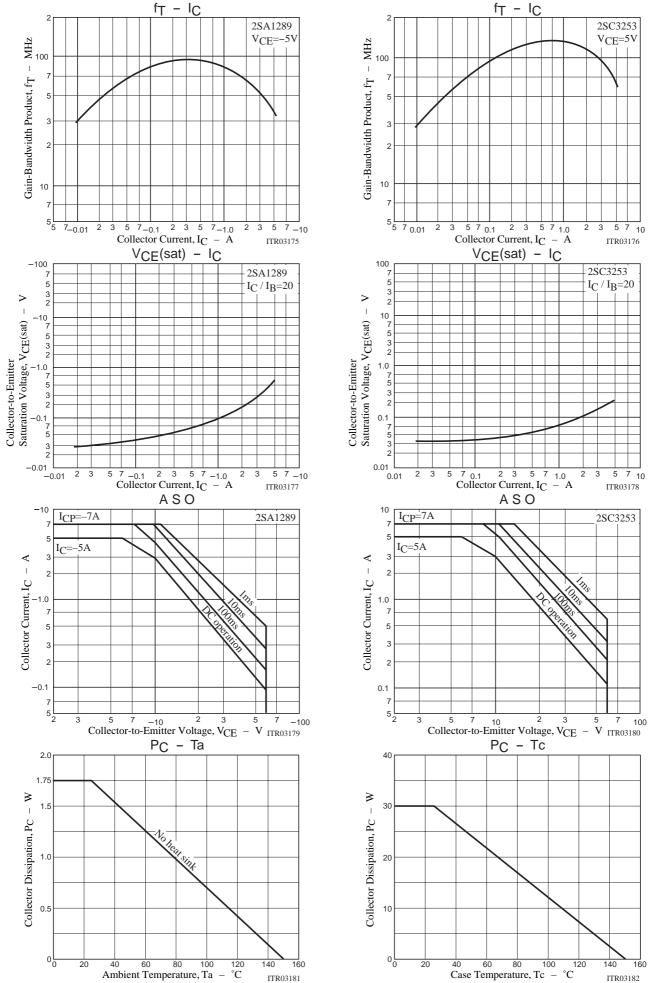
Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	O IIII
Collector-to-Base Breakdown Voltage	V(BR)CBO	I _C =(-)1mA, I _E =0	(–)80			V
Collector-to-Emitter Breakdown Voltage	V(BR)CEO	I _C =(−)1mA, R _{BE} =∞	(–)60			V
Emitter-to-Base Breakdown Voltage	V(BR)EBO	I _E =(-)1mA, I _C =0	(-)5			V
Turn-ON Time	ton	See specified Test Circuit		0.1		μs
Storage Time	t _{stg}	See specified Test Circuit		0.5		μs
Fall Time	t _f	See specified Test Circuit		0.1		μs

Switching Time Test Circuit









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