

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 $T_a = 25^\circ\text{C}$**

Parameter	Symbol	Conditions	Ratings	Unit
Collector-to-Base Voltage	V_{CB0}		(-)80	V
Collector-to-Emitter Voltage	V_{CE0}		(-)60	V
Emitter-to-Base Voltage	V_{EB0}		(-)5	V
Collector Current	I_C		(-)5	A
Collector Current Pulse	I_{CP}		(-)7	A
Collector Dissipation	P_C	$T_c=25^\circ\text{C}$	30	W
Junction Temperature	T_j		150	$^\circ\text{C}$
Storage Temperature	T_{stg}		-55 to +150	$^\circ\text{C}$

Electrical Characteristics at $T_a = 25^\circ\text{C}$

Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Collector Cutoff Current	I_{CB0}	$V_{CB}=(-)40\text{V}, I_E=0$			(-)0.1	mA
Emitter Cutoff Current	I_{EB0}	$V_{EB}=(-)4\text{V}, I_C=0$			(-)0.1	mA
DC Current Gain	h_{FE}	$V_{CE}=(-)2\text{V}, I_C=(-)1\text{A}$	70*		280*	
Gain-Bandwidth Product	f_T	$V_{CE}=(-)5\text{V}, I_C=(-)1\text{A}$		100		MHz
Collector-to-Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C=(-)2.5\text{A}, I_B=(-)0.125\text{A}$			(-)0.4	V
Collector-to-Base Breakdown Voltage	$V_{(BR)CBO}$	$I_C=(-)1\text{mA}, I_E=0$	(-)80			V
Collector-to-Emitter Breakdown Voltage	$V_{(BR)CEO}$	$I_C=(-)1\text{mA}, R_{BE}=\infty$	(-)60			V
Emitter-to-Base Breakdown Voltage	$V_{(BR)EBO}$	$I_E=(-)1\text{mA}, I_C=0$	(-)5			V
Turn-ON Time	t_{on}	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

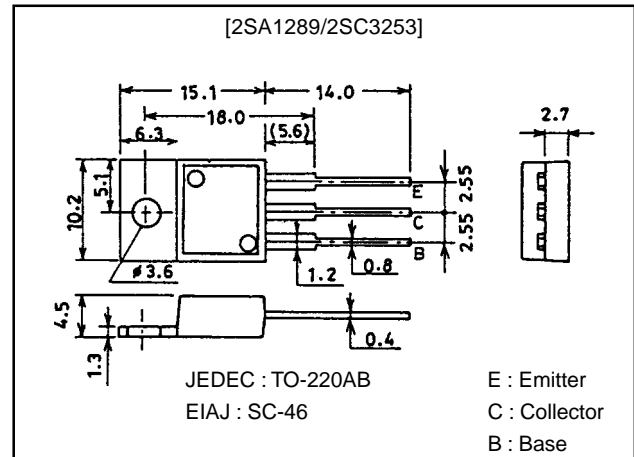
* : The 2SA1290/2SC3254 are classified by 1A h_{FE} as follows :

70	Q	140	100	R	200	140	S	280
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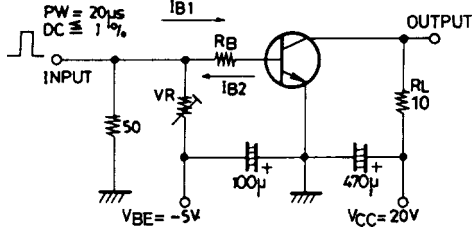
Package Dimensions

unit:mm

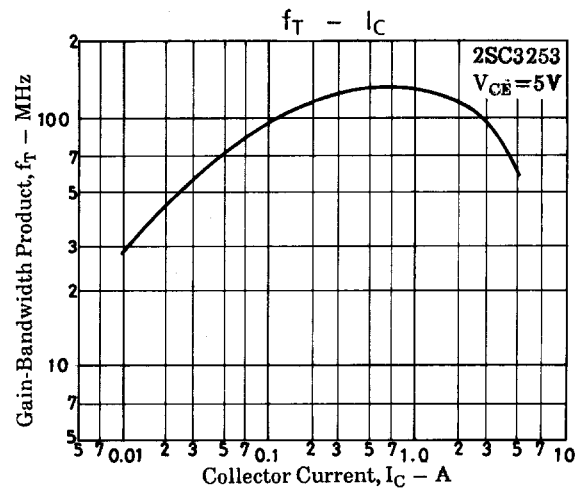
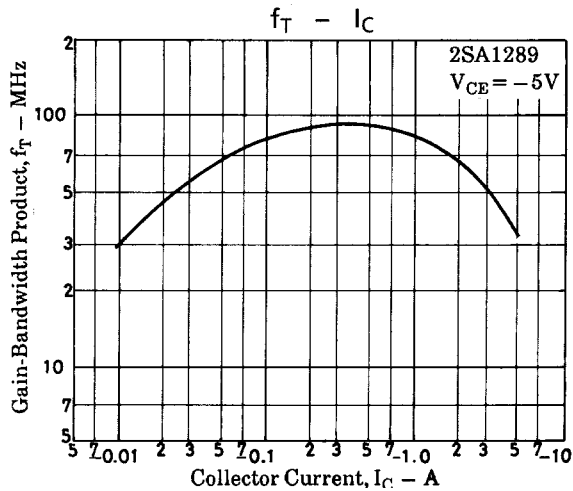
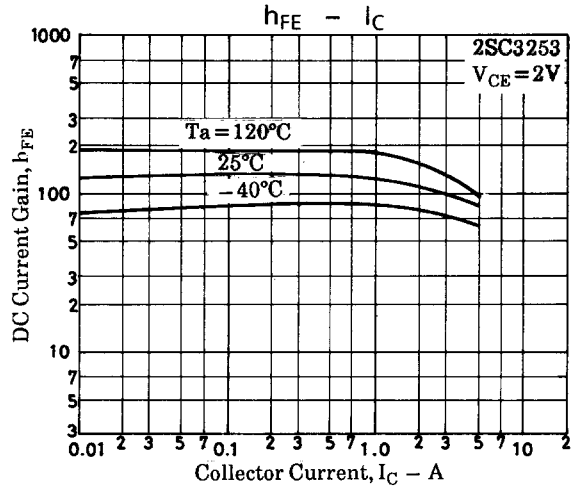
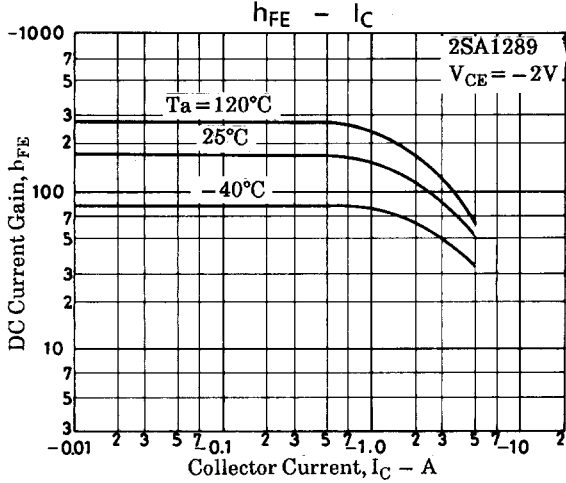
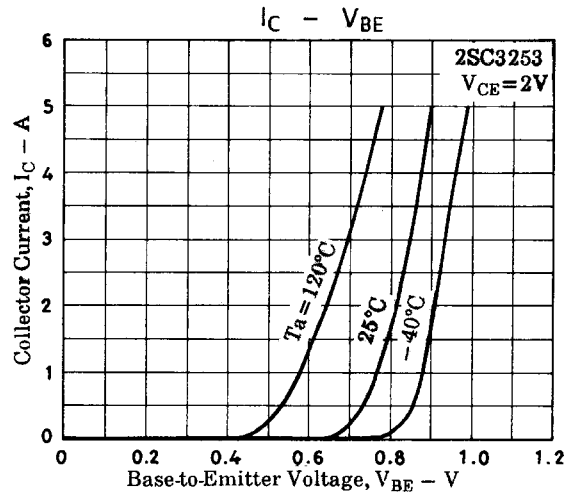
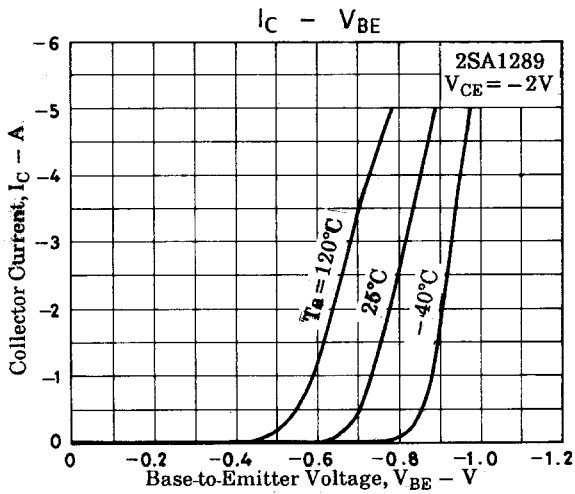
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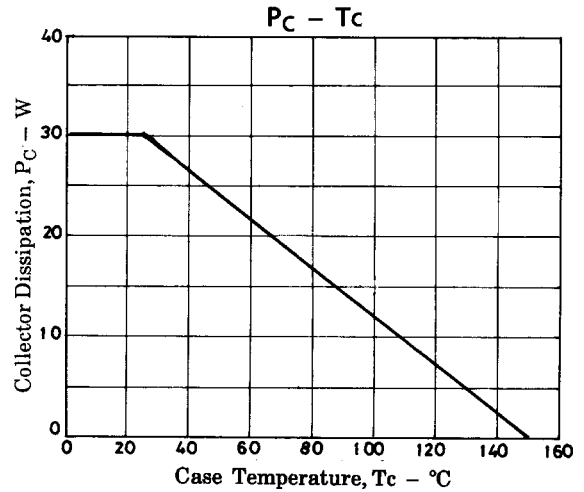
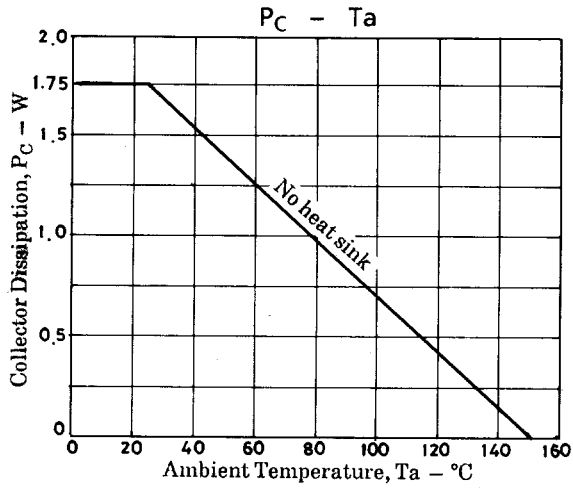
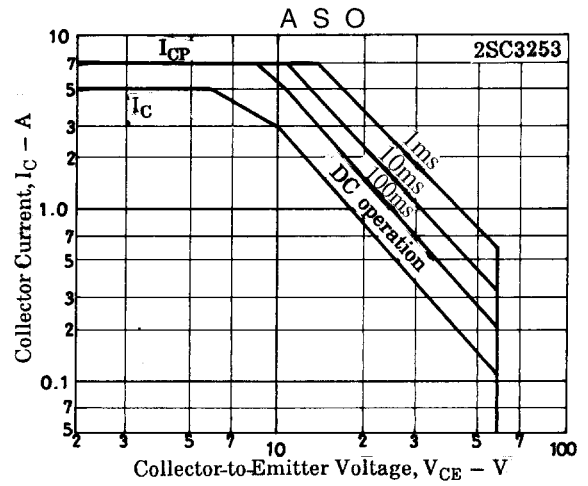
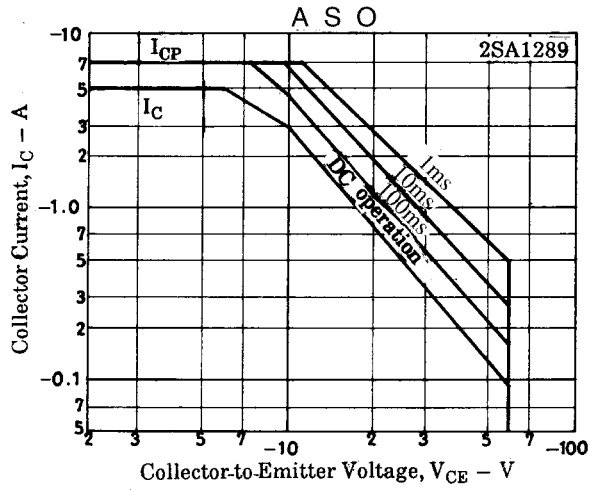
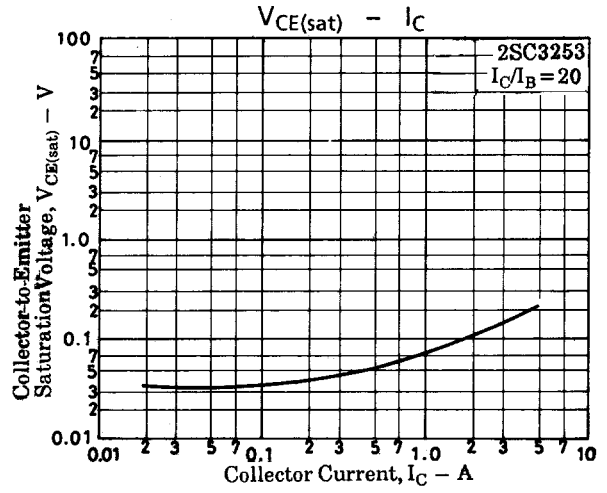
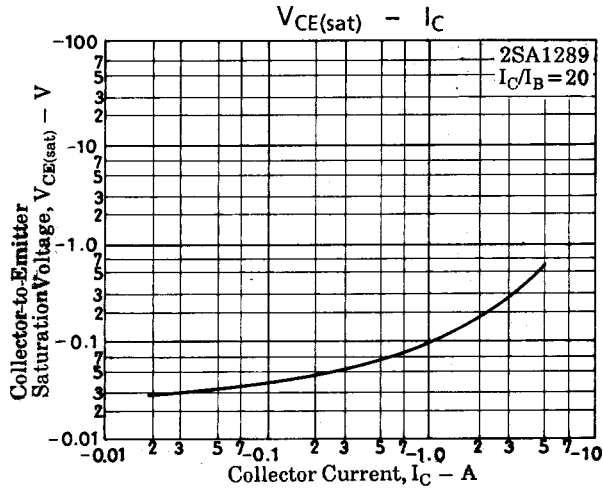
Switching Time Test Circuit



(For PNP, the polarity is reversed)
Unit (resistance : Ω, capacitance : F)



2SA1289/2SC3253



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