



CPH5902

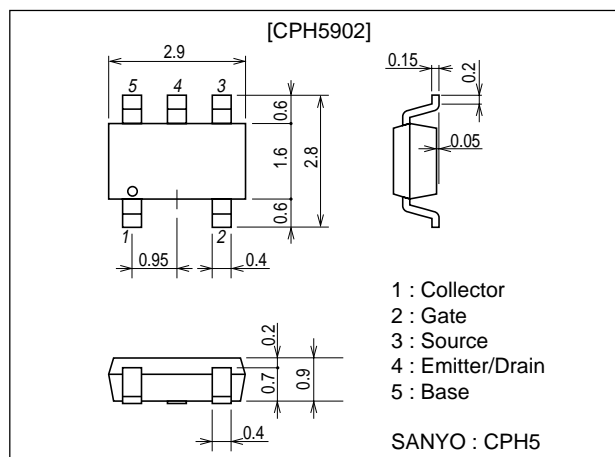
High-Frequency Amplifier, AM Amplifier, Low-Frequency Amplifier Applications

Features

- Composite type with J-FET and NPN transistors contained in the CPH5 package, improving the mounting efficiency greatly.
- The CPH5902 contains a 2SK2394-equivalent chip and a 2SC4639-equivalent chip in one package.
- Drain and emitter are shared.

Package Dimensions

unit : mm
2196



Specifications

Absolute Maximum Ratings at Ta=25°C

Parameter	Symbol	Conditions	Ratings	Unit
[FET]				
Drain-to-Source Voltage	VDSX		15	V
Gate-to-Drain Voltage	VGDS		-15	V
Gate Current	IG		10	mA
Drain Current	ID		50	mA
Allowable Power Dissipation	PD		200	mW
[TR]				
Collector-to-Base Voltage	VCBO		55	V
Collector-to-Emitter Voltage	VCEO		50	V
Emitter-to-Base Voltage	VEBO		6	V
Collector Current	IC		150	mA
Collector Current (Pulse)	ICP		300	mA
Base Current	IB		30	mA
Collector Dissipation	PC		200	mW
[Common Ratings]				
Total Dissipation	PT		300	mW
Junction Temperature	TJ		150	°C
Storage Temperature	Tstg		-55 to +150	°C

Marking : RB

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Electrical Characteristics at Ta=25°C

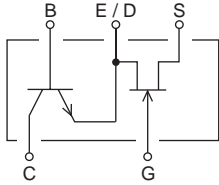
Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
[FET]						
Gate-to-Drain Breakdown Voltage	$V_{(BR)GDS}$	$I_G = -10\mu A, V_{DS} = 0$	-15			V
Gate Cutoff Current	I_{GSS}	$V_{GS} = -10V, V_{DS} = 0$			-1.0	nA
Cutoff Voltage	$V_{GS(off)}$	$V_{DS} = 5V, I_D = 100\mu A$	-0.4	-0.7	-1.5	V
Drain Current	I_{DSS}	$V_{DS} = 5V, V_{GS} = 0$	10.0*		32.0*	mA
Forward Transfer Admittance	$ y_{fs} $	$V_{DS} = 5V, V_{GS} = 0, f = 1kHz$	24	38		mS
Input Capacitance	C_{iss}	$V_{DS} = 5V, V_{GS} = 0, f = 1MHz$		10.0		pF
Reverse Transfer Capacitance	C_{rss}	$V_{DS} = 5V, V_{GS} = 0, f = 1MHz$		2.9		pF
Noise Figure	NF	$V_{DS} = 5V, R_g = 1k\Omega, I_D = 1mA, f = 1kHz$		1.0		dB
[TR]						
Collector Cutoff Current	I_{CBO}	$V_{CB} = 35V, I_E = 0$			0.1	μA
Emitter Cutoff Current	I_{EBO}	$V_{EB} = 4V, I_C = 0$			0.1	μA
DC Current Gain	h_{FE}	$V_{CE} = 6V, I_C = 1mA$	135		400	
Gain-Bandwidth Product	f_T	$V_{CE} = 6V, I_C = 10mA$		200		MHz
Output Capacitance	C_{ob}	$V_{CB} = 6V, f = 1MHz$		1.7		pF
Collector-to-Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C = 50mA, I_B = 5mA$		0.08	0.4	V
Base-to-Emitter Saturation Voltage	$V_{BE(sat)}$	$I_C = 50mA, I_B = 5mA$		0.8	1.0	V
Collector-to-Base Breakdown Voltage	$V_{(BR)CBO}$	$I_C = 10\mu A, I_E = 0$	55			V
Collector-to-Emitter Breakdown Voltage	$V_{(BR)CEO}$	$I_C = 1mA, R_{BE} = \infty$	50			V
Emitter-to-Base Breakdown Voltage	$V_{(BR)EBO}$	$I_E = 10\mu A, I_C = 0$	6			V
Turn-ON Time	t_{on}	See specified Test Circuit		0.15		μs
Storage Time	t_{stg}	See specified Test Circuit		0.75		μs
Fall Time	t_f	See specified Test Circuit		0.20		μs

* : The CPH5902 is classified by I_{DSS} as follows : (unit : mA)

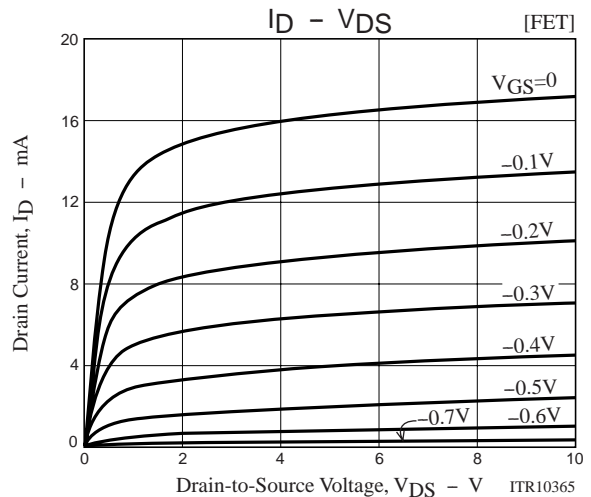
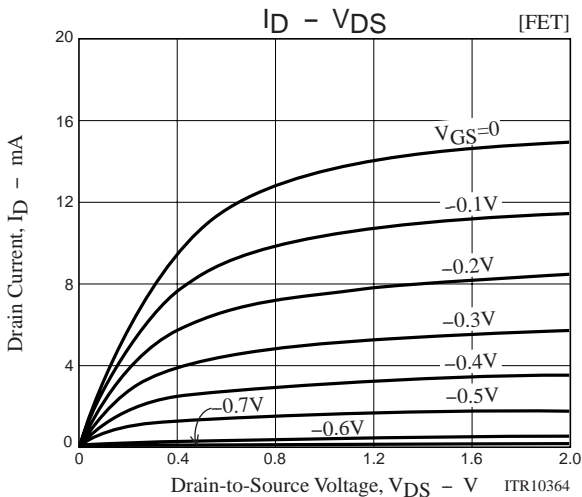
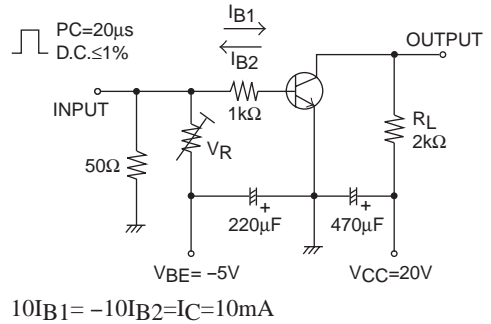
Rank	G	H
I_{DSS}	10.0 to 20.0	16.0 to 32.0

The specifications shown above are for each individual FET or transistor.

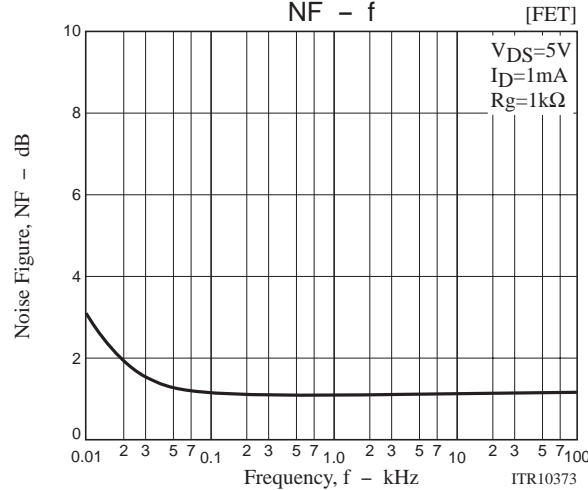
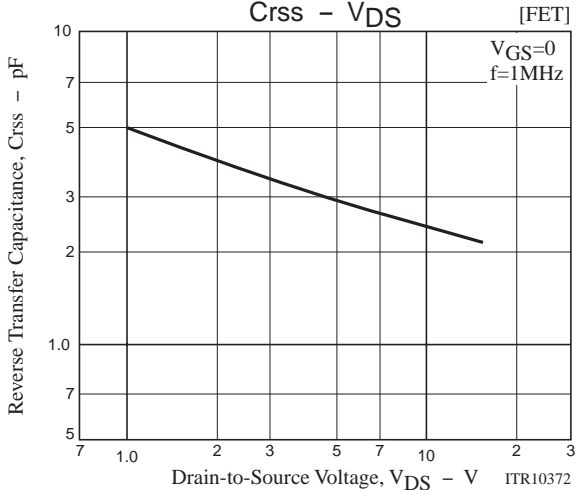
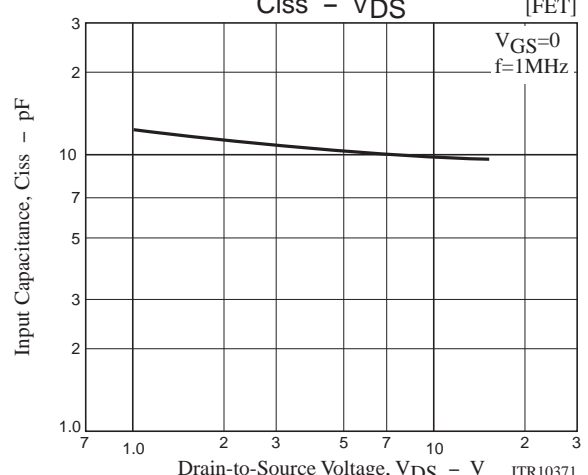
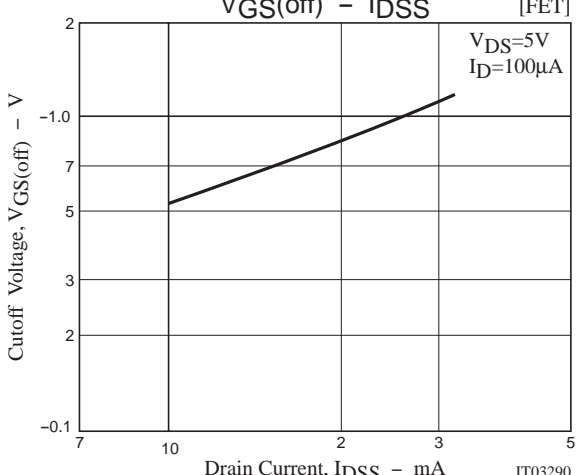
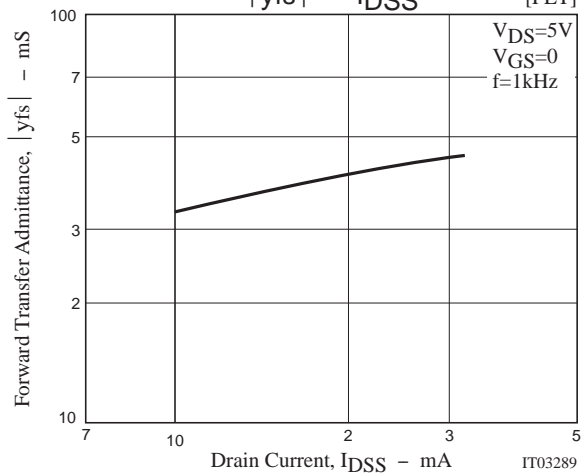
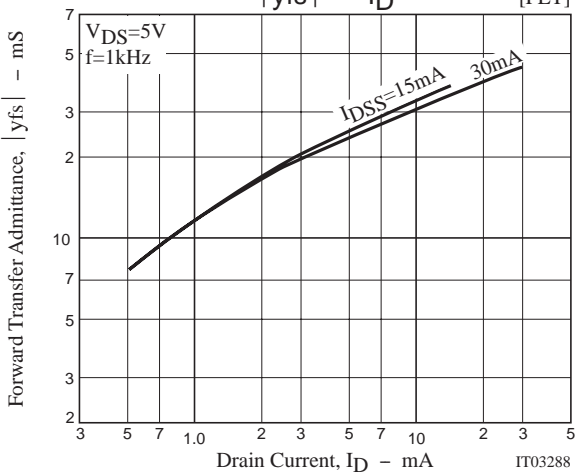
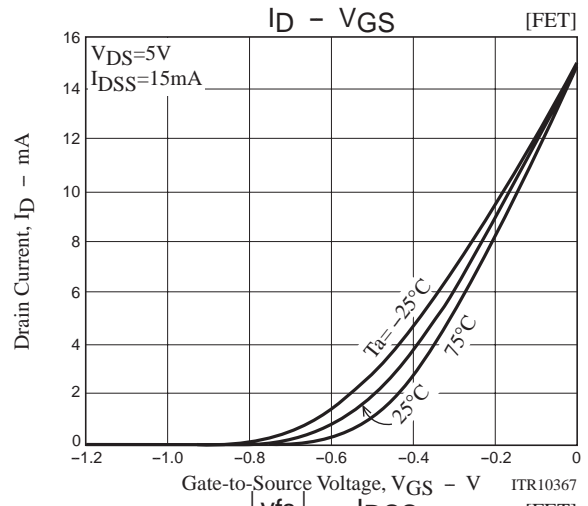
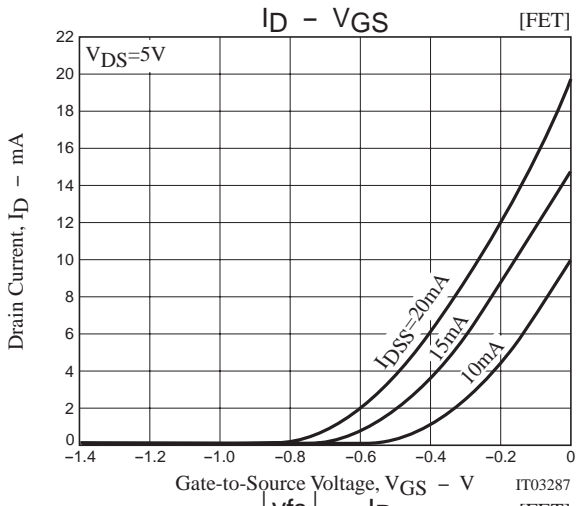
Electrical Connection (Top view)



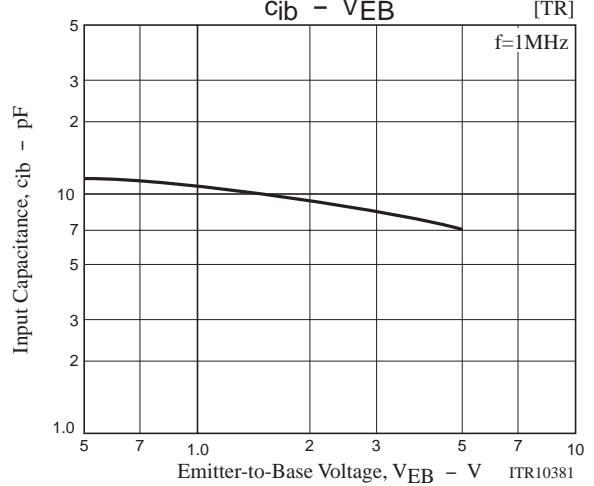
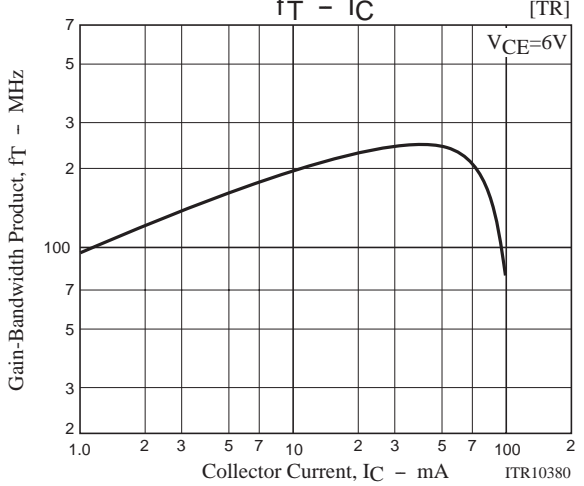
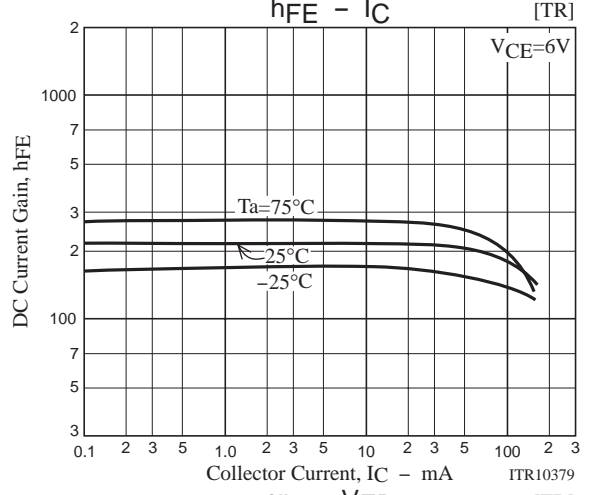
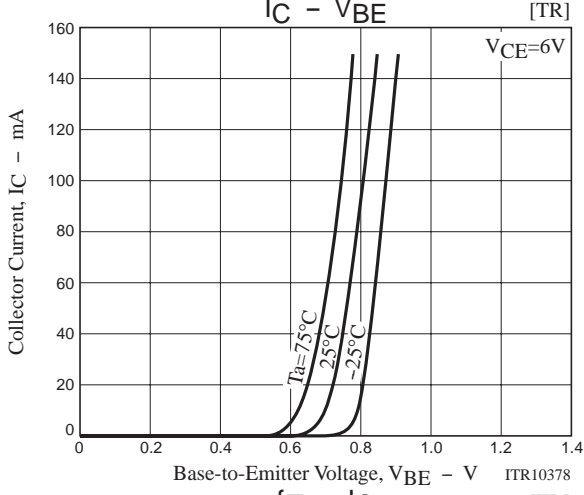
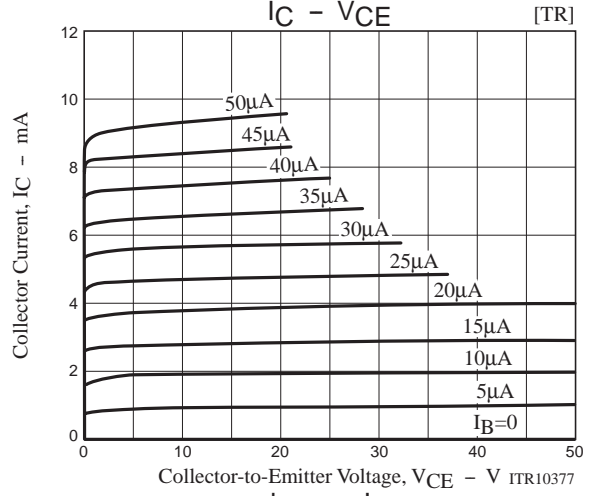
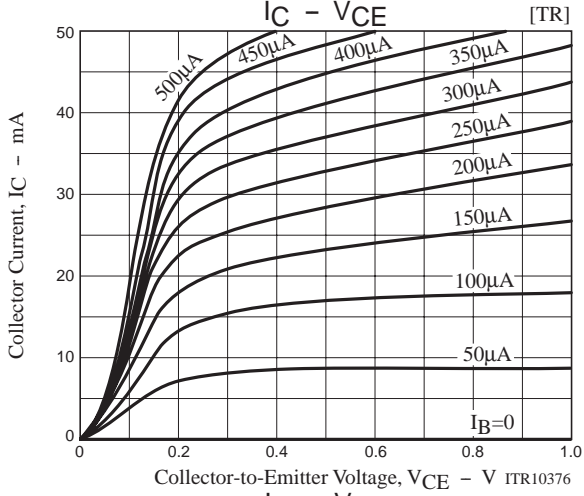
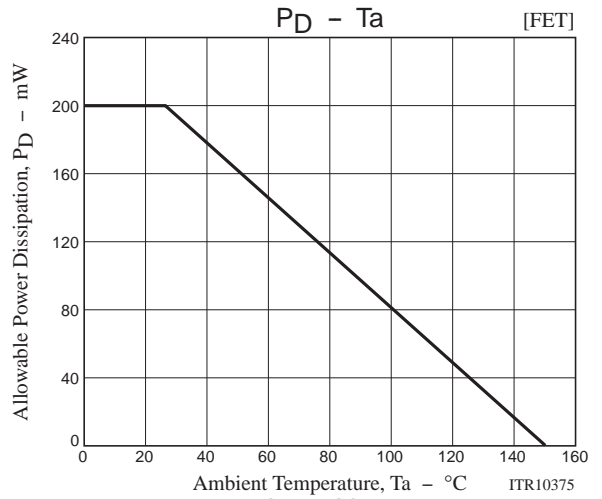
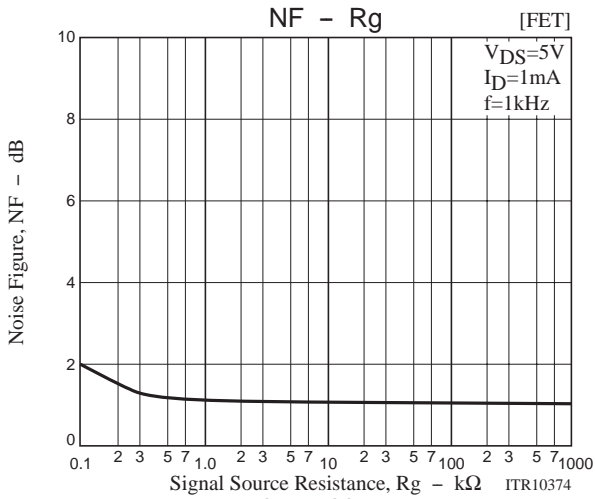
Switching Time Test Circuit

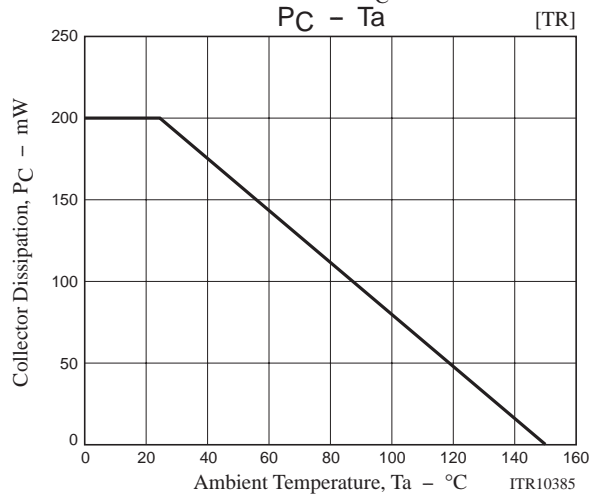
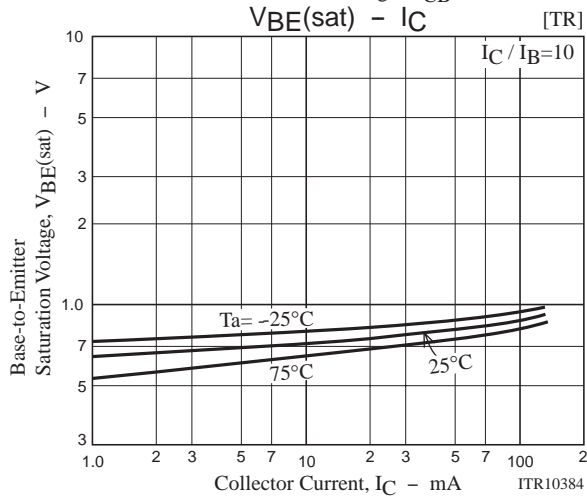
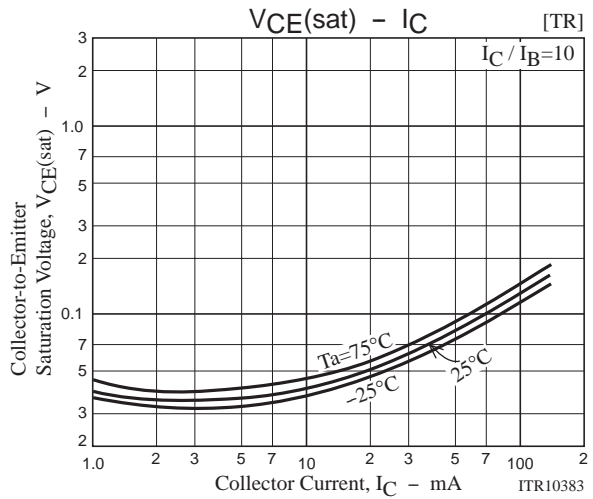
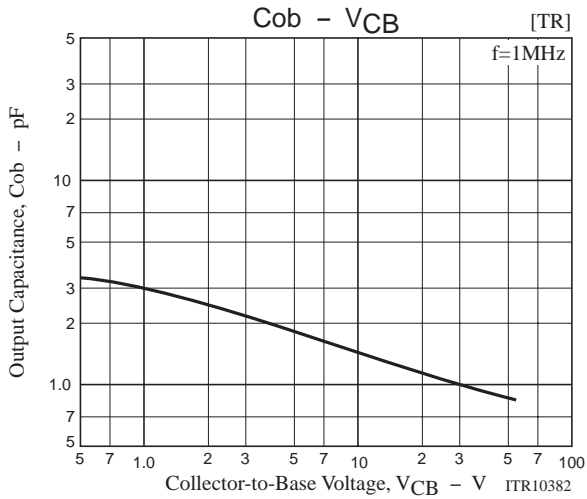


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