

Multi-Chip TRANSISTOR (NPN)

### FEATURES

Power dissipation

$$P_{CM} : 300 \text{ mW (Tamb=25}^{\circ}\text{C)}$$

Collector current

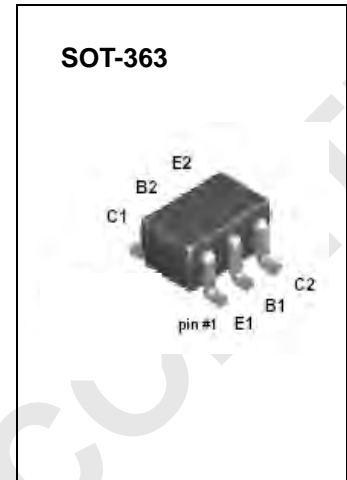
$$I_{CM} : 200 \text{ mA}$$

Collector-base voltage

$$V_{(BR)CBO} : 50 \text{ V}$$

Operating and storage junction temperature range

$$T_J, T_{stg} : -55^{\circ}\text{C to } +150^{\circ}\text{C}$$

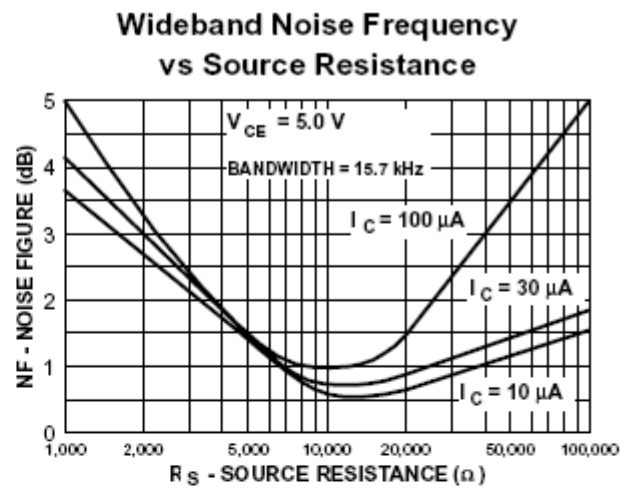
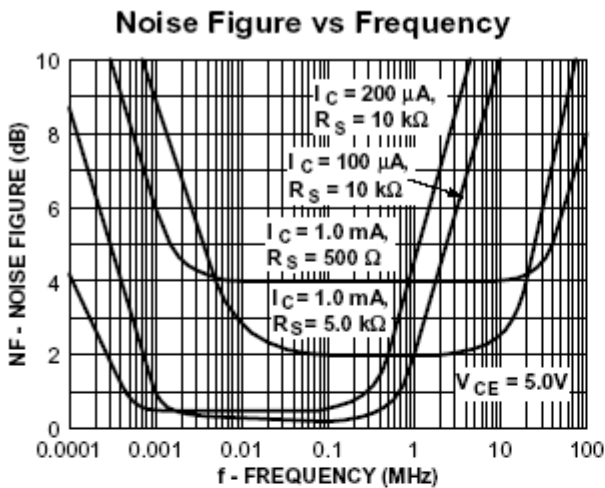
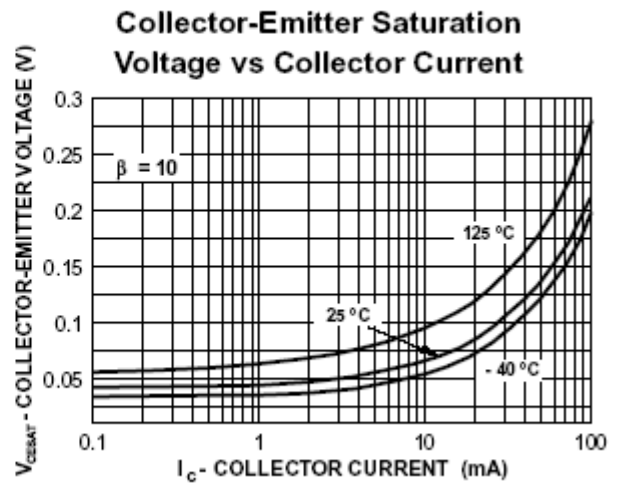
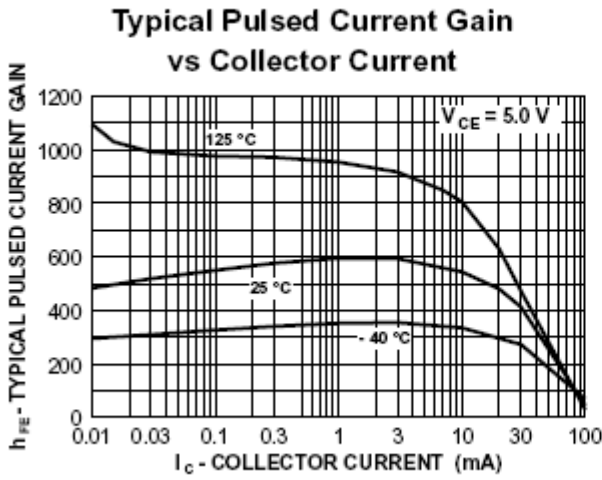


### MARKING: 1C

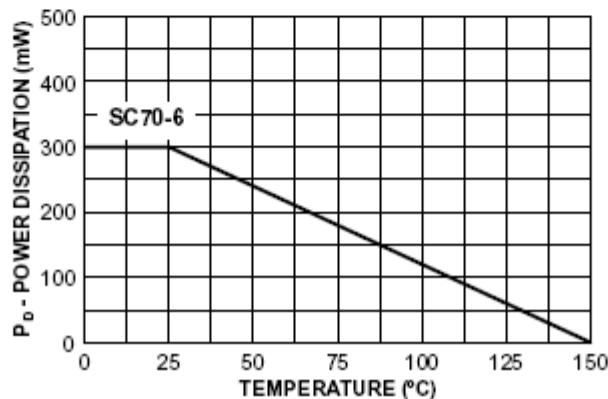
### ELECTRICAL CHARACTERISTICS (Tamb=25°C unless otherwise specified)

Parameter	Symbol	Test conditions	MIN	TYP	MAX	UNIT
Collector-base breakdown voltage	$V_{(BR)CBO}$	$I_C=10\mu\text{A}, I_E=0$	50			V
Collector-emitter breakdown voltage	$V_{(BR)CEO}$	$I_C=10\text{mA}, I_B=0$	45			V
Emitter-base breakdown voltage	$V_{(BR)EBO}$	$I_E=10\mu\text{A}, I_C=0$	6			V
Collector cut-off current	$I_{CBO}$	$V_{CB}=30\text{V}, I_E=0$			15	nA
DC current gain	$h_{FE(1)}$	$V_{CE}=5\text{V}, I_C=2\text{mA}$	110		630	
Collector-emitter saturation voltage	$V_{CE(sat)(1)}$	$I_C=10\text{mA}, I_B=0.5\text{mA}$			0.25	V
	$V_{CE(sat)(2)}$	$I_C=100\text{mA}, I_B=5\text{mA}$			0.65	V
Base-emitter voltage	$V_{BE(1)}$	$V_{CE}=5\text{V}, I_C=2\text{mA}$	0.58		0.7	V
	$V_{BE(2)}$	$V_{CE}=5\text{V}, I_C=10\text{mA}$			0.77	V
Transition frequency	$f_T$	$V_{CE}=5\text{V}, I_C=20\text{mA}, f=100\text{MHz}$		200		MHz
Collector output capacitance	$C_{ob}$	$V_{CB}=10\text{V}, I_E=0, f=1\text{MHz}$		2		pF

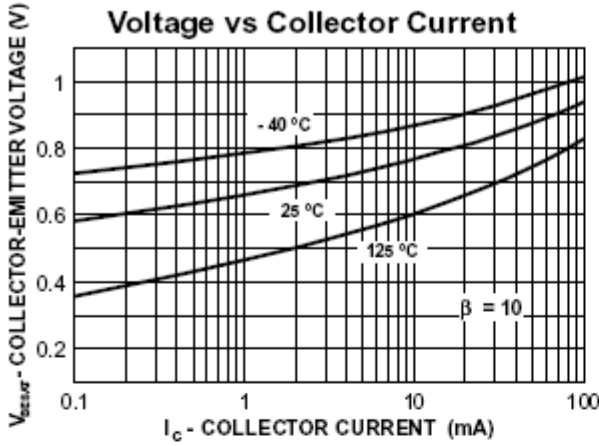
## Typical Characteristics



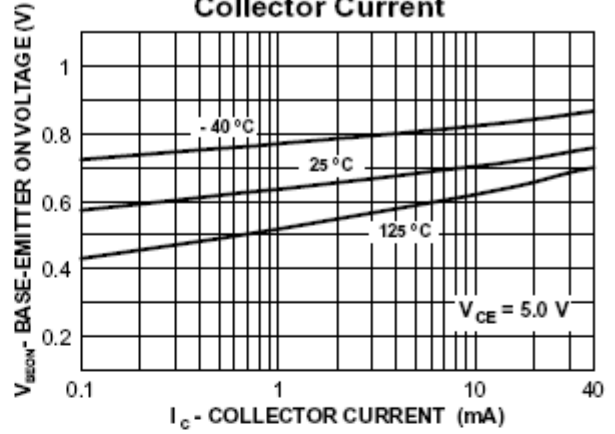
### Power Dissipation vs Ambient Temperature



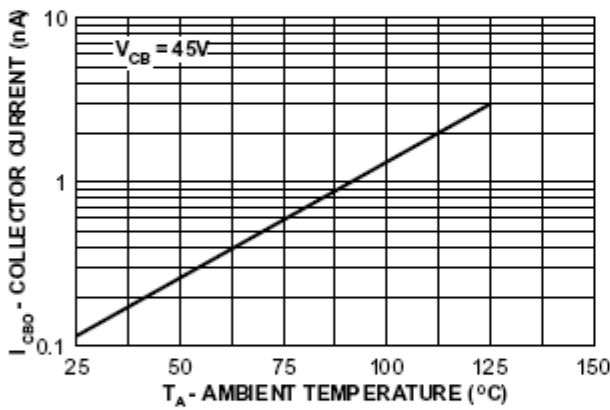
**Base-Emitter Saturation Voltage vs Collector Current**



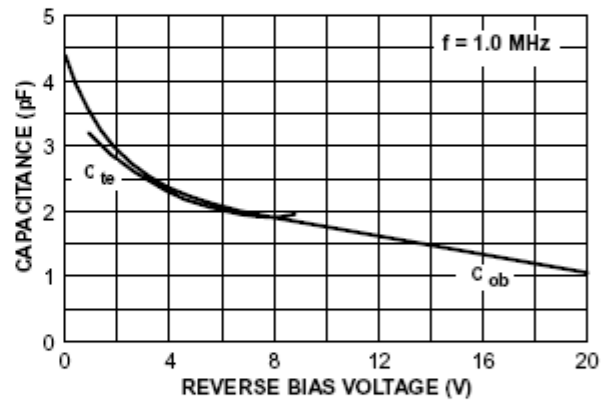
**Base-Emitter ON Voltage vs Collector Current**



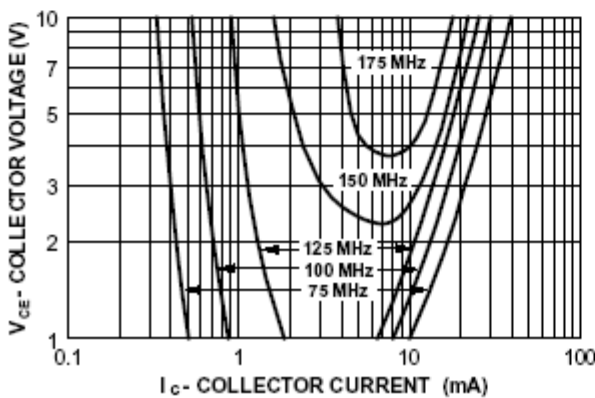
**Collector-Cutoff Current vs Ambient Temperature**



**Input and Output Capacitance vs Reverse Bias Voltage**



**Contours of Constant Gain Bandwidth Product ( $f_T$ )**



**Normalized Collector-Cutoff Current vs Ambient Temperature**

