

# MITSUBISHI ELECTRIC CORPORATION

APPLICATION NOTE	Prepared by	H.Hanada	Rev	B	H. Hanada
	Approved by	M.Tabata 1-Apr.-'03			T. Furuta 27-May-'03

CMH5339b.doc

**Subject** Performance Curves of CM150DY-24A

**Contents**

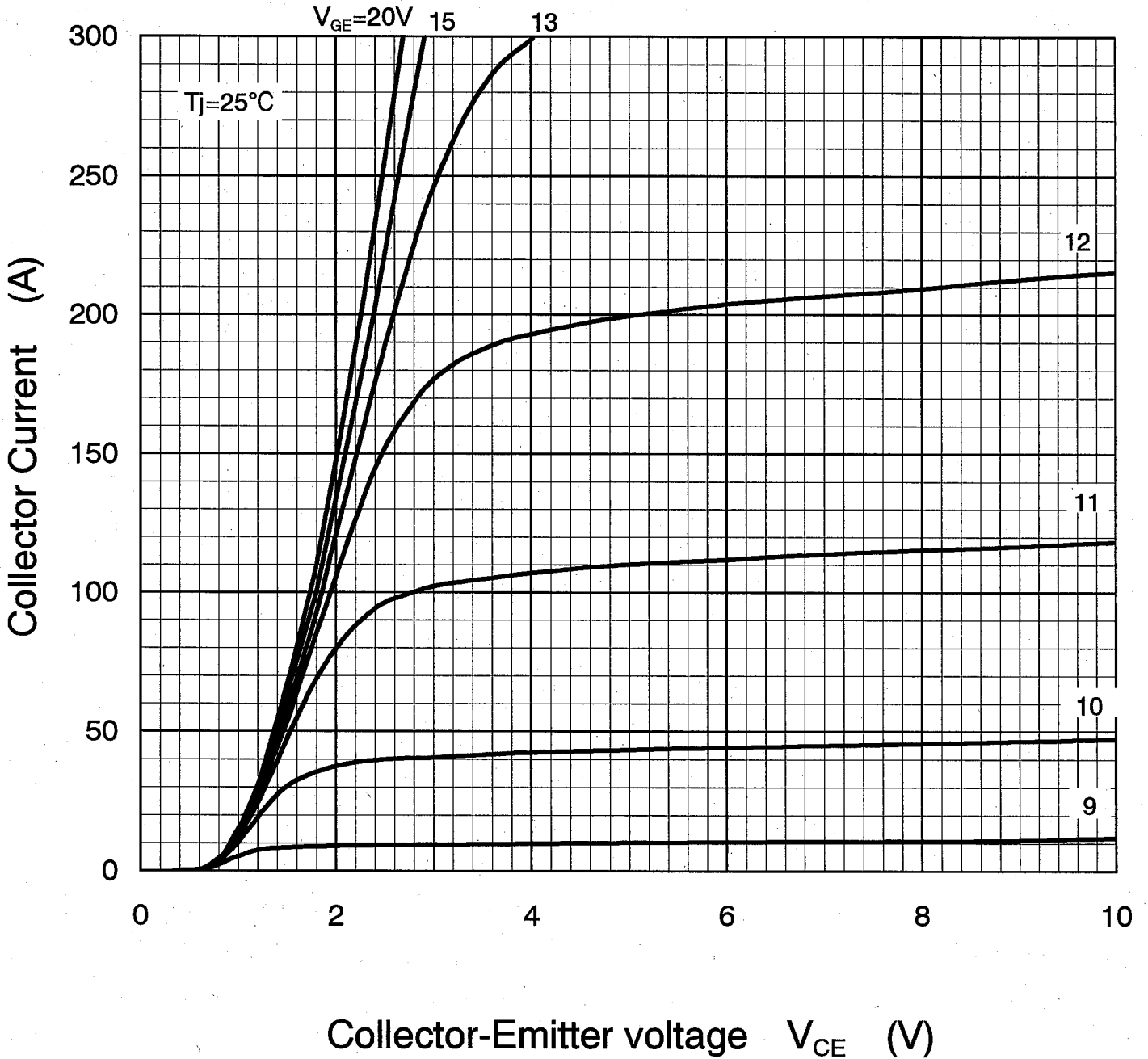
- Output Characteristics(typical)
- Collector-Emitter Saturation Voltage Characteristics(typical)
- Collector-Emitter Saturation Voltage Characteristics(typical)
- Free-Wheel Diode Forward Characteristics(typical)
- Capacitance-VCE Characteristics(typical)
- Half-Bridge Switching Characteristics(typical)
- Reverse Recovery Characteristics of Free-Wheel Diode(typical)
- Transient Thermal Impedance Characteristics(IGBT part&FWDi part)
- Gate Charge Characteristics(typical)

Don't measure these static characteristics yourself by curve tracer.  
 Usually, curve tracer has too much wiring inductance and device will be damaged by over voltage from oscillation.

IGBT Module	CMH-5339-B	APPLICATION NOTE
-------------	------------	------------------

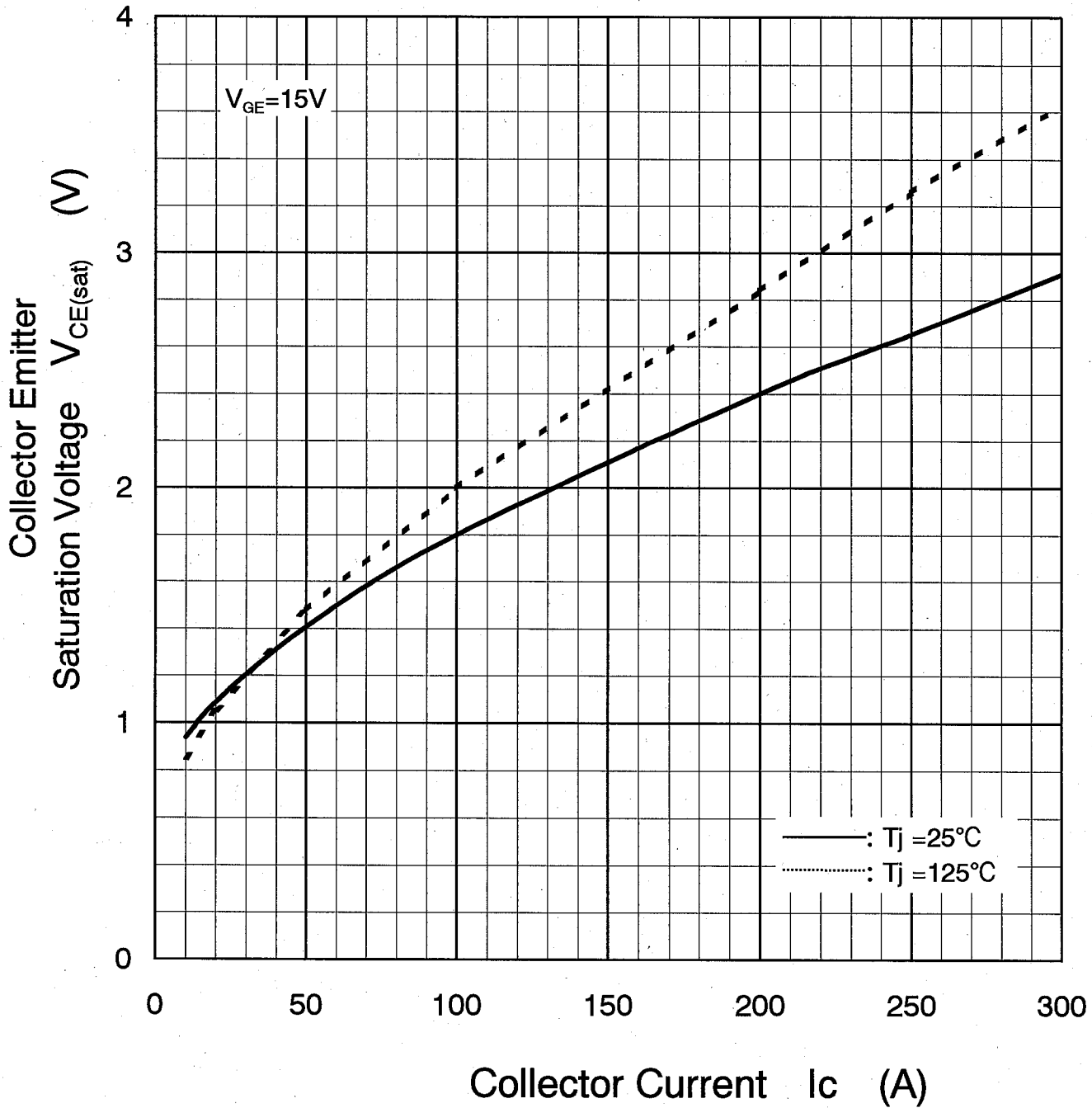
APPLICATION NOTE	Prepared by		Rev	
	Approved by			

## Output Characteristics (Typical) CM150DY-24A



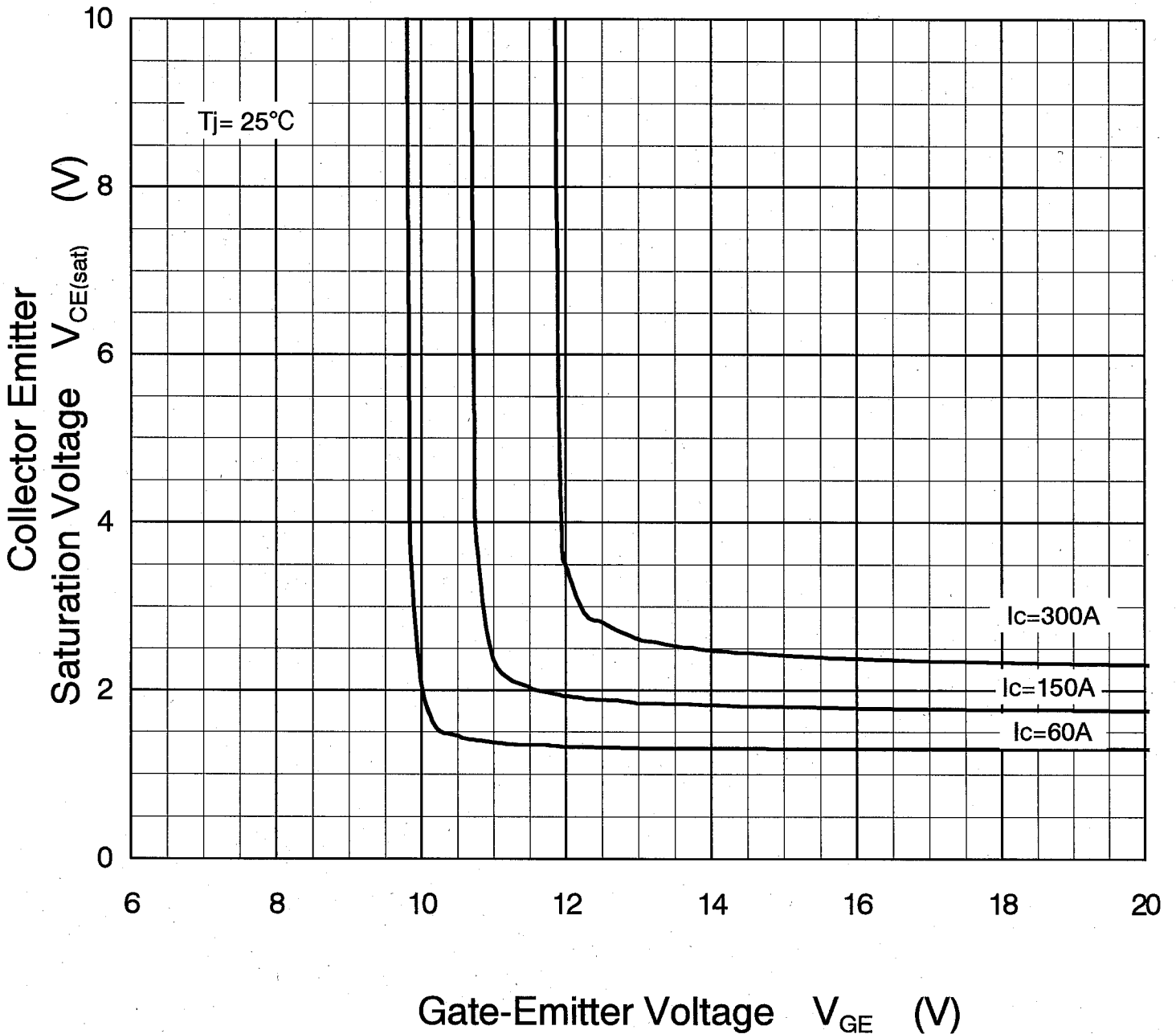
APPLICATION NOTE	Prepared by		Rev	
	Approved by			

## Collector-Emitter Saturation Voltage Characteristics (Typical) CM150DY-24A



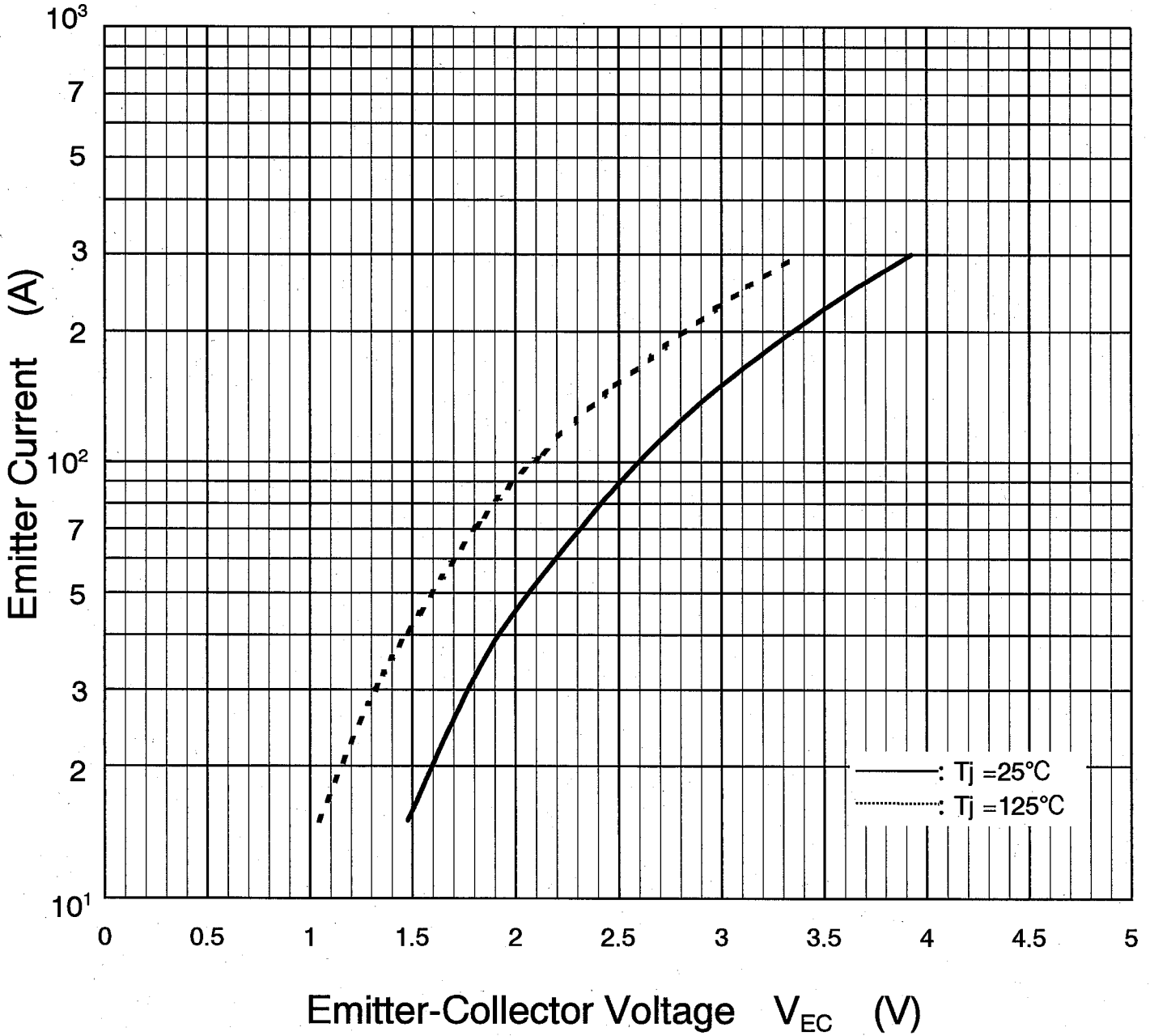
APPLICATION NOTE	Prepared by		Rev	
	Approved by			

## Collector-Emitter Saturation Voltage Characteristics (Typical) CM150DY-24A



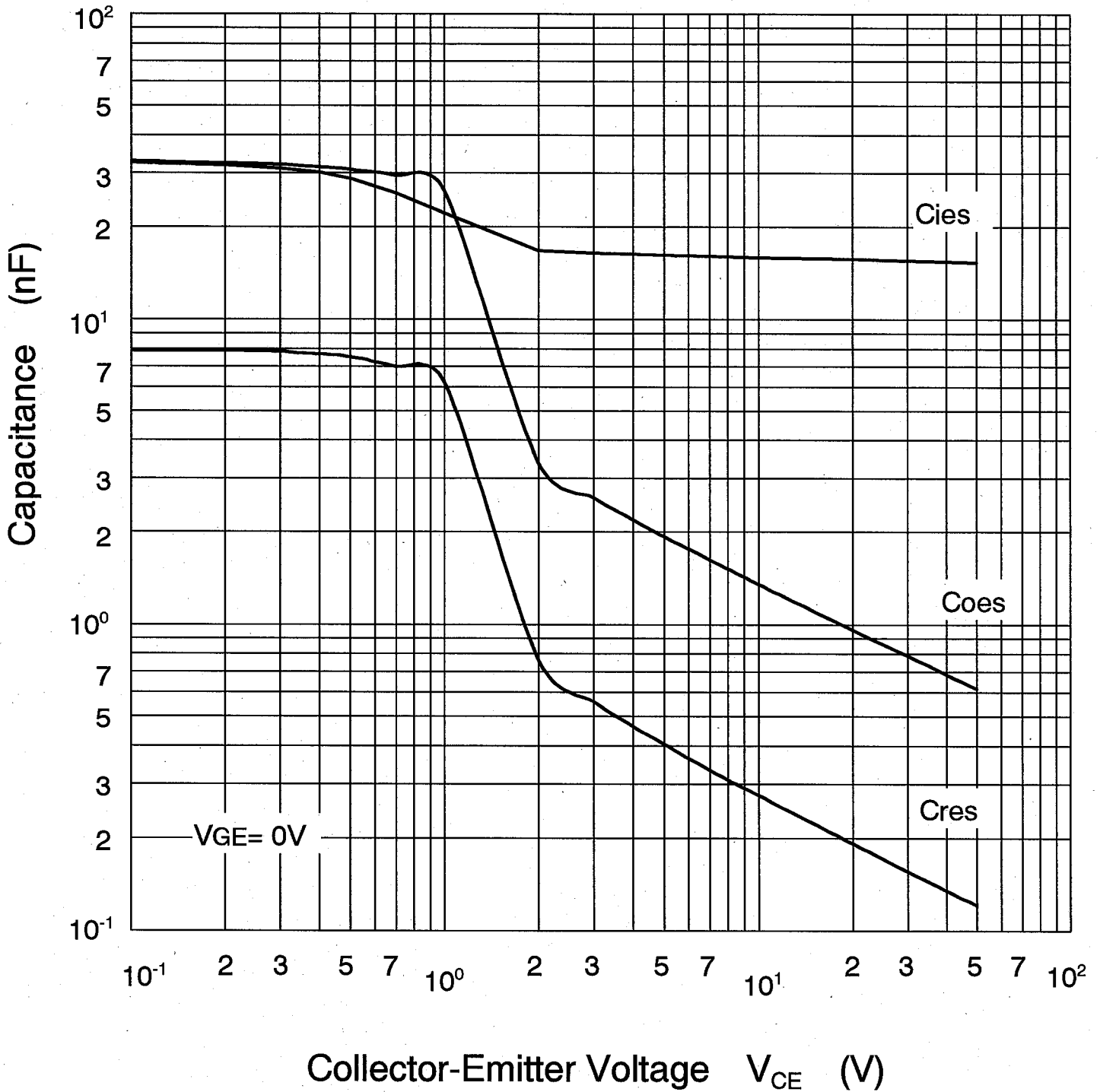
APPLICATION NOTE	Prepared by		Rev	
	Approved by			

## Free-Wheel Diode Forward Characteristics (typical) CM150DY-24A



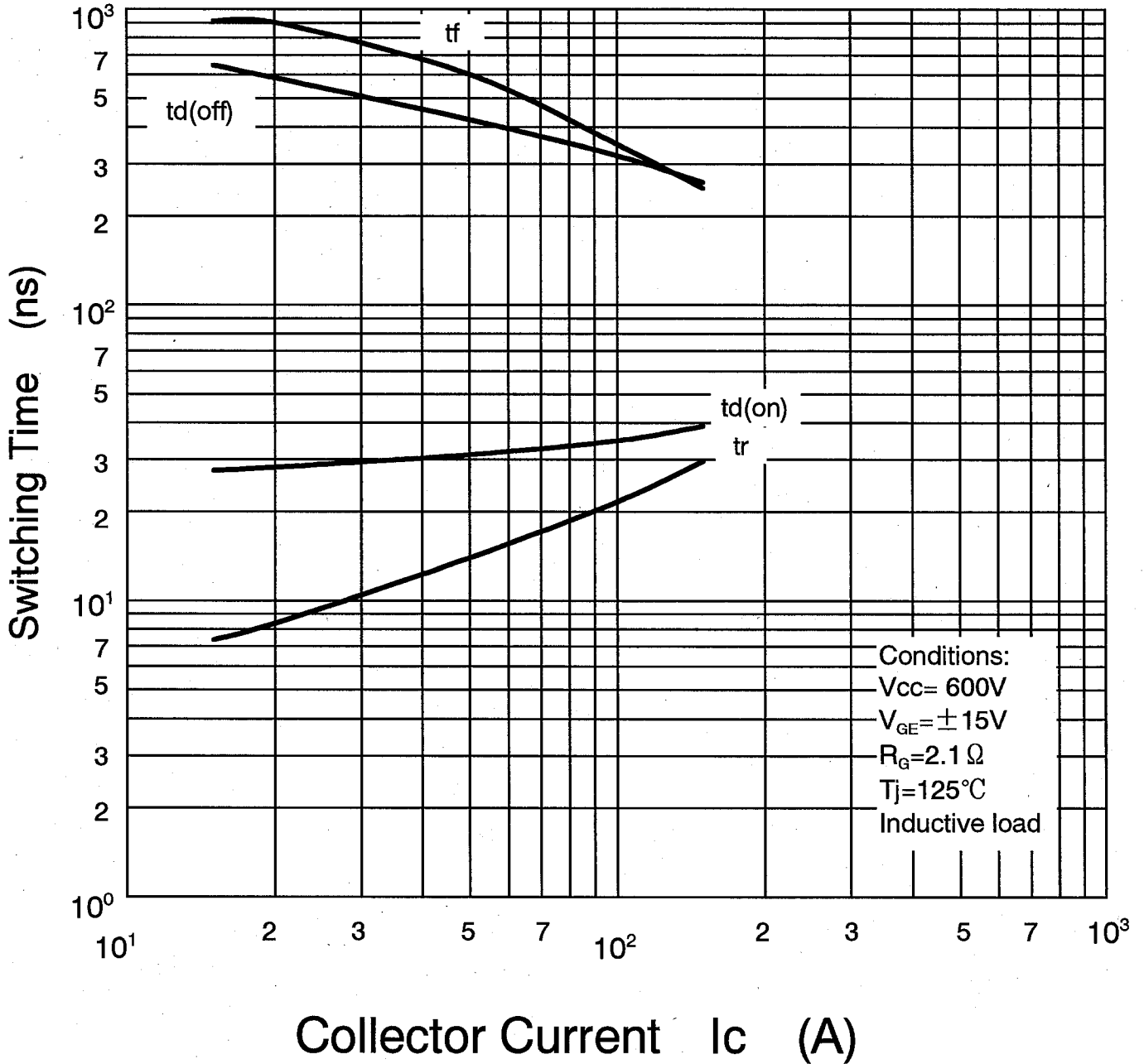
APPLICATION NOTE	Prepared by		Rev	
	Approved by			

## Capacitance- $V_{CE}$ Characteristics (typical) CM150DY-24A



APPLICATION NOTE	Prepared by		Rev	
	Approved by			

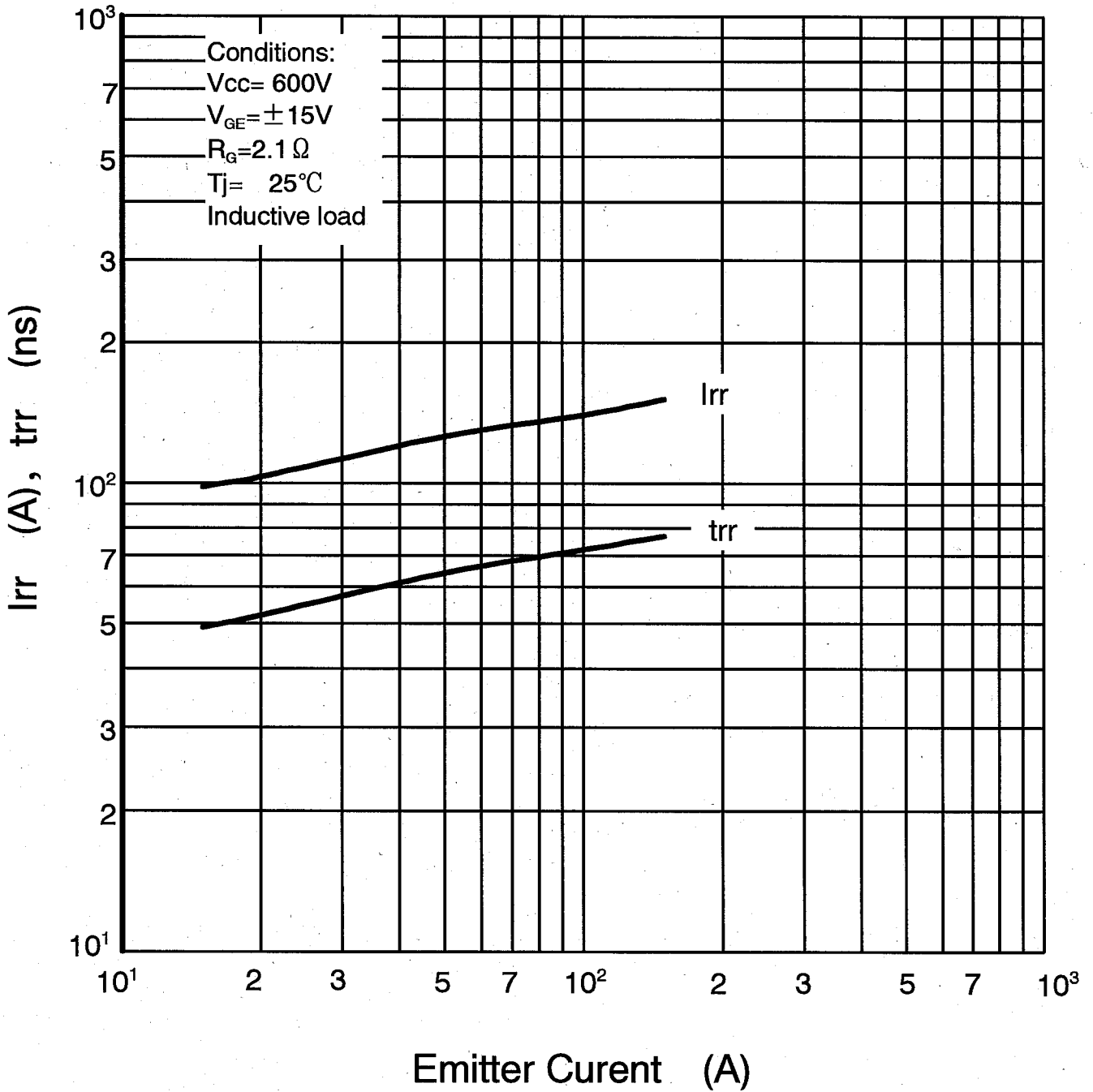
## Half-Bridge Switching Characteristics (typical) CM150DY-24A



A

APPLICATION NOTE	Prepared by		Rev	
	Approved by			

Reverse Recovery Characteristics  
of Free-Wheel Diode  
(typical)  
CM150DY-24A

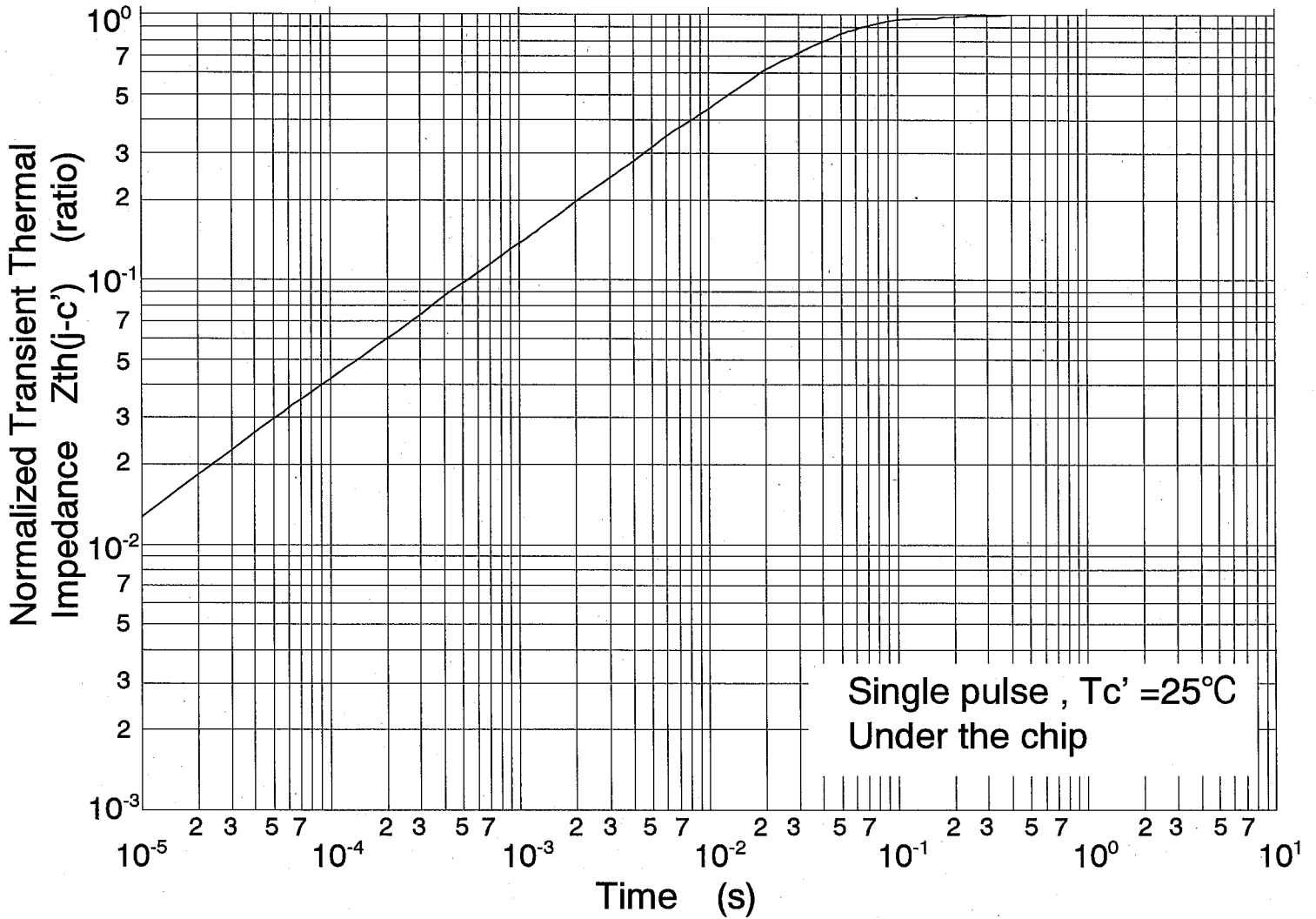


A



APPLICATION NOTE	Prepared by		Rev	
	Approved by			

Transient Thermal Impedance Characteristics  
(IGBT part & FWD part )  
CM150DY-24A



IGBT part :

Per unit base= $R_{th(j-c)}=0.13^{\circ}\text{C/W}$

FWD part :

Per unit base= $R_{th(j-c)}=0.23^{\circ}\text{C/W}$

B

APPLICATION NOTE	Prepared by		Rev.	
	Approved by			

Gate Charge Characteristics  
(typical)  
CM150DY-24A

