



IGBT Modules

V_{CES} , - Q
 I_C 0

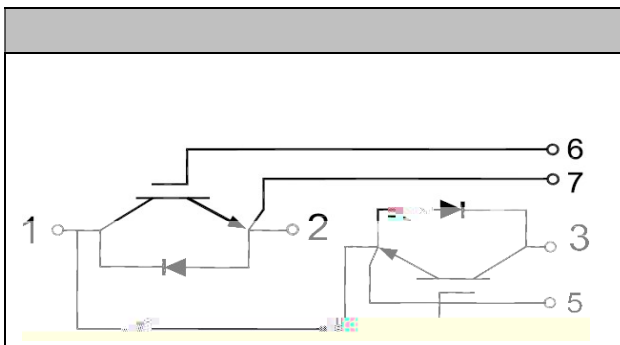
Applications

- Cđc anl i nd m
- Njgmđ m m
- PKN Pi đ mk dg Kj mN kkđ
- g nd gđbh cđ



P

P



Features

- Cđc k Đ=Ođ I KO cijgb
- G đ cđbgj
- Cđc cjm đh d k đđ ,
- D g đb gma jam j m i đk mđđgAR
- G đ i
- H đ hei đ i hk m m, 0 °C

P

IGBT

Absolute Maximum Ratings

Parameter	Symbol	Conditions	Value	Unit
jđ jrđ hd mđgb	Q_N	$Q_B 8 Q D 8, h$ 0đ-0°C	P , -	Q
ji đ j jđ jm mi	D	083 °C	0	
M k dd K f jđ jm mi	P_{DMH}	k8, h	,	
B (hd mđgb	Q_{BN}	0đ-0°C P	±-	Q
Qj gkj m d đ đ i	K_j	08-0°C 0đ 8,0 °C P	/	R

Characteristic values

Parameter	Symbol	Conditions	Value			Unit	
			Min.	Typ.	Max.		
B (h d m Ocm c j g Q j g b	Q_{Bc}	$Q_{B8Q} D 8-) h 0_{\delta} - 0^{\circ}C$	0) P	0)3	1)0	Q	
j g j r h d m (j a m i	D_N	$Q 8, - Q_{Q_{B8}} Q_{O_{\delta}} - 0^{\circ}C$	P		,)	h	
j g j r h d m N m q i Q j g b	Q	$D 80 Q_{B8,0Q} 0_{\delta} - 0^{\circ}C$	P	. ,)		Q	
		$D 80 Q_{B8,0Q} 0_{\delta}, - 0^{\circ}C$	P	.)3			
D k k d i	d	$Q 8-0Q_{Q_{B8}} Q$		/.)		i A	
M m O m i a m k d i P	m	$\delta, HC 0_{\delta} - 0^{\circ}C$ P) - 1		i A	
B (h d m g f b m i	D_N	$Q 8 Q_{Q_{B8}} - Q_{O_{\delta}} - 0^{\circ}C$	P		/	i	
O m (j i g O th	j i	D 80 $Q 81 Q$ $Q_{B8}, 0Q$ $M_{BJ1} 8,$ $M_{BJAA} 80),$ $0_{\delta} - 0^{\circ}C$ P		..		i	
M d O th	m			/.		i	
O m (j a g O th	j a			, 3,		i	
A g O th	a			1		i	
i r b d k q i n i l b O m (j i O th	j i			. 4		h E	
i r b d k q i n i l b O m (j a O th	j a			,) .		h E	
O m (j i g O th	j i			. 3		i	
M d O th	m			/ 2		i	
O m (j a g O th	j a			--		i	
A g O th	a			10		i	
i r b d k q i n i l b O m (j i O th	j i			0) 10		h E	
i r b d k q i n i l b O m (j a O th	j a			, 43		h E	
N	D		$Q_k, Q_{B8,0Q} 0_{\delta}, - 0^{\circ}C$ $Q 81 Q_{QH}, - Q$		/ - P		

Diode

Absolute Maximum Ratings

Parameter	Symbol	Conditions	Value	Unit
Maximum average forward current	I_{FM}	$T_c = 0^\circ\text{C}$	-	A
Maximum surge current	I_{SM}		0	A
Maximum average forward power	P_{FM}	t_1, t_2		W

Characteristic values

Parameter	Symbol	Conditions	Value			Unit
			Min.	Typ.	Max.	
Forward voltage	V_F	$I_F = 100\text{mA}$, $T_c = 0^\circ\text{C}$		0.7	0.8	V
		$I_F = 100\text{mA}$, $T_c = -40^\circ\text{C}$		0.7		
Reverse leakage current	I_R	$V_R = 5\text{V}$, $T_c = 25^\circ\text{C}$		10		μA
Dynamic forward resistance	r_{DF}	$I_F = 100\text{mA}$		0.1		Ω
Dynamic reverse resistance	r_{DR}	$V_R = 5\text{V}$		10		Ω
Reverse recovery time	t_{rr}	$I_F = 100\text{mA}$, $V_R = 5\text{V}$		10		ns
Storage time	t_s	$I_F = 100\text{mA}$, $V_R = 5\text{V}$		10		ns
Turn-off time	t_{off}	$I_F = 100\text{mA}$, $V_R = 5\text{V}$		10		ns

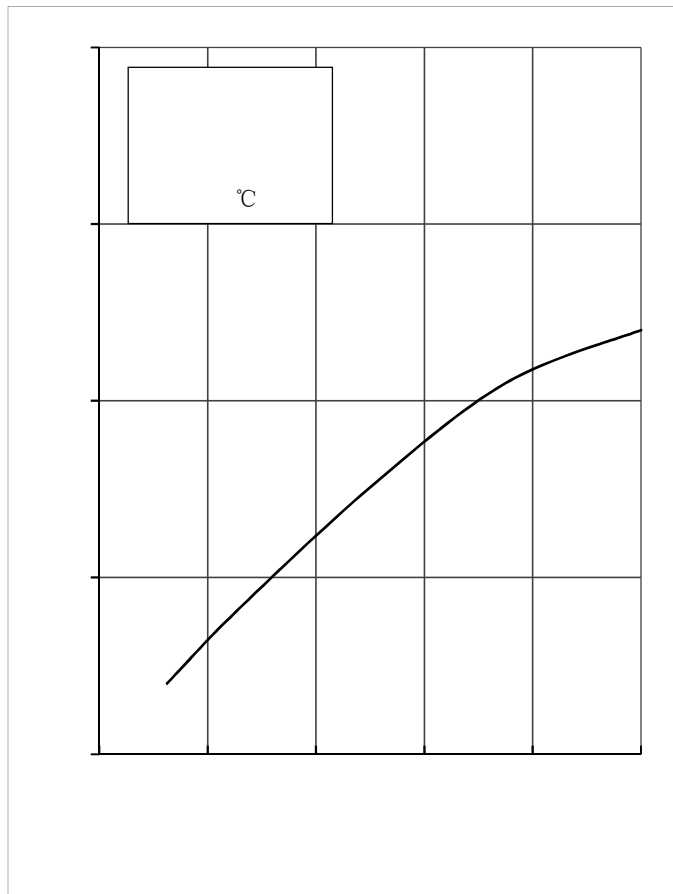
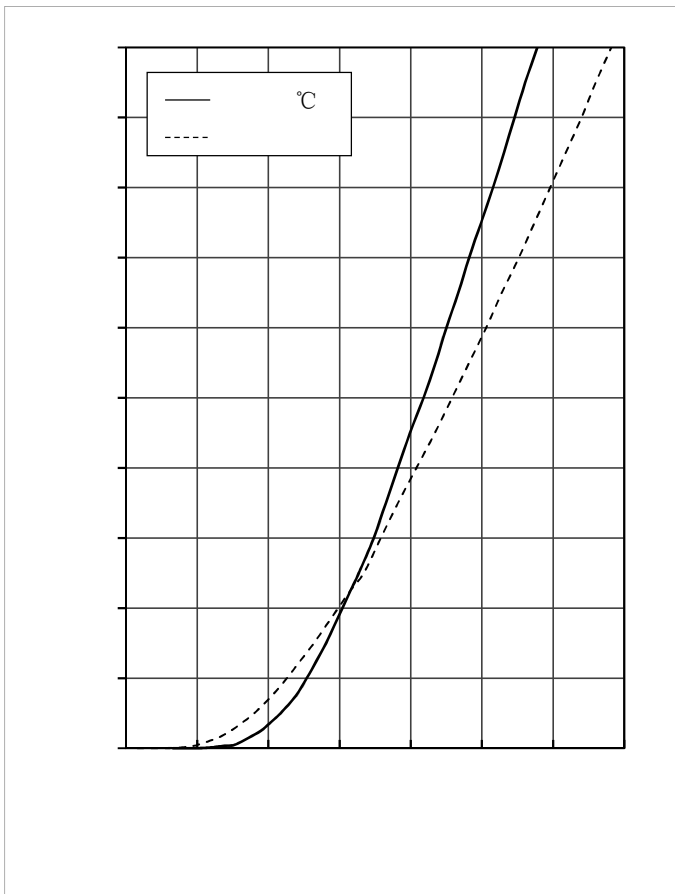
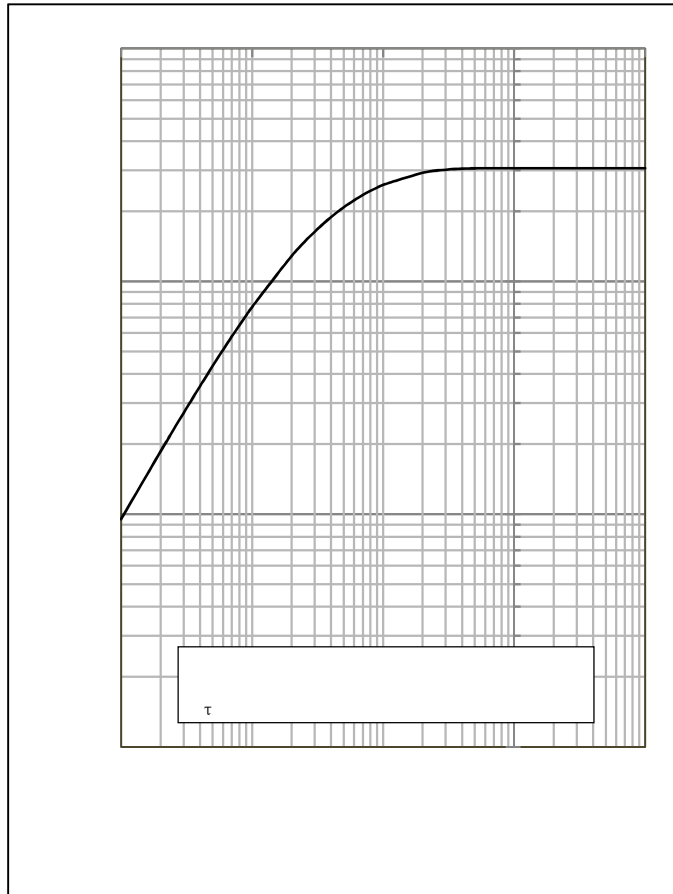
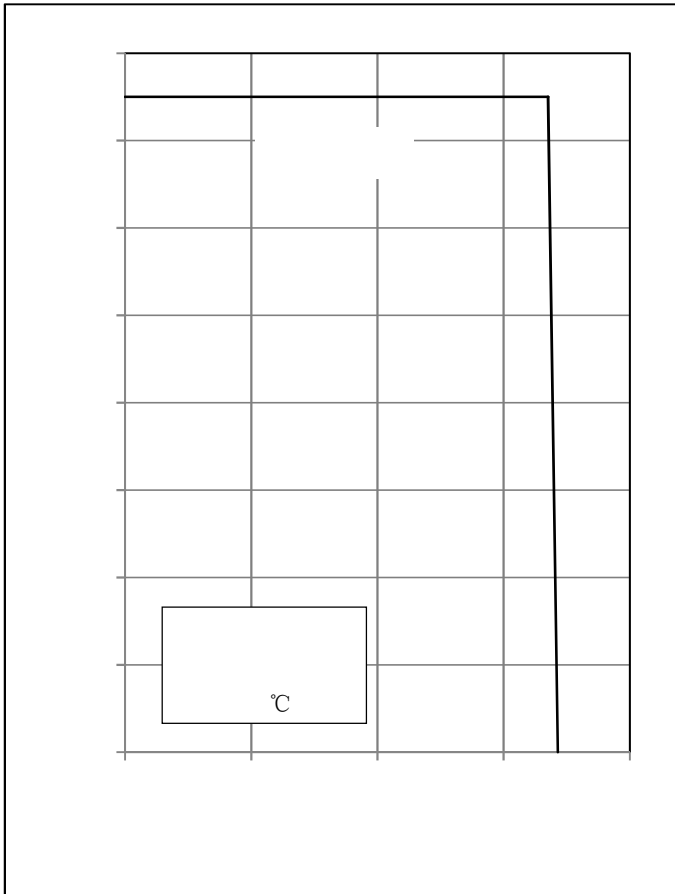


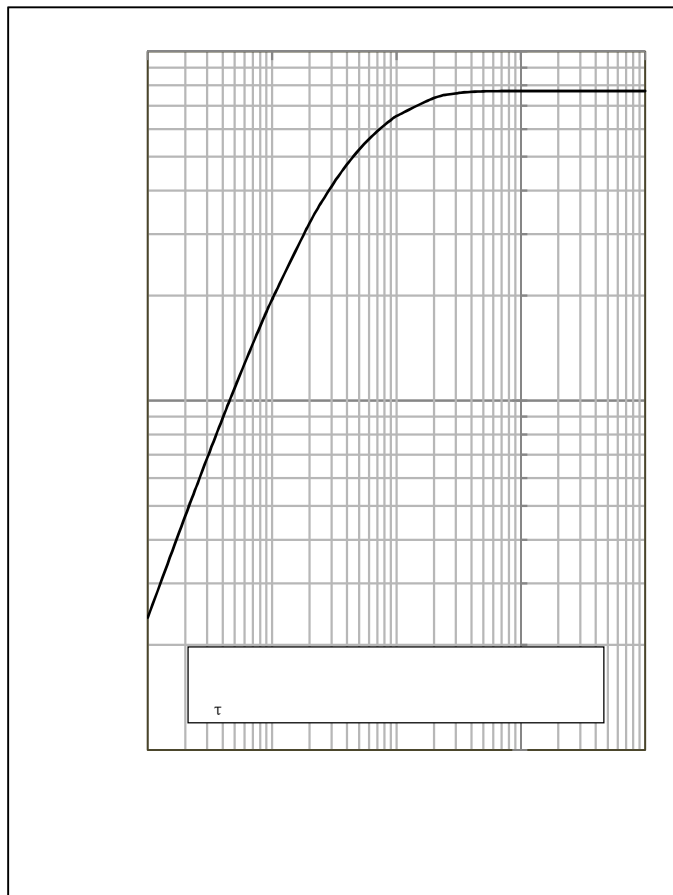
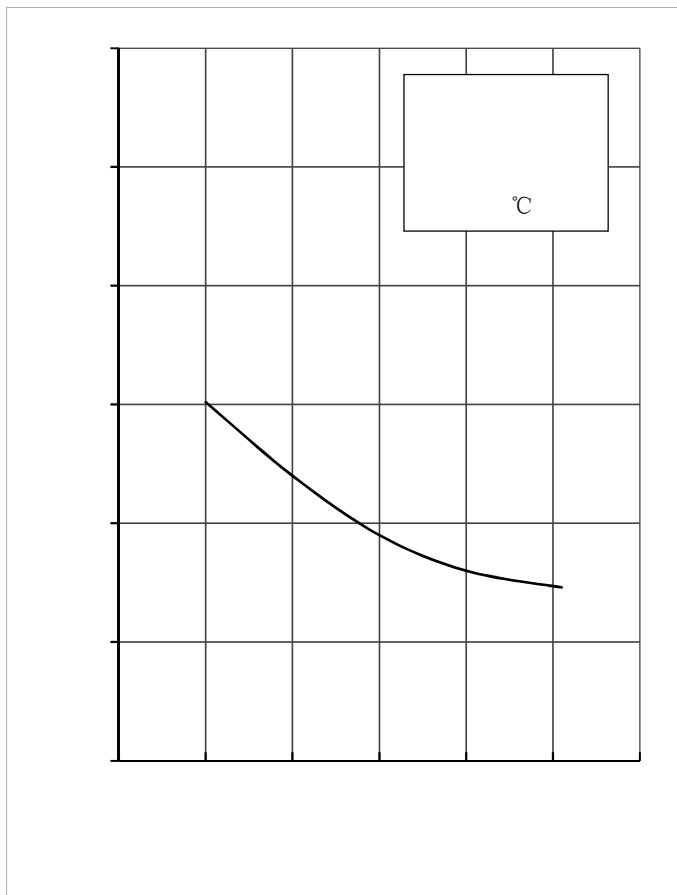
Module Characteristics

T_c=25°C unless otherwise specified

Parameter	Symbol	Conditions	Value			Unit
			Min.	Typ.	Max.	
Djg q i j g b	θ_{djg}	8, h d 80 C	-0			Q
H d h E i q i O h k m m □	θ_h				, 0	°C
J k m d b E i q i O h k m m	θ_{ejk}	P	(/		, -0	°C
N j m b O h k m m	θ_b		(/		, -0	°C
O c r h g M d i E i q i (j	$M_{\theta E}$	k m B = 0				FR
		k m q				
O c r h g M d i (j N d f	$M_{\theta N}$	j i d b m k k g l	P) 0		FR
H j g g n j Q r h	H	M j h h i H0	-) 0		0)	l h
H j g (j (N d f Q r h	H	M j h h i H1	.)		0)	l h
R d c j a H j g	B			, 0		b









Circuit Diagram



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