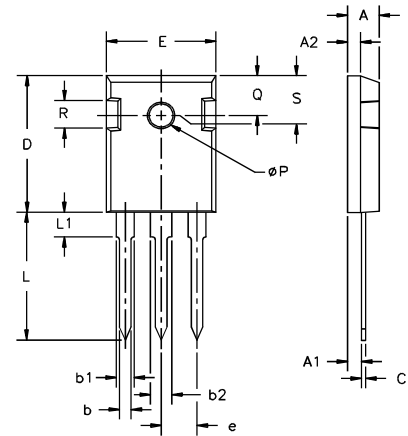


Symbol	Conditions	Characteristic Values		
		(T _J = 25°C, unless otherwise specified)		
		min.	typ.	max.
C _{ies}	V _{CE} = 25 V, V _{GE} = 0 V, f = 1 MHz		1000	pF
C _{oes}			150	pF
C _{res}			70	pF
Q _g	I _C = 20 A, V _{GE} = 15 V, V _{CE} = 0.5 V _{CES}		70	nC
t _{d(on)}	Inductive load, T _J = 125°C I _C = 20 A, V _{GE} = ±15 V, V _{CE} = 600 V, R _G = 82 Ω		100	ns
t _r			75	ns
t _{d(off)}			500	ns
t _f			70	ns
E _{on}			3.1	mJ
E _{off}			2.4	mJ
R _{thJC}	Package with heatsink compound			0.63 K/W
R _{thCH}			0.25	K/W

Reverse Diode (FRED) [D1 version only]		Characteristic Values		
		(T _J = 25°C, unless otherwise specified)		
Symbol	Conditions	min.	typ.	max.
V _F	I _F = 20 A, V _{GE} = 0 V		2.6	2.9 V
	I _F = 20 A, V _{GE} = 0 V, T _J = 125°C		2.1	V
I _F	T _C = 25°C			31 A
	T _C = 90°C			19 A
I _{RM}	I _F = 20 A, -di _F /dt = 400 A/μs, V _R = 600 V		15	A
t _{rr}	V _{GE} = 0 V, T _J = 125°C		200	ns
t _{rr}	I _F = 1 A, -di _F /dt = 100 A/μs, V _R = 30 V, V _{GE} = 0 V		40	ns
R _{thJC}				1.6 K/W

TO-247 AD Outline


Dim.	Millimeter		Inches	
	Min.	Max.	Min.	Max.
A	4.7	5.3	.185	.209
A ₁	2.2	2.54	.087	.102
A ₂	2.2	2.6	.059	.098
b	1.0	1.4	.040	.055
b ₁	1.65	2.13	.065	.084
b ₂	2.87	3.12	.113	.123
C	.4	.8	.016	.031
D	20.80	21.46	.819	.845
E	15.75	16.26	.610	.640
e	5.20	5.72	0.205	0.225
L	19.81	20.32	.780	.800
L1		4.50		.177
øP	3.55	3.65	.140	.144
Q	5.89	6.40	0.232	0.252
R	4.32	5.49	.170	.216
S	6.15	BSC	242	BSC

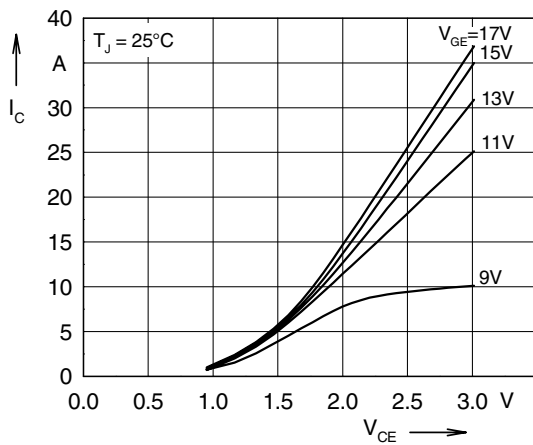


Fig. 1 Typ. output characteristics

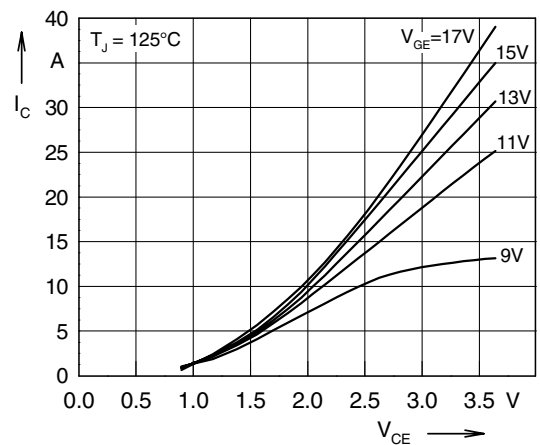


Fig. 2 Typ. output characteristics

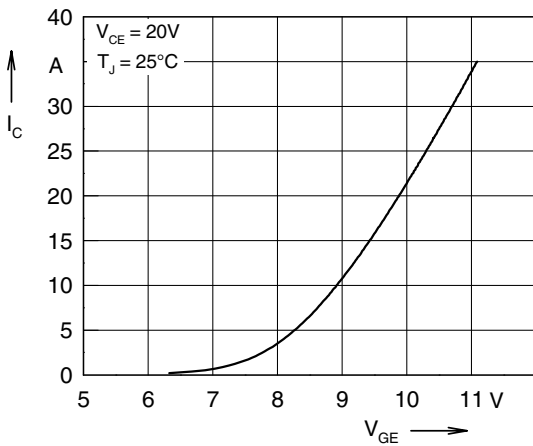


Fig. 3 Typ. transfer characteristics

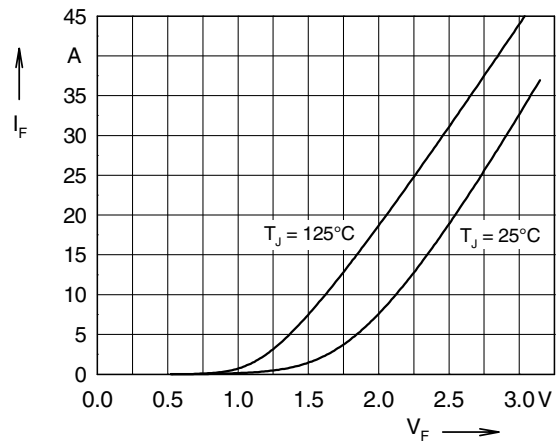


Fig. 4 Typ. forward characteristics of free wheeling diode (D1 version only)

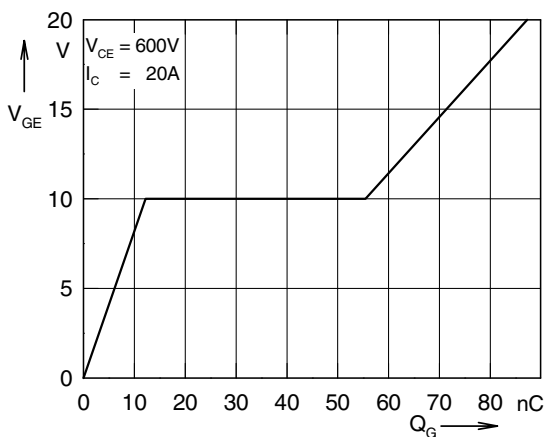


Fig. 5 Typ. turn on gate charge

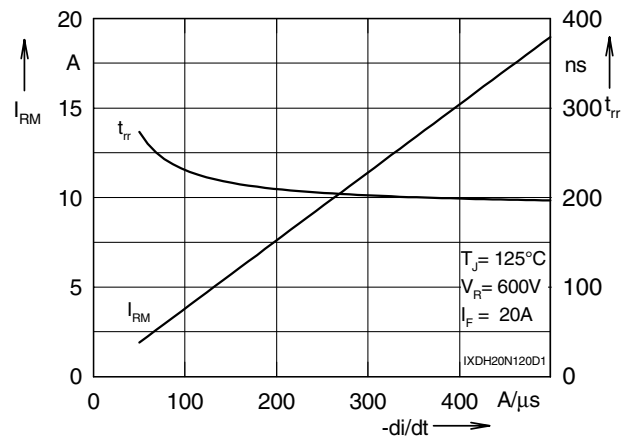


Fig. 6 Typ. turn off characteristics of free wheeling diode (D1 version only)

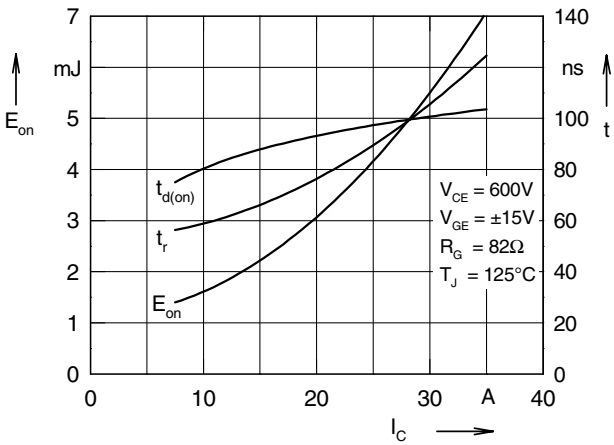


Fig. 7 Typ. turn on energy and switching times versus collector current

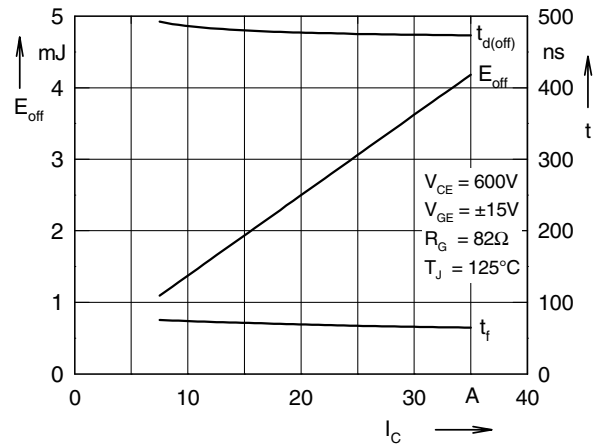


Fig. 8 Typ. turn off energy and switching times versus collector current

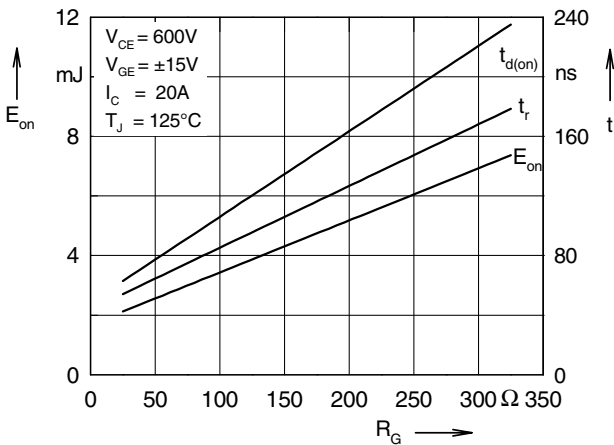


Fig. 9 Typ. turn on energy and switching times versus gate resistor

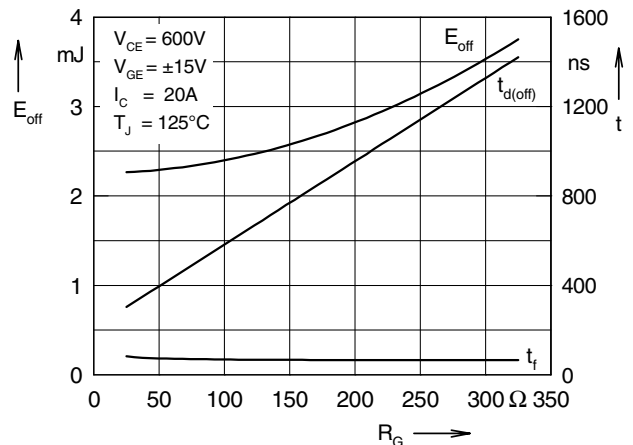


Fig.10 Typ. turn off energy and switching times versus gate resistor

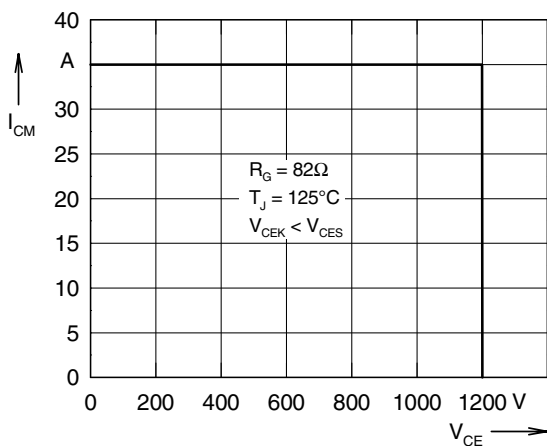


Fig. 11 Reverse biased safe operating area RBSOA

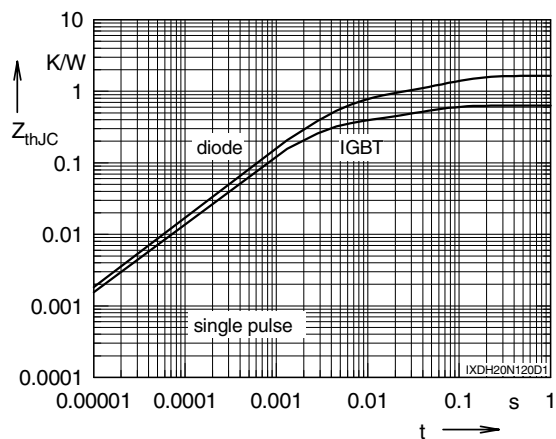


Fig. 12 Typ. transient thermal impedance



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