

SDI150S12

SPT IGBT Modules

Characteristics

T_c = 25°C, unless otherwise specified

Symbol	Conditions	min.	typ.	max.	Units
IGBT					
V _{GE(th)}	V _{GE} = V _{CE} , I _c = 4mA	4.8	5.5	6.5	V
I _{CES}	V _{GE} = 0; V _{CE} = V _{CE(s)} ; T _j = 25(125)°C		0.2	0.6	mA
V _{CE(TO)}	T _j = 25(125)°C		1(0.9)	1.15(1.05)	V
r _{CE}	V _{GE} = 15V, T _j = 25(125)°C		9(12)	12(15)	mΩ
V _{CE(sat)}	I _c = 50A; V _{GE} = 15V; chip level		1.9(2.1)	2.35(2.55)	V
C _{ies}	under following conditions		8.1		nF
C _{oes}	V _{GE} = 0, V _{CE} = 25V, f = 1MHz		1.2		
C _{res}			1.1		
L _{CE}				20	nH
R _{CC'+EE'}	res., terminal-chip T _c = 25(125)°C		0.35(0.5)		mΩ
t _{d(on)}	under following conditions: V _{CC} = 600V, I _c = 100A		80		ns
t _r	R _{Gon} = R _{Goff} = 8 Ω; T _j = 125°C		40		ns
t _{d(off)}	V _{GE} = ± 15V		460		ns
t _f			65		ns
E _{on(Eoff)}			10(9)		mJ
Inverse Diode under following conditions:					
V _F = V _{EC}	I _F = 100A; V _{GE} = 0V; T _j = 25(125)°C		2(1.8)	2.5(2.3)	V
V _(TO)	T _j = 25(125)°C		1.1	1.45(1.25)	V
r _T	T _j = 25(125)°C		9	13(11)	mΩ
I _{RRM}	I _F = 100A; T _j = 125°C		145		A
Q _{rr}	di/dt = 3600A/us		16.5		uC
E _{rr}	V _{GE} = V		5.5		mJ
Thermal Characteristics					
R _{th(j-c)}	per IGBT			0.15	K/W
R _{th(j-c)D}	per Inverse Diode			0.3	K/W
R _{th(c-s)}	per module			0.038	K/W
Mechanical Data					
M _s	to heatsink M6	3		5	Nm
M _t	to terminals M6	2.5		5	Nm
w				325	g